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### EXTRACT

*From an Act prescribing Rules for the Government of the State Library,  
passed March 8th, 1861.*

Sec. 11. The Librarian shall cause to be kept a register of all books issued and returned; and all books taken by the members of the Legislature, or its officers, shall be returned at the close of the session. If any person injure or fail to return any book taken from the Library, he shall forfeit and pay to the Librarian, for the benefit of the Library, three times the value thereof; and before the Controller shall issue his warrant in favor of any member or officer of the Legislature, or of this State, for his per diem, allowance, or salary, he shall be satisfied that such member or officer has returned all books taken out of the Library by him, and has settled all accounts for injuring such books or otherwise.

Sec. 15. Books may be taken from the Library by the members of the Legislature and its officers during the session of the same, and at any time by the Governor and the officers of the Executive Department of this State who are required to keep their offices at the seat of government, the Justices of the Supreme Court, the Attorney-General, and the Trustees of the Library.













# Mining and Scientific Press.

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Daboll's Fog Trumpet.

We give, herewith, a finely executed perspective view of one of Daboll's Fog Trumpets, the same as that which has recently been located near the entrance of the Golden Gate, by the foresight and munificence of the Pacific Mail Steamship Company. The object of this invention is to provide a machine to give notice of danger to vessels, when the weather is too thick for the ordinary lights to be seen. The particular machine here represented, has been sent to the Paris Exposition, where it is attracting much attention. A correspondent of a New York paper, in writing from Paris of its performance says: "It was sounded the other day, and when the Arabs, Japanese and Malays heard it, they fell upon their faces, thinking Allah had come in the shape of a roaring lion. It roused the Faubourgs like the bell of Murat. The whistle of the calliope is no more than a bird song to it." Quite a number of these trumpets are in operation in various places. There is one

This invention is considered superior to a bell for giving signals, for two reasons—it can be heard at a much greater distance, and the ear can very readily distinguish the direction from which the sound comes, which

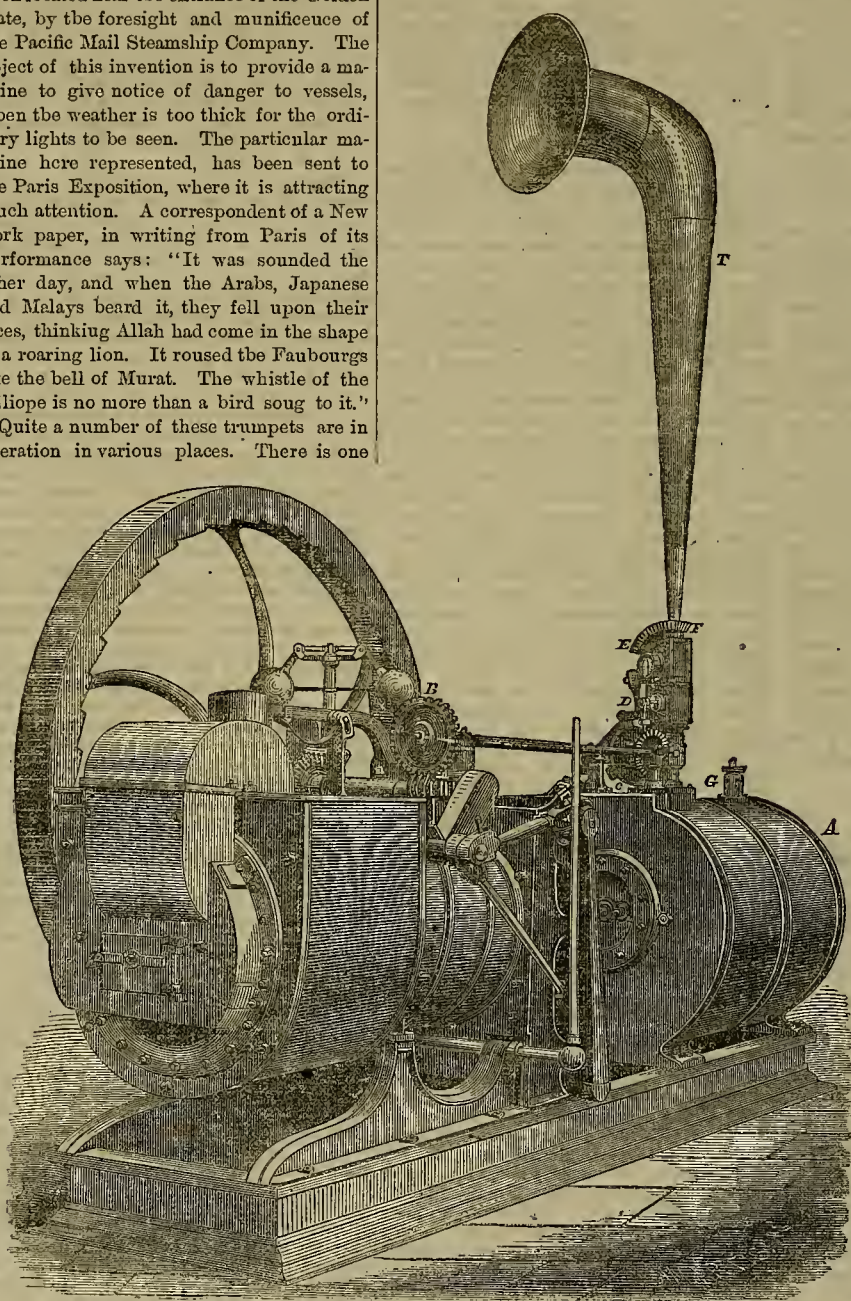
pressing power that may be used, into a large reservoir, A. The sound given out is made sharp and somewhat ringing, by the use of reeds, while the air is admitted at regular intervals, through valves worked by studs upon the outer periphery of the wheel, C. By interchanging the number and position of the studs on this wheel, the trumpet may be made to give a certain series of sounds, which may convey definite information, like any ordinary sound telegraph.

Of course any power can be made to condense the air, and operate the rotating machinery, etc. The caloric engine, as herewith represented, is generally employed, for its simplicity, reliability and cheapness. This trumpet is the invention of C. L. Daboll, of New London, Conn., and was first described and illustrated in the *American Artisan*, of the 6th of March last.

The one which has been erected at the entrance of this harbor has been located on the bluff about a quarter of a mile from the Cliff House. We understand that it accomplishes all that was expected of it, and can be heard to the distance of about ten miles. It makes about one revolution a minute, and sounds three times with every revolution. One blast is directed towards the entrance of the harbor; one towards the Cliff House—down the coast, and one westward, directly out to sea. We are not aware that it is ever heard in the lower portion of the city; the reason of which is probably due to the fact that the blast is never given in this direction. As soon as a fog sets in, the fire is applied to the machinery and the trumpet is made to sound its warning signals.

Although it has been placed there at the expense of the P. M. S. S. Co., it is, nevertheless, sounded for all whenever there is used of it, whether one of the Company's steamers is expected or not. The purchase and maintenance of this guide to the entrance of the Golden Gate, has been a great expense to the Company; and we see no reason, now that its utility has been fully proven, why the Government should not relieve the Company of a work so necessary to the commerce of the city. In case the Government refuses to act in the premises, the merchants of this city should share in the expense of a mutual benefit.

FOR OUR CABINET.—We have upon our table several contributions for our cabinet, among which are several very valuable specimens from the Green Emigrant, which will be duly noticed next week.



DABOLL'S FOG TRUMPET.

A NEW VOLUME commences with the present issue, and we would again urge upon those who are not already on our list, that now is a favorable opportunity to subscribe. We alluded, last week, to the general scope and character of the MINING AND SCIENTIFIC PRESS, and would again call attention to our semi-annual index, as an evidence of the vast and varied amount of useful matter which is comprised, even within a single half-yearly volume. We lay the entire world under contribution for the supply of our columns, which is gathered in at great cost of labor and research. We endeavor to make our paper a telescope by which our readers, sitting in their quiet homes, can peer out into the world of science and art, and bring directly within their gaze and comprehension every important discovery, invention or other effort in the great march of progress, so that, without interruption to their daily avocations, they may, once a week, be advised of every advance step made in science and every improvement introduced into mechanics and manufacturing industry in any part of the world. They can also look out into our broad field of mining, and note, week by week, the progress made in the development of that great leading industry of the Pacific Coast. Each miner, as he is engaged in pushing forward the work of development in his particular claim, can also note the progress made in every other important mine upon the coast. How well we do this, let our columns speak for themselves. Suffice it for us to say, we shall in no wise relax our efforts in the future; but shall endeavor, with each successive volume, to introduce some new feature which shall add to the interest and value of the paper.

A SELF WINDING WATCH—ALMOST.—Josephi & Co., at 641 Washington street, are selling quite a novelty in the line of watches. This watch is wound up by simply opening to see the time of day. Every time the watch is opened, it is wound for six hours; as soon as it is wound fully up, the winding apparatus is thrown out of gear, so that no accident can come from a too frequent opening. When fully wound up, it will run ten days. The watch is the invention of Rubens, of Geneva, and was patented in this country in December last. Josephi & Co. are the sole agents for the watch in this State.

about six miles below Halifax, and they have been placed at each of the following places in this country: In San Francisco harbor, at Detroit, at New London, at New Haven, at Beaver Tail, Narraganset Bay. The English Government has placed one on the Isle of Wight, at Dungeress, and at Glasgow. A small one has also been placed on the deck of the Royal Mail steamship Cuba, of the Cunard line.

is impossible with the sound of a bell. Its less cost and greater simplicity, also makes it preferable to a steam whistle. When in operation, the trumpet is made to revolve on its axis, by means of bevel gears at E, F, the power being communicated through the wheel, B, and shaft attached, which are revolved by a worm shown on the driving shaft of the engine.

The trumpet is operated by condensed air—which is forced by the engine or other com,



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

## The Reese River Country and its Mines.

BY A. J. HOWE.

(Continued from Page 402.)

## PHILADELPHIA DISTRICT—CONTINUED.

There are a number of locations in this belt, which is of gray slate. They are known as the Transylvania, Nos. 1, 2 and 3, El Dorado, and Child & Canfield. The latter has produced a large quantity of astonishingly rich ore, and the company will soon erect one of the largest mills yet built in Nevada. On the Transylvania No. 2, the most thorough developments are progressing, and the machinery for a forty-stamp mill is ready to be freighted over the Sierra Nevada as soon as the roads will permit. There are other locations in this district claimed to be equally rich; and one thing seems to be certain—that is, when Belmont has the milling facilities demanded by the ore to be seen in the Transylvania belt, its shipments will be second to no other district in Nevada. Wood of excellent quality is sufficiently abundant in the immediate vicinity of the mines to last for several years, while the range, both north and south, has a bountiful supply for an almost indefinite time.

So little was this region known a few years ago that it was said no person could live to prospect it, owing to the scarcity of water and the hostility of the Indians. With the former, the entire section is quite as well supplied as other portions of Nevada. There are also extensive tracts of meadow land along the water courses and at their sinks; while the Indians are as quiet and harmless as any I have seen. Nearly all of them are disposed to work for such return in provisions, clothing or money as may be offered them. It is said that this valley below Belmont is the place where Judge Ralston perished in 1864. It might have been from hunger; but that it could have been from want of water is improbable, as the range on either side of Monitor Valley affords it in nearly all the cañons. It will be remembered that he was seen, in his delirious wandering, by friendly Indians, who offered him food, and a few days after his lifeless body was found by them.

The town of Belmont is growing up rapidly. A spirited paper, called the *Silver Bend Reporter*, has just made its appearance here. Business of all descriptions, mechanics and laborers, keep always in excess of the demand; but this will probably not be the case when the new mills are in progress. This place will surely be the great central mart of Southeastern Nevada; with its own mines of fabulous wealth and surrounded on every side by the most wonderful rich mining districts in the world, nothing can prevent it becoming such.

## DANVILLE RANGE

Lies on the east of Monitor Valley. Through this range a fine road is now being constructed, passing through Alatoony Pass, which is situated nearly east of Belmont, and is twelve miles distant to the entrance at Barley creek. North of the Pass, the mountains gradually rise, till they reach an elevation of 2,500 feet above the valley, and form extensive table lands, visible as a prominent feature from all the higher peaks of the ranges we have passed through from the west. On the north and northeast of this table land the mountains drop abruptly. Along the base of the bluff in the depression of the range at this point is situated

## DANVILLE DISTRICT,

Which was discovered in the summer of 1866. It lies about east of Northumberland, or in latitude 38° 50', and is on the northeastern slope of the range. The formation in which the lodes occur is principally of granite. Some of them are of great size, and will compare very well with the famous districts that surround it. Very little work has been done in the district, yet

Danville will tell its own story before the present summer has past. The Vanderbilt lode has been rated by some who have visited it as equal in promise to any of the famous mines of Hot creek, Northumberland or Silver Bend.

This range of mountains is well supplied with the usual stunted timber of Central Nevada. The Clipper Gap, or Stonebargers road, leading from Austin to Pahranagat, passes through this district, from whence it diverges southerly, through Fish Springs Valley, to the head of Hot Creek, where it unites with the road via Charnock's and Alatoony Passes. Nearly east of Danville, on the opposite side of the valley, we find

## MOREY DISTRICT.

This district was first discovered by Thos. Barnes and party in September, 1865. However, but little was done here until the following summer of 1866. The lodes occur in a narrow belt of granite and are not numerous, but are well defined, and give great promise of permanence when properly developed. Two or three of them are of unusually large size for veins occurring in a granite formation. The ore has a singular yellowish-gray appearance, indicating the presence of lead in the chloride state, at the surface, while it is not of a high grade or concentrated character, but uniformly diffused throughout the veins, rendering them equally valuable. Some of the lodes show large quantities of manganese, similar to that found at the surface in a number of the lodes of Lander Hill, at Austin. The belt to which the silver lodes are confined is in a lateral spur of the main range, but little elevated above the valley.

## UNDERGROUND LAKES.

In the valley between this and the Danville Range, there are a number of large circular springs of clear cold water, with no apparent outlets or inlets, all of which swarm with small fish, the great number of which lead one to suppose there must be more ample scope for them beneath the so-called valley. These fish springs, or, as they are sometimes called, wells, are not of unrequited occurrences in Central Nevada or in any part of the Great Basin of Utah. All of the rivers and creeks, both large and small, silently flow a portion of their length under ground. Why not lakes be hidden in the same manner? Near the head of the Humboldt Valley we have positive evidence of this. In one of the lateral valleys at the source of the Humboldt river there is a meadow, two miles long and half a mile wide. This, in season, is covered with the most luxuriant growth of grass that I have seen anywhere in the great Central Basin. On this there are several hundred wells, or rather air holes, circular in form, and from three to six feet in diameter. Clear crystal water rises in all nearly to the level surface of the meadow. Several of these I have sounded for bottom, which could not be found at forty feet. All these openings become black with small fish the instant a slight commotion is made in the water. A person, by bringing his weight heavily down, will shake the lake for many rods around, although it is sufficiently strong to bear up scores of cattle closely collected. I shall not soon forget the bath forced on me, several years ago, in rescuing an animal from one of these air holes, although I must confess that it was timely, in a sanitary or ahluent sense.

Now that we have established the existence of lakes under ground, what freak of nature or the elements caused it? Several hundred miles further east, near the head of Sweetwater river, in Utah, we find the possible solution. There is a valley of about the same extent as the one just described; on digging through the soil in any part of it two or three feet, we come to a bed of solid ice, as firm and clear as crystal, the depth of which has never been determined. The most natural conclusion to be arrived at is, that at an ancient date, this, which was once a lake, was frozen to a great depth, and by an unusually heavy storm of rain, the soil from the hills on either side was washed down upon it, and it has remained frozen for ages. Had this occurred in the milder climate of the lower valleys further west, the ice would have long since melted and left a soil-covered lakelet. The preponderance of vegetable matter supporting the soil is but a fibrous viry mat on its surface.

Returning to Alatoony Pass, we will take our course eastward. Soon after leaving the Pass, we reach Willow creek. Along its course, near the sink, there is considerable good farming land, which has been taken up for that purpose. At this point there is a short low range of hills in the center of what I have called (for want of a more appropriate name) Fish Springs Valley. However, I believe the valley lying east of the Hot Creek mountains was the one originally called by that name.

(To be continued.)

## Facts About Patent Matters.

## NUMBER FOUR.

## HOW TO OBTAIN A PATENT—THE PREPARATION OF THE CASE.

Of course, in letters like these, written for the general information of the public at large, it cannot be expected that the subject should be treated with that copiousness and precision that would characterize a professional work written for the use of lawyers and patent agents. All that will be attempted will be to state briefly, the general principles that govern the matter, so that every person can have a tolerably correct idea of the subject, and thus be able to determine for himself whether or not he has a patentable invention.

As soon as a person has completed an invention he should proceed to make his application for a patent. The first step is to make a model, which, if possible, should be a working model—that is, a perfect working machine—just such as the large one is intended to be for use. It must not occupy over one cubic foot of space, should be made of walnut or other hard wood or metal, neatly made and varnished, and there should be as little glue about it as possible, as it is otherwise apt to come apart after a time. If made of metal, brass or composition is preferable to iron or steel, on account of the liability of the latter to rust. As all the models, whether patented or rejected are kept in the office for public exhibition, where they are examined by people from all parts of Europe as well as our own country, every one will see the importance both in a personal and national sense, of making them neat and not clumsy.

The next step is to make duplicate drawings of it, one sheet being on *thick stiff drawing paper*, to be kept in the office at Washington for use in making examinations, and the others on vellum oil silk, or other thin strong material that will bear folding and transportation, and which is to be attached to the patent when issued to the inventor. The drawings should be on sheets 10 by 15 inches, and should generally be in perspective, with such detached plan and sectional views, as may be necessary to show fully and plainly all the parts and operations of the device whatever it may be. The drawings must be "artistically executed," and should be carefully shaded or colored. If different parts of the device are to be constructed of different material, as for instance the union of steel and other kinds of metal, then the parts should be so colored as to show the difference. So if one part is to be of wood, and another of metal or other material, the same rule should be observed. The preparation of the drawings is a matter of utmost importance, and should never be entrusted to any but a competent draughtsman. The importance of this will be understood when I state that the examinations at the patent office are conducted almost entirely by means of those thick drawings. Suppose, for instance, that a party makes an application for an important invention, some fixture of which is not clearly shown in his drawing. Although the examiner, by means of the specification and model can understand the case, that is not enough; either for the office, or the protection of the inventor. If it is a valuable thing, others will be endeavoring to pirate it, by making applications for devices containing that same feature; and then, especially if a new examiner has been appointed in charge of that class by a change in the administration or otherwise, the new examiner, having no knowledge of the original case, will look over the drawings, and not finding that feature there, will of course issue a patent for the same thing to the second applicant also? Even if there has been no change in the examiner, the same thing is likely to happen, because having several hundred and even thousands of cases to look over at each examination, it is utterly impossible for him to retain in his mind the particular features of each case. And thus, fault is often found with the patent office, when really the blame rests entirely upon the applicant, who, being too stingy to pay for proper drawings, is thus the cause of his own loss. To be sure the original applicant may, if he finds out that another party has a subsequent patent for his device, protect his rights by a resort to the courts; but in the first place he will not be likely to know anything about it for years, or until the other party has disposed of his interest to innocent parties; and even if he does he will find himself put to a heavy expense, all of which might have been prevented by the expenditure of two or three dollars more on his drawings in the first place. Again, if he be a poor man, and a wealthy company, or combination of parties are opposing him, they may keep the case in law by appeals and delays, until he is ruined, and the value of his patent de-

stroyed. Of course, the mere existence of such suits would prevent the purchase of rights by others from him, because men do not like to buy a lawsuit, nor pay their money for a thing that may prove of no value to them. And then, even if he succeeds in the end, in asserting his rights in the courts, his patent will have nearly or quite expired, and, as under the law of 1861, there can be no more extensions, he will find himself with money, time and invention all gone, and no help for it. And all this in consequence of not having a little drawing, which at most would not cost to exceed five or ten dollars, properly prepared.

The next step is to prepare the specification; and this is the most important part of all; no matter how perfect the model and drawing, if the specification is not complete the case will not be examined at the office. It will be returned until it is perfect, and the office even has the right to require that it shall be printed, if there is difficulty in making it plain otherwise. The most important requirement is, that it shall clearly and fully describe the invention, and how to construct and operate it. The description should be such that a mechanic or person skilled in the art to which it belongs, will be able to make one from the description. It is not necessary to describe those portions which form no part of the invention, except so far as may be necessary to explain the operation of the new parts. Yet every thing depends upon the description and claim. The latter is especially important, as upon the meaning, force and construction of the language employed, depends the whole value of the patent, if issued, as well as the question of its issue at all. To properly prepare a specification may seem a very simple and easy task, but such is not the case. It requires a knowledge of the arts, of science and scientific terms, and their proper use—of mechanics and the principles that govern their action—of law, and of the grammatical and legal force and construction of language, which is possessed by but very few persons. Lawyers seldom possess the mechanical knowledge, while mechanics still more generally lack the legal knowledge necessary to enable them to properly prepare a case for examination. It requires such a combination of legal and mechanical knowledge, together with a special knowledge of the principles and rules that govern the action of the office, that no person is really competent to undertake the business but those who have made it a study, or had experience at it. In the language of a recent writer on Patents and Patent Laws—"Mistakes of importance are not infrequently made by those who are trained to this work, and who make it their special business; but it can very seldom if ever be safe for any claimant to draw his own specification, unless he has large experience in work of this kind." The reason for this will readily appear when it is understood that the learned Judge Story denominated the patent branch of our jurisprudence as the "metaphysics of the law,"—having more subtle and nice distinctions than any other branch of law. In view of these facts, I unhesitatingly advise every person who has an invention worth patenting, to get some responsible and competent agent to attend to it for him.

No person scarcely would think of entering upon a suit at law, without employing a lawyer to attend to it, and make out his papers for him; and if a sensible man would not do that, much less would he attempt to prepare an application for a patent without knowing anything about the business. I am aware that persons frequently attempt it, but I am also aware that many lose their patent simply in consequence of not having their case properly prepared, or not knowing how to amend it so as to avoid the references given, when once rejected. Besides this, many times when they succeed in obtaining the patent, they find afterwards that it will not stand in law, or does not cover their invention, and is, therefore, useless. It is for this reason that many applicants are compelled to re-issue their patents at as great and often greater expense than the obtaining of the original. Hence, I repeat, every person having an invention worth patenting, should employ a competent and responsible agent—I say *competent and responsible*—for, unfortunately there are many who are neither competent or responsible, and, of them and their tricks, I shall have somewhat to say hereafter.—W. E. Dodge in *Prairie Farmer*

CO-OPERATIVE LABOR.—A curious circumstance has been cited in favor of co-operative labor, that when England was at war with Turkey, the merchant vessels of Greece, then a Turkish dependency, almost always escaped from their pursuers. The secret of their success was thought to be in the fact that on board of the Greek vessels, every man, from the captain to the cabin boy, had a pecuniary interest in the vessel and freight.



## Mechanical.

## Steam vs. Hand Labor.

When steam power first began to supersede hand labor in England, the forebodings of the workmen were terrible. So with the early introduction of labor-saving machines in general, both in England and on this continent. In England, the contest was a hard one. The laborers fought against such improvements with an ardor and perseverance which are exhibited only when men are fighting for a foothold upon existence. How short-sighted they were, and how baseless were their forebodings, has been abundantly proven by the sequel. The opening thereby made for educated and skilled labor has elevated the mechanic from the condition of a mere serf to that of the highest position in the social scale. The steam engine has proven the great civilizer of the age, and has completely broken down the wide distinction that once existed between the laborer and the tradesman or professional man. The genius of the skillful and intelligent mechanic has now no limit; while the avenues of wealth and fame are as open and promising to him as to that of any other member of society.

The time was when people believed that "all the intelligence," says the Boston *Investigator*, came from within the walls of a collegiate institution—that men, to be qualified to hold offices of trust and emolument, must first "graduate." But that idea has exploded. The efficient men of to-day are those who never had a "liberal" education; but those who have, are the most bigoted and illiberal among us, with a few honorable exceptions. The workshop produces the *free mind*, the potency of which is being everywhere felt, to the utter dismay of every grade of foggism.

By the aid of improved machinery, one man can now spin four hundred times more cotton yarn than the best cotton-spinner could in 1769, when Arkwright took out his first patent. In grinding grain and making flour, one man can now do one hundred and fifty times more work than he could a century ago. One woman can now manufacture as much lace in a day as a hundred women could a hundred years ago. It now requires as many days to refine sugar as it did months thirty years ago. Only forty minutes are now required to fix an amalgam of mercury and tin on a large looking-glass, which once occupied six weeks. The engines of a first-class iron-clad frigate perform as much work in twenty-four hours as 42,000 horses.

**SAW TEETH.**—The number of saw teeth should be proportioned both to hardness of the timber to be sawed and the power to be used. Each tooth of a saw can only cut advantageously a certain distance forward in passing through the log, which distance depends on the hardness of the wood; but if a saw has too many teeth, or is driven by too weak a power, each tooth will not cut so far forward as it should do, and there is a loss of power. If the power is great, and the number of teeth few, then each tooth will have to cut too far forward.

**AMERICAN IRON.**—Just previous to the breaking out of the war, an important experiment was made in Georgia to test the relative durability of American and English railroad iron. A portion of the track of the Central Railroad, subjected to great wear, was laid—one side with American and the other with English iron. At the expiration of two years, the wear was decidedly in favor of the American iron.

**PROPELLERS AND SIDE-WHEELS.**—All the American steamships sailing from New York to European ports have side-wheels; while all except four or five of the foreign ships have screw propellers. A new line of American steamers about to be started from Boston will have screw propellers.

**MECHANICAL CULTIVATION** of the land is attracting great attention in France.

**ARTIFICIAL WOOD.**—An important branch of industry has recently sprung up in Rhens Prussia. It consists in the manufacture of various articles from refuse wood and saw dust, which are agglomerated by a cement, the exact nature of which is not stated, and then pressed in molds, so as to form covers for photographic albums, small picture frames, rosettes, and other ornaments for the use of cabinet-makers, etc. For the last mentioned articles the composition is stained to imitate ebony, mahogany, walnut and other woods. The composition, or "serifarine," as it is called, may be sawn, cut, drilled, attached together by glue, and bent on hot plates. It may be polished with oil or French polish, and may be varnished and gilt. A similar composition was manufactured in France, a few years ago, by mixing fine saw dust with blood and submitting it to the action of a hydraulic press.—*London Builder*.

The above paragraph comes to us from Europe as something new, but we believe the very same branch of industry has been established in this country for several years. Saw dust has been combined with shellac, colored with various pigments, and pressed in molds, which were heated to the necessary degree to melt the shellac. The principal use made of this composition was the manufacture of ambrotype cases and small picture-frames, but an application of it was made in the form of huttons, chessmen, etc. It is a good imitation of vulcanized rubber, but it will not sustain the wear and rough usage which the rubber will bear.—*American Artisan*.

A NEW KIND OF FIRE-PROOF is described by the *Idaho World* as follows: While at Centreville, the other day, we were shown a novel kind of fire-proof above-ground cellar, belonging to and in the rear of the store of Duke & Co. The inner walls are of wood—ordinary plank. Against these upon the outside are the novel and perfectly fire-proof walls, made of mere dry earth mixed with molasses, with short cut fibers of old rope, to serve as hair in plastering, included in the mixture. When prepared, this strange plastering is spread on the boards, with a heavy plank to retain the mixture in the place intended, and then a big maul is hrought to play upon the plank to beat the mixture solidly in. This is the process, and it is repeated, layer upon layer, and width upon width, until the whole mass is two feet thick and entirely envelops the building. A roof of the same material, put on the same way, is added, and the building or cellar is completed. The cellar of Duke & Co. has been finished only a few days, and yet this covering of dry earth, molasses and hempen fiber is so hard that a nail cannot be driven into it, and it is impervious to either fire or water. It is an invention of Mr. J. B. Duke's, and though a good many laughed at him, and tried to convince him, while he was putting on the queer mixture, that it would be a signal failure, all now admit that his head was the soundest on that, and all agree that it is a model fire-proof cellar he has made.

**STEEL COOKING UTENSILS.**—Bessemer's steel is recommended for cooking utensils. The material is not acted on by the various agents which attack copper, and thus on the score of health and safety it possesses special recommendations. Over cast iron for saucepans, etc., it will have the further advantage that, as the vessels are so much thinner, a great saving of heating material will be effected. The rolled sheets of steel may, by the aid of a lathe, be pressed into any required form, and thus the vessel is constructed of one piece, requiring no rivets or soldering. Various household utensils have already been made of this steel.

**PLASTER OF PARIS—ACCIDENTAL DISCOVERY.**—The discovery that plaster of paris was a non-conductor of heat was made by a man who, while making plaster images, frequently washed his hands in a tin pan, the bottom of which soon became incrustated. Soon after, when it was put on the fire to heat water, it was found that the water could not be heated. This discovery was put to a practical use in the making of iron safes, the chambers of which are filled with plaster, which, in case of fire, prevents the contents from being burned.

**CASE-HARDENING IRON.**—Cast iron may be case-hardened by being rolled at a red heat in equal parts of powdered prussiate of potash, saltpetre and sal-ammoniac, and by being then placed, whilst yet hot, in a bath containing two ounces of prussiate of potash and four ounces of sal-ammoniac in every gallon of cold water.

A SELF-PROPELLING steam fire engine has been completed in Manchester, N. H., and made a successful trip through the streets.

## Scientific Miscellany.

**FACTS WITH REGARD TO FUEL.**—Wood is the most healthy fuel to burn, from the fact that it gives off the least noxious gas, and contains the largest amount of oxygen. Coal contains but very little or no oxygen; hence the oxygen necessary for its consumption must be extracted from the atmosphere. So with coal oil, which is a very unhealthy fuel, except when burned in well ventilated rooms. If either coal or oil is burned in a close room, the air will soon become "oppressive"—it will have been deprived of a large percentage of its oxygen. A coal fire will soon go out unless it has a large supply of air (oxygen), while wood will burn with comparatively little air, having a large supply of oxygen within itself. Hard, close-grained wood is converted into "live" coals; soft, porous wood into ashes.

Close-grained, heavy woods, like hickory and oak, give out the most heat; although the lighter woods, such as pine and willow, being open-grained, heat up much the quickest.

The relative value of the different fuels is determined by the amount of water which a pound thereof will raise to a given temperature. Thus, one pound of dry wood will convert forty pounds of ice into boiling water; while a pound of good coal will raise eighty pounds of ice to the boiling point of water—hence, one pound of coal is worth two pounds of dry wood. A ton of coal at ten dollars is equal to two cords of wood at five dollars per cord. It would be more equitable to sell wood by the ton, when dry, the same as coal. Such, indeed, is the custom in some portions of Europe.

**VOCAL MACHINERY OF BIRDS.**—Until recently, it was quite difficult to account for so small a creature as a bird, especially a canary bird, making a tone as loud as some animals a thousand times the weight of that bird. Recent discoveries, however, have shown that in birds the lungs have several openings communicating with corresponding air-bags or cells, which fill the whole cavity of the body from the neck downwards, and into which the air passes and repasses in the progress of breathing. This is not all; the very bones are hollow, from which air-pipes are conveyed to the most solid parts of the body, even into the quills and body. By forcing the air out of the body, they can dart to the greatest height with astonishing velocity. No doubt the same machinery forms the basis of their vocal powers, and at once solves the mystery.

**INFLAMMABILITY OF THOROUGHLY DRIED WOOD.**—Scientific writers inform us that wood, when continually exposed to a very moderate heat, such as that of steam and hot water pipes, will, in a space of time varying from eight to ten years, become so inflammable that it will take fire at a temperature very little over that of boiling water. The wood undergoes a slow process of charring, and, it is said, only awaits the admission of air (which it gets by shrinking and cracking) to burst out into flame.

**THE RESULTS OF SCIENCE.**—Agassiz was once presented with a single scale of an unknown fish. From the study of that scale he made a drawing of the appearance which the fish to which that scale belonged must have made. A fish, corresponding almost precisely with his drawing, and having identically the same scale, was subsequently found, thereby proving the correctness of the deductions of science.

The phenomena of sound gives the key to the modern theory of the propagation of light; both being produced by vibration—of sound in the air and of light in a much more subtle substance penetrating the universe. The musical scale corresponds to the scale of prismatic colors. In light there are different octaves, such as the caloric, the luminous, the chemical, etc.

**ARTIFICIAL AGATE.**—Agate when polished is sometimes seen to bear markings which have a curious resemblance to a variety of natural objects, such as trees, bushes, and occasionally animals. These natural appearances, it seems, may be easily imitated artificially in various shades of color on common chalcedony. It is only necessary to draw the design on the polished stone, using a common goose quill, with a tolerably strong solution of nitrate of silver, and then drying it in direct sunlight. The drawing will at first be of a brownish color, but if dried and touched over two or three times it will be reddish. The same solution of nitrate of silver mixed with 12½ per cent. of soot and 12½ per cent. of bitartrate of potash will give a greyish-brown color. A violet color may be obtained by mixing one part of alum with three parts of the silver solution. Gold dissolved in *aqua regia*, or a solution of chloride of gold, gives a light-brown color. White and opaque appearances will be given by a solution of nitrate of bismuth. All these colors are unaffected by the atmosphere, and will bear washing. They can, in fact, only be destroyed by a very high temperature. They may be discharged by treatment with strong acids, but will reappear after washing and a fresh exposure to sunlight.—*Mechanics' Magazine*.

**ATMOSPHERIC ACTION.**—The carbonic acid of the air slowly attacks the rocks above the ocean level, and thus turns them to clay, forming carbonates with the soda, potash, lime and magnesia, set free, and carries these down as carbonates to the sea, where the carbonate of soda decomposes the chloride of calcium of its waters, and forms common salt and carbonate of lime. This series of actions is the source of the salt of the sea, of all clays and of limestones which are chemical and not organic in their origin. Organic living things do not generate the carbonate of lime, but appropriate it, when found for them by chemical reactions; and thus great portions of our limestone rocks are made up of fossil remains. In forty-four feet of limestone, there is separated and condensed from the air a large atmosphere of carbonic acid gas; the early atmosphere was therefore very dense and unfit for the sustenance of the higher forms of life, until by far the greater portion of this gas has been removed by the formation of the carbonate of lime and vegetable matter now constituting coal and petroleum.

**TO PRINT LETTERS BY SUNLIGHT.**—Dissolve chalk in aquafortis to the consistence of milk, and add to that a strong solution of silver. Keep this liquor in a glass decanter well stopped, then cut out from a paper the letters you would have appear, and paste the paper on the decanter, which you are to place in such a manner that its rays may pass through the places cut out of the paper and fall on the surface of the liquor. The part of the glass through which the rays pass will turn black, while that under the paper will remain white. You must observe not to move the bottle during the time of the operation.—*Chemical News*.

**OXIDATION BY MEANS OF CHARCOAL.**—A communication was lately read at the London Chemical Society concerning experiments made with recently-burned boxwood charcoal. It was first placed in pure oxygen gas, and, after being saturated into other gases and vapors, and the absorption as well as the resulting vapors were noted. Moist sulphurous acid and sulphureted hydrogen were changed to sulphuric acid; common alcohol to acetic acid, amylic alcohol to valerianic acid; but the author asserted that ammonia does not undergo oxidation in the pores of charcoal.

**ILLUMINATING GAS** is said to be considerably increased in power by heating it and burning it with heated air. It would not be difficult or expensive to put up gas and air pipes, or a double pipe for both, in connection with household furnaces, etc., and apply combination burners.

**ELEMENTARY COMBINATIONS.**—The most delicious fruits are composed of hydrogen, oxygen, carbon and nitrogen; and the most deadly poisons are composed of the same ingredients, differing only in the proportions of their combination.

**A SIMPLE RULE.**—To ascertain the length of the day or night, at any time of the year, double the time of the sun's rising, which gives you the length of the night, and double the time of its setting, which gives the length of the day.

**VANADIUM.**—Mr. Musset has expressed the opinion that a minute quantity of the metal vanadium mixed with iron forms a valuable alloy, and gives a fine, tough, fibrous texture to bar iron.



California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, July 1, 1867.

Vice President Ransom in the Chair. Twenty members present.

W. A. S. Nicholson, A. B. Stout, M.D., and C. W. McCormick, M.D., were proposed for Resident Membership.

Donations to Cabinet.—Native oysters—Ostrea laticaudata; also, specimens of Purpura lactuca, by Dr. Cooper, who remarked that the former species was from the bay near the city, and were quite abundant and of good quality, and that the Purpura lived upon them. Specimens of the cones of Pinus contorta, commonly known as the false Norway pine, or twisted pine; also, Garryay Elliptica, or tassel tree, from Port Trinidad, presented by Dr. Veatch. Eggs, caterpillar, female and cocoon, of the California silkworm (Saturnia Californica, or Euryalus of Boisduval), presented by Dr. Lansweert, who remarked that the number of eggs of this silkworm is from 200 to 250. The female lays, on an average, from seventy to eighty per day. Three thousand eggs weigh an ounce. The caterpillar, direct from the egg, is more lively than that of the Chinese silkworm, and hardly keeps in its place. The silk produced by this worm is stronger than that of the Chinese, and is indigenous to California. Living on the Cecanobolus, it is well worth the attention of our silk-growers, as perhaps in feeding it on the mulberry a finer quality of silk would be obtained. The eggs were obtained from a female caught in the garden of the Philadelphia Brewery, Second street, in this city, on the 10th of June. The eggs were hatched on the 30th of the same month. The caterpillar requires generally from two to two and a half months before making its cocoon.

Dr. Kellogg made some remarks upon a specimen of Aristolochia Californica, a vine sometimes called Dutchman's pipe, from Angel Island, presented by Mr. E. Brooks. Mr. Stearns read a note from Prof. W. P. Blake, stating "that the fossil vertebræ from the Tulare Valley, which at a former meeting I suggested were Saurian, prove, on investigation, to be one of the larger forms of Delphinidae."

Mr. Stearns exhibited specimens of Haliotis from Monterey, which he had received from Dr. Canfield, of that place. The peculiarity of the specimens consisted in their being hybrids—a cross between the two species known to conchologists as H. Cracherodii and H. rufescens. In this connection, Mr. S. made the following general remarks upon the Haliotidae: "The word Haliotis means sea ear, from Halios, marine, and otis, ear. It is the abalone of the Native Californians, the ornier of the French, the lapa burra of the Portuguese, the orechiate of the Italians, the patella reale of the Sicilians. The shape of the shell may be compared to a Turbo, or top shell, with small apex whorls and a disproportionately large body whorl, and the whole flattened out. As regards shape, it holds the same position to Turbo that Concholepas does to Purpura. It adheres to the rocks like the Patellas and Fissurellas. To the latter genus it is somewhat allied through its anatomy. The arrangement of the teeth upon the lingual ribbon is like that of Fissurella. Cuvier found every individual that he examined had an ovary, and therefore concluded that the Haliotides were hermaphrodites. The chief peculiarity of these animals is, that their shells are perforated with a regular series of holes for the passage of the water to the respiratory organs, analogous to the vertical hole in the shell of Fissurella. The shells of this latter genus have but one hole, and are not pearly. The holes in Haliotis are ranged parallel, with the columellar lip, and being required only in that part of the shell which covers the branchial cavity, those nearest the spire are filled up and new ones formed as the animal advances in growth. The Haliotides are, in a certain degree, fixed or sedentary in their habits; and, though capable of locomotion, they probably move but little and quite slowly, since their structure, as seen in their powerful muscular foot, or disk, shows it is made for adhesion. "The brilliant and highly-colored interior of these shells, producing sometimes an iridescent effect, has been attributed by Sir David Brewster, Dr. Carpenter, and others, to minute striæ, or grooves, on the surface of the naecæ, which alternate with others of animal membrane. The color is produced by the nature of the lamina, which decompose the light in consequence of the interference caused by the reflection from two sides of each film, as may be seen in soap-bubbles. The naecæous lamina, when magnified, indicate a minute cellular structure. The cells are of a long

oval form, and their short diameter is not above 1-5000 of an inch." (Jeffrey.)

Dr. Cooper followed Mr. Stearns, and remarked upon the geographical distribution of this genus of mollusca.

A paper was read by Dr. W. P. Gibbons, of Alameda, in which he resumed the subject of the extinct forest of redwood on the Coast Range, near San Antonio. He directed attention to the fact that some of those stumps indicated a method of growth different from ordinary forest trees. Their immense size was due, in some cases, to the fact that three or four trees, growing in proximity, would ultimately impinge on each other, and if supplied with sufficient nourishment, they would grow together and form one immense trunk. This theory was verified by the statements of Dr. Kellogg and Mr. Bolander, who mentioned the fact that near Searsville several redwood trunks had grown together, and for forty feet formed a solid tree. There is no dependence in estimating the age of such trees in any other way than by carefully counting the number of concentric growths from a center. The oldest of these redwoods is about 1,500 years of age. The gigantea of Calaveras is about the same age. These redwoods are evidently the second generation of the race; hence we may infer that 3,000 years, at least, have passed by since the present growth first commenced on the Coast Range. But long before this must vegetation have covered portions of these hills, as the Sequoia reposes in a bed of alluvium twenty or thirty feet in depth. He also referred to the bulbous expansion of these trees near the base. These are composed of large expanding roots, growing together, and forming a complete network. The height of this indicates the degree of denudation which the soil has undergone during the lifetime of the tree. This is about five feet in 1,500 years. Some of these trunks have from 10,000 to 14,000 buds, partially developed, around their base, each bud having the power, under favorable conditions, of being developed and forming a perfect tree. The mass of wood contained in a tree twenty-five feet in diameter is equal to 4,000 cubic feet, weighing over 2,500,000 pounds.

Remarks were made in connection with the above by Messrs. Cooper, Kellogg, Veatch and Stearns. Adjourned.

REAL ESTATE SALE.—We would call the attention of the public to the advertisement which appears to-day of the sale of the Beideman Estate, comprising some of the finest building lots in the city. Having been for many years in the possession of J. C. Beideman, deceased, the title is represented by Mr. Jno. W. Brumagim, the Administrator, as unquestionable. Many fine residences have already been erected contiguous to this property. This will be one of the largest and at the same time one of the most advantageous sales of real estate that has taken place here for many years. It will be seen that the terms are exceedingly liberal—only ten per cent. of the purchase money to be paid at the time of sale, and fifteen per cent. more on confirmation by the Probate Court; thereafter, one-fourth annually until the whole is paid—the deferred payments bearing eight per cent. interest and secured by mortgage on the property, thus giving purchasers ample opportunity to make provisions for the payments, and, in fact, to earn the money before it is required. The sale commences on Wednesday, July 24th, at the salesroom of Maurice Dore & Co., 327 Montgomery street, and will continue until the whole is sold. Catalogues, with full description of property, can be had on application to the auctioneers, or to H. F. Williams & Co., Clay street.

THE REJECTED DRILL.—A correspondent writes us, too late for insertion this week, a statement that the "spring drill" alluded to recently in this paper, as having been condemned by Mr. Stanton, Superintendent of the summit tunnel on the Central Pacific Railroad, is the noted invention which has for years been successfully applied in the Mount Cenis tunnel in Europe. It is operated by compressed air.

American and Foreign Patents.—Letters Patent for Inventions can be secured in the United States and foreign countries through the Mining and Scientific Press Patent Agency. We offer applicants reasonable terms, and can furnish a full and complete list of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

65,094.—GANG PLOW.—L. B. Lathrop, San José, Cal.:

I claim, 1st, the rotary cutters, d, attached to the wheels, C, and forming flanges thereon, for the purpose of acting as land-sides for the plows, substantially as set forth.

2d, The axle, B, when arranged obliquely below the tongue, A, and when adjustable, by means of the screw-bolt, a, and slotted arm, b, substantially as and for the purpose herein shown and described.

3d, The devices for raising and lowering the plows, consisting of the screw, K, rods, i and h, and of the axle, B, lugs, f and g, bar, F, and bolts, c, respectively as set forth.

4th, The double tongue, A, M, in combination with the wheel, I, supporting the end of the main tongue, and with the hinges, l, m, n, and o, p, L, substantially as herein shown and described.

5th, The plow-beams, E, when bent so as to form off-sets at the top of the mold-boards, substantially as and for the purpose herein shown and described.

65,165.—PENCIL-SHARPENER.—Hubert Burgess, San Francisco, Cal.:

I claim the case or box, A, tray, B, and file, C, for sharpening pencils, substantially as shown and described.

RECENT INVENTIONS.

A WATER FLAME.—An ingenious person at Hartford, Conn., has invented a contrivance to burn water; and it is said that the flame is of wonderful intensity, and can be produced in three minutes, governed by a thumb screw, and can be applied to any purpose, as easily as any fire.

A NEW METHOD OF PROPULSION.—A citizen of Troy, N. Y., has invented a new method of applying propelling power, and has built a model of a vessel for experimenting. His device is to propel by four screws instead of one, all of which are to be placed directly under the vessel. The idea is that the location of the screws under the vessel will give it much greater speed, as at that point the screws operate upon solid water alone, and consequently gain additional power and efficiency.

TO PREVENT SUN-STROKE OF HORSES.—A gentleman in New York, has invented something for horses, for which he ought to be made an honorary member of the Society for the Prevention of Cruelty to Animals. It consists of a small reservoir, filled with water, placed on the animal's head, keeping the brain cool, and thus warding off the effects of heat and sun-stroke.

A CRAVAT PIN is among the attractive curiosities of the French department of the Paris Exposition. Everybody has seen bow bells are rung in all the new hotels. Instead of pulling the bell and making it ring by an exertion of mechanical force, we press a small button in the wall; this is connected by an electric wire with a small alarm, the clapper of which keeps on jingling so long as the button is pressed. Lift the hand from the button and the alarm ceases. This principle a French jeweler has applied to cravat pins. The knob of the pin is of various devices. It is a bare with a tabor, or drummer with his drum, or a death's head with a loose under-jaw, or a dog. Whoever chooses to wear such a pin has connected with it by a wire a small electrical battery in one of his pockets. He puts his hand into his pocket, touches a button there, and off goes the pin. The hare begins to patter on the tabor, the drummer to beat on his drum, the death's head to chatter and roll its horrid eyes, or the dog to bark and snap. When the hand is lifted from the button, instantly all is quiet.

SHEEP-SHEARING BY WIND.—A sheep-shearing machine, which operates just like a reaper or mower, and mows a swath of wool an inch and a half wide, has just been invented. The motion is obtained by means of a little wind-engine in the handle, which is driven by a force-pump or bellows forcing wind into it through a flexible tube. The days of hard work sheep-shearing are numbered.

A PAPER WATER bucket has been invented by Mr. J. W. Jarboe, of the American Paper Manufacturing Company, of Greenpoint, N. Y. Among its advantages over others is the fact that it is stouter, will not shrink or decay, and will outwear a dozen wooden buckets. It was recommended as adapted for use on board of vessels and steamships.

All About Sending Money by Mail.

RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20.....10 cents. Over \$20 and not exceeding \$50.....25 cents. No fractions of cents to be introduced in an Order. United States Treasury Notes, or National Bank Notes only received or paid.

To send over \$50, additional Orders must be obtained. Post Offices where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out: No. .... Amount .... Date, ...., 186 .

MONEY ORDER. Required for the sum of \$.... Payable at ....., State of ....., Payable to ....., Residing at ....., State of .....

ENTERED IN REGISTER: ....., Postmaster.

The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands. For example: Mrs. Mary Brown must not be described as Mrs. William Brown.

Names of parties and places, and the sums, to be written in the plainest possible manner.

As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

Table listing California post offices: Auburn, Benicia, Camptsville, Chico, Colusa, Colusa, Downville, Dutch Flat, Eureka, Folsom, Forest Hill, Georgetown, Gilsboville, Gilroy, Grass Valley, Headburg, Hone Valley, Jackson, Los Angeles, Los Angeles, Mariposa, Marysville, Martine, Mokelumne Hill, Monterey, Napa, Nevada City, Oakland, Oroville, Petaluma, Placerville, Red Bluff, Sacramento, San Rafael, San Francisco, Santa Cruz, Santa Rosa, Suisun, Sta. Clara, Suisun, Tuolumne, Ukiah, Yuba, Yuba, Yuba.

Table listing Nevada post offices: Virginia City, Carson, Carson.

Table listing Oregon post offices: Albany, Canyon City, Cal. Falls, Dallas, Eugene City, Hillsdale, Lafayette, La Grande, Oregon City, Portland, Roseburg, Salem, The Dalles, Umatilla.

Table listing Idaho Territory post offices: Boise City, Idaho City.

Table listing Montana Territory post offices: Helena.

Table listing Washington Territory post offices: Olympia, Steilacoom City.

A PIONEER HARDWARE AND AGRICULTURAL STORE.—The extensive store of Messrs. Webster Brothers, of Stockton, was established in 1850, and, we believe, now stands in favorable comparison with any like establishment on this coast. Through the intelligence and energy of its proprietors, much has been accomplished for the development and advancement of the agricultural resources of an important portion of our young State. Experience has made them familiar with the wants of their various customers, and secured to them a great measure of success.

The introduction of improved agricultural implements is producing wonderful results in California, and yet the work has but fairly commenced. Steam plows and steam threshers are yet to become common in our great grain fields.

Messrs. Webster Brothers are now introducing many well tried and thoroughly effective machines and farming implements, prominent among which we may name the "Baxter California Gang Plows," which we are assured are really a series of new gang plows adapted to different soils throughout the coast. As soon as the electrotype plate of this famous plow is received, it will be displayed to the readers of the PRESS.



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, July 6, 1867.

CITY STOCKS.

The demand for city stocks continues light; in fact, for a month past, public transactions in this class of securities have been very small.

The semi-annual dividend period of our local savings banks and other institutions is at hand, and the following have already announced the per centage of net earnings they will disburse to their depositors and stockholders: Odd Fellows' Savings Bank, 10-15 per cent. per annum on term deposits, and 8 1/2 per cent. on ordinary deposits.

We refer our readers to the annexed interesting table of mining stock dividends:

Table with columns for Company, Dividend, and Date. Includes companies like Adella, Belcher, and Crown Point.

between the 700 and 780 feet level, an entirely new body of ore, from three to three and a half feet in width, has been found, which is said to be of a very fine quality.

At the close of June, the shaft had attained a depth of 500 feet. Crown Point—has fluctuated very materially during the past week, opening at \$2,200, falling to \$1,800, again advancing to \$2,200, receding rapidly to \$1,760, and closing yesterday at \$1,550.

YELLOW JACKET—declined from \$1,660 to \$1,480, improved to \$1,655, receded to \$1,575, and closed at \$1,650, buyer 30.

A dividend of \$75 per share will be paid on the 10th inst.

GOULD & CURRY—is in better favor, having advanced from \$630 to \$800 per foot, and closed at \$710, buyer 30. The north-east drift from the fourth station is reported to run in a mixture of clay and porphyry, containing a few small seams of barren quartz.

KENTUCK—rose from \$445 to \$550, and closed at \$510, a 60. The bullion returns in June amounted to \$130,255.51. After paying all expenses, etc., this company have a balance of \$117,344.37 on hand at the close of June.

CHOLLAR-POTOSI—sold to a considerable extent, improving from \$445 to \$460, declining to \$430, rising to \$487.50, and closing at \$470. It is reported that good ore has been found in the north end of the Blue Wing stope; otherwise the mine presents no new features, except that they are now sinking from the Peck drift to make the connection with the second station.

OPHR—A large number of shares have changed hands during the week, improving from \$320 to \$387.50, but fell off to \$320, closing at \$325. The cause of the delay in obtaining ore has been the necessity for effecting ventilation between the ninth and tenth levels, which was accomplished on Sunday last; since then they have been taking out ore. The vein is from 3 to 4 feet wide as now developed.

BELCHER—opened at \$460, receded to \$420, advanced to \$430, declined to \$405, and closed yesterday at \$400.

OVERMAN—has been somewhat less active, improving from \$225 to \$240, declining to \$200, rallying to \$227.50, and closing at \$212.50. The conflict of authority in the management of the mine has unsettled the price of the stock.

IMPERIAL—advanced from \$220 to \$237.50, receded to \$215 buyer 30, and closed at \$210. The receipts of bullion in June aggregated over \$107,000.

CONFIDENCE—sold at \$64. The bullion product for June amounted to \$14,000. GOLD HILL Q. M. & M. Co. sold at \$194@210. Bullion value in June, \$12,500.

The aggregate sales of stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,656,206.

A Paying Newspaper for Sale.

A one-half interest in one of the best Country Papers in the State, is offered for sale on desirable terms. The journal is the oldest in the county, is situated at the County Seat, and surrounded by one of the most prosperous and promising Quartz and Gravel Mining Districts in the State.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Dividend Sale; and Amount and Time of Payment of Dividends.

Table listing mining companies, locations, and dividend details. Includes Adella, Belcher, Crown Point, etc.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table of stock prices for various companies and bonds, including United States Bonds, San Francisco City Bonds, etc.

MINING STOCKS—WASHOE DISTRICT.

Table listing mining stocks in the Washoe District, including Alpha, Belcher, Bullion, etc.

San Francisco Market Rates.

Table of market rates for various commodities like flour, sugar, and coffee.

Table of retail prices for various goods like butter, cheese, and fruit.

San Francisco Metal Market.

Table of metal market prices for items like iron, steel, and copper.

Jacob Snew, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street) takes all kinds of Photographs in the best style of the Art.

Parsons desirous of obtaining the finest Wood Engravings, can procure them only by having the picture photographed on the block, by D. H. WOODS, No. 28 Third street.

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary.

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## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

**Miner, June 19th:** At the post office in this place may be seen a collection of Tarsish ore, representing the three classes now found in that mine. No. 1 consists of a mass of decomposed substances, which lie in pockets all through the lode. There is about ten tons of this class in the ore-house which will work \$400 per ton. No. 2 is selected from the third by breaking it up small and picking out that which shows ore, even in small particles. There is out about 15 tons of this class which will work \$125 per ton. In No. 3 no ore can be seen, yet it will work over \$20 per ton. There is over 52 tons of this class out. In a box is about a pound of concentrated ore, obtained by washing No. 1 ore in a common pan or horn without crushing, which will assay over \$3,000 per ton.

The Mountain Co. at Silver Mountain has the longest and deepest tunnel in the country. Its length is 1,183 ft. under a very steep mountain. Lately the rock was so hard that it required 150 drills as hard as fire and water could make them to stand a day, making only about ten inches; but recently it has grown some softer. They expect now to make 50 feet per month.

## Amador County.

The Sutter Creek correspondent of the *Alta* of this city, writing June 14th, says: The main shaft in the Hayward mine is now down 1,230 ft., 300 ft. below the level of the sea. Ores are now being worked from the lowest level; 60 tons of rock are crushed in 24 hours. The whole mass of pay rock, between the 700 and 1,230 ft. levels, 500 ft. deep, 500 ft. long, and from 10 to 12 wide is in sight, and ready for extraction.

The Oneida mine has now in sight 100,000 tons of ore, that will pay \$17 per ton, exclusive of sulphurets. The yield of this mine during the last eight months, has been \$135,000.

The present average yield of the Keystone ledge is \$16 per ton. The vein is 10 ft. wide.

**Ledger, June 20th:** Ripley, Crane & Co. are making preparations to commence work on their quartz claim, in Minister's Gulch. They will also commence the erection of a mill immediately.

West Point mining camp was almost totally destroyed by fire last Monday night.

In the Coney & Bigelow mine, rock has been struck, richer than any yet found. The vein is about 10 ft. wide, and the quartz is full of free gold.

## Calaveras County.

**Chronicle, June 29th:** On Lamphear & Co's claim, the lead is developing finely. It increases in width, and the rock taken out would pay handsomely if crushed. Before fall, a large mill will be erected on the claim.

Williams, Fennell & Co. have struck pay dirt in their tunnel in Stockton Hill. As high as \$6 to the pan has been obtained.

Mitchell & Adams are doing extremely well in their claim near French Hill. They are taking out the shining ore in very acceptable quantities, and their claim exhibits no symptoms of exhaustion.

Pink Smith & Co. are pushing forward their tunnel with vigor and determination. They will make the Know Nothing claim pay yet.

## Mariposa County.

**Gazette, June 29th:** The editor has received two very handsome specimens of mineral, known as cobaltine, or cobalt glance, with large quantities of nickel, from the copper mine of Mr. Hammerstrand, on Bear creek. The strata carrying these minerals lies alongside of the foot-wall of the copper vein, and is about 2 ft. thick. The gouge of the ore is quartz and micaceous talcose schist. The width of the vein is 6 ft., with a shaft upon it 60 ft. in depth.

## Nevada County.

The Nevada correspondent of the *Times* of this city, writing from Bear Valley, June 27th, says: The best developed ledge in the district is the Redstone, near Lost Camp, on the North Fork of the American. An 8-stamp mill has been erected, and has been running several months, during which time it has paid its owners the cost of construction and a handsome profit. Between this point and Bear river much prospecting has been done on extensions of the Redstone. The Blue Bell is the narrowest and richest ledge in the district. This ledge is two ft. wide on the surface, and crops out the entire length of its location—2,100 ft. The talc casing of this ledge is rich in free gold; but little gold is visible in the quartz, and

its richness has been demonstrated by actual working tests of several tons run through the Redstone Bros. 2-stamp prospecting mill. Some Blue Bell rock yielded from this imperfect working as high as \$200 per ton.

The Steep Hollow ledge is a location of 2,200 ft., 10 ft. wide at the bottom and 8 ft. on the summit of the ridge. The owners are now running a tunnel, and taking out very rich rock. There is rock enough in sight to run 40 stamp mills. None of their rock has yielded less than \$25 per ton, mill process.

Keenicott & Co. have struck a heavy quartz gravel deposit, which is proving singularly rich.

**Transcript, June 28th:** The claims of Hunter & Frost are paying from \$2 to \$4 per pan. They employ eight hands, and are taking out \$1,000 per week.

July 2d: The North Star mine, at Grass Valley, was sold yesterday, for \$450,000, to W. J. Ralston, A. C. Peachy, W. H. V. Cronise, Delos Lake, Coleman Bros., and others.

Work has been resumed on the Best Chance mine.

Last week a \$40 lump was found in Binsley & Co's claims at Kentucky Flat.

**Grass Valley Union, June 29th:** A clean-up of six weeks' run of Bovee's quartz mine, near Angel's, yielded the handsome sum of \$12,000, and the mines at Angel's, Carson's and Smith's Flat are doing better than ever before.

**Transcript, June 3d:** Several companies have commenced work in the channel of Deer creek. Leeth & Waite have completed a "hurdy gurdy" wheel, four feet in diameter, which they run with 180 ft. pressure, for the purpose of raising gravel from the bed of the creek. John Hawke has claims adjoining the ground just mentioned. He has an overshot wheel for working his hoisting works, and is raising about 25 tons per hour. These two companies employ about 60 hands and expect to clean up in about two weeks.

The lower tunnel of the Grizzly ledge is in about 400 feet from the surface with about 70 feet backs. The ledge is five feet thick and pays first rate.

June 4th: The Kentucky Company, at Moore's Flat, are sinking for what is supposed to be a large basin or channel of blue cement, which, it is thought, is the source of the rich "gold washes" below. The shaft is now about 135 feet below the surface, and it is expected to strike bed-rock at a depth of from 200 to 300 feet.

**National, July 1st:** Eleven loads of rock from the Dromedary ledge, crushed at the Gold Hill mill yielded \$240.10. After the extraction of the free gold, 1,125 pounds of sulphurets remained, which, worked at Larimer's mill, produced \$76.50, making a total of \$319.60.

**EXCELSIOR.**—Meadow Lake Sun, June 29th; The Excelsior Co. are running two batteries (eight stamps) of their mill. The Last Chance Co. are prospecting rock vigorously on their claim. It looks well. It is reported that a rich chimney has been struck in the Gold Run mine. The Chlorination Works below the dam are being repaired.

Rumor says that L. A. Booth and J. L. Requa have purchased a leading interest in the U. S. Grant mine. The late run of the Golden Eagle Co's mill returned a fraction over \$20 per ton. The sulphurets have not yet been worked. They will yield about \$35 per ton.

The California mill is being refitted, preparatory to making a run on ore from the Green Emigrant. The Green Emigrant is yielding exceedingly rich ores. At a depth of 13 ft., the ledge is over 3 ft. wide and rich in free gold. The drift from the bottom of the California Co's shaft has been driven in on the ledge over 50 ft. The rock has been very hard, but is getting softer. The ledge is now 7 ft. in width, at the foot-wall of which is found a thin layer of black copper ore, said to be very rich in both copper and gold. Much copper can be found in its natural state. The balance of the ledge is composed of white quartz, heavily laden with sulphurets, and containing free gold.

## Placer County.

**Herald, June 29th:** One half of the McKinney lode, at Henry's Diggings, has been sold to Mr. Gruher, of Sacramento, for \$10,000; also the Hunt lead, at Loafers' Hollow, sold to Charles Bacon, of Virginia, and others, for \$12,000.

A shaft has been sunk on the Keefer ledge, at Georgetown, 130 feet deep. At that depth a drift was run 25 ft., striking a well defined ledge.

The Flag mill, in Ophir Dist., is crushing quartz for \$2.50 per ton, while the Hogan mill is kept constantly going on good pay-

ing rock. The Pugh mill, also the Welty mill have plenty to do.

The Richard Bullet quartz mill between Ophir and Doty's Flat, has been entirely consumed by fire. Loss \$8,000.

**Dutch Flat Enquirer, June 29th:** Four more stamps has been added to the Redstone mill. A level has been commenced in the mine at a depth of 60 ft., disclosing a better quality of rock than heretofore found.

**Mountain Democrat, June 29th:** The Eureka mine has contributed a number of remarkably rich specimens of gold bearing quartz. The specimens were taken from the vein at a depth of 130 ft. Gold is profusely scattered through the rock.

## Plumas County.

**Quincy National, June 22d:** Times at Sawpit are now very lively. The Eagle Company cleaned up last week the handsome sum of \$28,000. The New York Company also cleaned up \$19,000.

The Eagle Company's claims, at Port Wine, are paying \$200 per month a share. The Monte Cristo claims are also paying finely.

## Shasta County.

**Courier, June 29th:** The re-building of the Mammoth mill is progressing with the utmost despatch under the superintendence of Mr. Sam. B. Grover.

The Chinese Company that purchased Lansdale's garden, at Briggsville, for mining purposes, are taking out excellent pay. The Celestials paid \$1,100 for the ground, and will probably take out \$11,000.

All the companies at South Fork have stopped work, and most of the employes have left for better diggings.

## Siskiyou County.

**Yreka Union, June 22d:** S. S. Richardson, agent of the London Q. M. Co., has gone to San Francisco, to make arrangements to open the lower part of Indian creek. Mr. Thurber's claim on Rattlesnake has averaged, so far, about \$7 per day to the hand. Mr. Thurber's are the only claims opened on that creek yet, but there is without doubt a great deal more ground that would pay for working.

## Yuba County.

**Marysville Appeal, June 29th:** The Bate-man mill, near Indiana Rauch, commenced operations a few days ago. The mill is small, running only five stamps; but it is the intention of the proprietor to add five more stamps as soon as it is advisable.

July 2d: The Pennsylvania is crushing very good quartz, taken from level 8, and the Jefferson, in their southern prospecting drift, have just struck a pay streak of very good quartz.

Several claims are prospecting for quartz containing sulphurets. One of them, formerly supposed to contain copper ore, is now found to be rich in gold, for the ore is yielding \$55 to the ton.

## ARIZONA.

The Prescott correspondent of the *San Bernardino Guardian*, writing June 10th, says: The 20-stamp mill at Wickenburg used in working the Vulture mine, is working to the entire satisfaction of its owners. The mine is also turning out better and better as they go down on it, and is beyond doubt one of the best, if not the best mine on the Pacific coast. It is a source of great regret that the very many valuable mines in this vicinity, are not being worked. The reason for this is, the want of proper machinery to save the gold, after the rock is crushed by the mills.

## COLORADO.

**Georgetown Miner, June 13th:** Work on the Monarch lode, Columbia mountain, progresses favorably. As the mine deepens, better indications are found.

The Sensitive Co. have declared another dividend of one per cent., payable in New York after May 25th.

From three or four lbs. of Bethany ore, smelted in a blacksmith's furnace and then cupelled, \$12 was taken.

Mr. Rockwell has a lot of crystallized sulphurets of silver, taken from a whitish rock in the American lode, which yields 75 per cent. silver.

A proposition to form a silver smelting company is being agitated among the business men of Denver, Prof. Schinner to have control of the works.

Mr. Darrah has been making a hand-stamp mill of himself, and has pulverized 10 lbs. of the ore from the Bunker Hill lode, taking an average of the product of the crevice. Mr. Burlingame will run a button from this ore in a few days.

Mr. J. T. Harris is about to erect a small smelting furnace in the lot adjoining our office. He has bought the W. H. White lode; price, \$2,000. The lode shows an ore vein about a foot thick.

Mr. Hoyt, of Central City, recently made an assay of Muscovite ore, and realized \$70 per ton—\$15 in gold, the balance silver.

For smelting purposes, the Muscovite is the best lode in the country. The New Boston lode, which furnished ore for the first charge of the Georgetown Co's smelting furnace, increases in quality and quantity as work progresses.

Henry Parker has contracted with Mr. Webb, of Georgetown, to sink a shaft 75 ft. on the Congress lode, giving him one-half of the property for the work. The crevice is 5 ft. wide at 40 ft. The dirt from the mine looks like the litharge of the shops. Specimens of the ore, roasted on a stove, show beads of silver on their surface.

The discoverer of the Young America lode, Downville Dist., had a specimen of the ore assayed, getting a return of \$40. He then sold the lode for \$100. Present assays prove that the ore the entire width of the crevice will yield \$4,000 per ton, silver.

The *Register* has the following: We saw at Messrs. Clark & Co's Bank two pieces of bullion, one weighing 6 ozs. and 10 dwts., worth \$119.50, coin; the other contained 3 ozs. and 2 dwts., worth \$54.25, coin—the former from three tons of ore, the latter from 1,940 lbs. These results were obtained by the Kenyon process.

The Boston and Colorado Smelting Co. are preparing to erect smelting and separating works. They will be located below the Excelsior mill, on North Clear creek.

The Althro lode assays as high as \$17,000 to the ton, one-fourth of its value being silver. The Johnson lode yields \$200 per cord in arastras.

**Denver News, June 12th:** Certificate of assay of ore from the Brooklyn ore shows \$68.15 in gold, and \$31.71 in silver, a total of \$99.86 to the ton.

The celebrated Anglo Saxon lode at Georgetown, was sold on Friday last, for \$40,000. Dr. Johnson has purchased 20 tons of ore from the New Boston lode, for \$50 per ton at the shaft. He had lately cupped a button of silver weighing 135½ lbs. He is now running his furnace. Everything is looking flourishing.

Mr. John Shock has succeeded in getting up a company in the interior of Ohio, of \$1,000,000 capital, with \$300,000 for working capital, to open mines in Gold Run, Summit county, Colorado.

**Denver News, June 19th:** Beebe & Company have started their 12-stamp mill. They are running on ore from the Golden Age lode.

A new lode has been discovered on the "divide" between James creek and St. Vrain. The crevice is very wide, and is of dirt, which prospects evenly and richly, fifty cents to the pan.

Mining on the Columbia lode, Ward district, is brisk and the ore looks better than ever before. The Long's Peak Company are working the Comet lode. Several arastras are being put up to run surface quartz. A number of men are mining in Spring gulch, and another in Indiana gulch. They have fair prospects of obtaining a good yield of dust.

## IDAHO.

**Bullion, June 12th:** Mr. Gove had exhibited at the Bullion office the richest piece of ore yet seen in Silver City, which was taken a few days before from the Oro Fino ledge.

**World, June 22d:** The Cosmos Company, of which Dewey is manager, has settled up all past liabilities, and resumed work under bright auspices.

Work on the Poorman mine will commence next Monday. The Company have given the contract for freighting to the amount of \$50,000.

The ore taken from the new ledge of Peck and others, in Silver City, yields very rich rock, similar to the Oro Fino ore.

Very rich ore is being taken from the Oro Fino. The new company have already paid off \$8,000 of indebtedness.

The third clean up of the season was made at the quartz mill of the Elkhorn Company, six miles from Pioneer City, in Boise Basin, last Saturday, and from 70 tons of ore the gold produced was 410 ounces. There is yet over 500 tons of the same kind of ore to crush, and the hands are continually getting out more. The uniformity of the gold product of this mine is a cheering evidence of its enduring richness.

**World, June 26th:** From Ben. Wilson's claim a great deal of money has been taken this season. Two men shoveled in over \$500 one night lately. The claims of Wilson & Giberson have yielded \$2,000 from a five days' run.

The Elkhorn Quartz Co. made another very rich clean-up last week.

One-third of the Summit Flat ledge has been sold to parties in Boise City, who are up there to examine and work it. An offer has been made for the North American ledge on Big Muddy. Mr. Burkett has assayed some of the rock from the ledge, and it yielded from \$500 to \$600 per ton.

A lively mining camp is about to spring



up somewhere on the Middle Boise, between Goodrich's and the Yuha.

Owyhee *Aralanche*, June 29th: The Cosmos mill finished crushing the ore on the yard, and cleaned up, during the week, a large amount of amalgam—more than the grade of ore crushed was supposed to contain.

From 2,500 lbs. of ore from the Morning Star ledge, crushed one day this week, \$370.71 in hullion was extracted. Hallenheck & Stevens have 15 tons of ore from the new shaft in their ledge at the Webfoot mill for crushing.

The Ainsworth mill is being put in order. Ore from the North Star ledge is being hauled to the mill.

One-half ton of Leandia ore crushed at the Webfoot mill, this week, yielded at the rate of \$35 per ton.

**MONTANA.**

Helena *Gazette*, June 15th: The largest gold brick ever seen in Helena, was cast by Bohm & Molitor last Thursday. It weighs 1,000 ounces, and belongs to the hanking firm of L. H. Hersfield & Co. This enormous slug of gold will soon be sent East. Total value, \$17,951.72.

The product of gold from the various mining camps will be quite abundant this season. Most of the old camps are paying well, also many new ones. There is quite a demand for labor. At Blackfoot, Henderson gulch, and in the Silver Bon region, much good mining ground is now lying idle, owing to the scarcity of labor.

The Diamond City correspondent writes: The bed-rock has been struck in King & Gillette's mine, and a piece of gold weighing 56 has been extracted. Yesterday (June 9th) Dennis Shane exhibited a "fat" sack of as pretty dust as ever came out of the ground. The dust was procured on Boulder Bar.

June 22d: Several shafts have been sunk on the public square in Scott's Addition, the prospects from which are favorable. A gravel bed has been discovered five feet deep, and a channel of 51 feet has not determined its width. This gravel will prospect from 7 to 40 cents to the pan; and will average, probably, 20 cents to the pan. There is said to be at least three old channels from Dry gulch to Last Chance, which will all pay very well. Some of the smaller gulches pay from the grass roots down.

Mr. Mansfield, at Highland gulch, has a nugget which was found on claim No. 3, Cooly's gulch, last week, by John Harrington, which weighed 33 ounces; and while visiting Mr. Mansfield's claim, a nugget was picked up by the man on the bed-rock which weighed \$88. Although spring has been very backward in that locality, times are very lively, and those who have their claims in running order are meeting with good success.

**NEVADA.**

Esmeralda. Union, June 22d: Two new mines are being opened on Aurora Hill. The Robert Emmet has a shaft sunk on it near 50 ft. deep; good prospects could be obtained by boring all the way down. The ledge is now six ft. wide. The ore resembles Bodie ore, and is valued at from \$25 to \$40 per ton.

The Holsey mine has been stripped some 300 ft.; crushing from the cropping paid over \$40 per ton.

In Pahdet Dist., the Ithaca, Gulch Lode and Morning Star have on their dumps over 200 tons of ore, that will pay \$250 per ton. Considerable rock from Pahdet has been worked in Aurora, giving very flattering results.

Col. Stevens is preparing to build a large smelting furnace at Begoles Ranch, in Lone Pine district. He has had a large lot of his ore worked in San Francisco which yielded \$285 per ton. J. W. Denny of Gold Hill, Nevada, has contracted with Hughs, Brady & Co., of the Kearsarge Mining Dist., to sink 50 ft. on each of their ledges for an interest in their mine. The Silver Sprout Co. is progressing finely.

The editor saw a bar of bullion worth \$1,446.12 from the Wheeler claim, Pine Grove, the product of 26 tons of ore.

The main shaft on the Juniata mine, is now down 200 ft. In a short time, the Co. will be getting out ore again when the mill will be started.

Humboldt. Unionville *Register*, June 29th: Companies are being organized every day to prospect for gold, silver and copper.

The Cumberland mine far exceeds the most sanguine expectations in extent and quality. There is now out 50 tons of ore, which would be hard to distinguish from the richest Yellow Jacket ore. The Co. are making arrangements to have smelting works erected. Work is progressing rapidly on the Rochester mine. The timbering is nearly completed, and the drift will be resumed in a few days.

Reveille, June 29th: There is on exhibition at the assay office of Boalt & Stetefeldt some specimens from the smelting works of the Trinity and Sacramento Company at Oreana, in Humboldt county. Also, fine samples of ore from the Moutezuma mine, near Oreana, as well as of the casings and country rock. In the collection there are a mass of the crude metal, 1,100 pounds of which are produced from one ton of the ore; a flake of pure antimonite of antimony, as white as snow, from the flue of the refining furnace; a beautiful specimen of litharge from the cupel furnace; slag from the melting furnace; dross, being pure antimonite of lead, from the refining furnace; and eight little bars, the result of "dips" from the refining furnace at various stages. Upon each bar is marked its value in silver and the number of hours it was in the furnace at the moment of the "dip;" the bar from the last "dip" represents 264 hours in the furnace, and contains at the rate of \$385 of silver per ton. The ore from the surface is soft and as yellow as sulphur, but its color becomes darker and its texture firmer at certain points below the surface, and the sample taken from the greatest depth of the mine is compact and of a brownish gray color, and is pronounced to be richer in silver. The specimens of the country rock, which is porphyry, are beautified by delicate impressions as of leaves and plants. The collection was brought in by Mr. John H. Boalt, who returned to town on Friday after an extended visit to several districts in Humboldt county.

**RESE COUNTY.**

Enterprise, June 28th: The correspondent from Pine Grove, Wilson Dist., says: The Pioneer mill has a motive power, a 40-horse steam engine, capable of running 30 instead of 10 stamps as it does. About 18 tons of ore are crushed daily. The gold is saved by running the crude ore over five rows of copper plates, and by concentration on about 40 ft. of blankets. The accumulations on the blankets are afterwards worked again in a single tub. This process of working the ores shows an average yield of about \$33.75 in gold to the ton.

Penrod & Wheeler keeps four arastras constantly running, about a quarter of a mile below the Pioneer mill. The power used in running them is a portable 8-horse engine and hoiler. The owners charge \$15 per ton for crushing, and the ore yields about \$40 per ton.

Parties from Belmont, Pine Grove, Washington and other new districts in that direction are bringing in many fine specimens and excellent accounts of the mines. Nearly every specimen brought in assays pretty well up in the hundreds.

In Lone Pine (or Cerro Gordo) Dist., there are six smelting furnaces, that being the only mode of working ore.

July 2d: The editor has seen a brick of gold bullion, weighing 272 10-100 ozs., value \$4,752.96, \$45 fine, the result of a crushing of 53½ tons of Midas ore at Pine Grove. Work will be resumed on the North American mine in 10 or 15 days. Hereafter it will be known as the American Co., the word North having been dropped.

Reveille, June 29th: A sample of sulphuret has been taken from the shaft of the Plymouth Co. on Lander Hill, which is apparently of a superior quality. The shaft has been pushed with vigor, and is now 85 ft. deep. It is believed that the ore exhibited was taken from the Fuller ledge, which was cut in the shaft near the point of its greatest depth. The sample shows the width of the vein to be about four in., and the ore will give a good yield of silver. This extension of the Fuller ledge will be a valuable addition to the already fine property of the Plymouth Co.

June 28th: By the stage which arrived from the east to-day, 3,000 ozs. of crude bullion were brought from the mill of the Social and Steptoe Co., at Egan Cañon.

Work has been resumed on the Metacom mine. As soon as the water shall be removed, the various works will be pushed with vigor, and a large supply of ore extracted for the mill. In the present condition of the mine there are considerable bodies of ore exposed that will mill from \$60 to \$125 per ton.

June 27th: Arrived this morning 6,000 ozs. of hullion from the Rigby mill at San Antonio, the product of the Liberty mine.

June 29th: J. M. Mattee is exhibiting two certificates of assay of the pulp of ore from the Bennett and Lexington ledges, reduced at the Parrott mills. Bennett yielded at the rate of \$298.59 per ton, Lexington, \$281.56.

July 1st: Arrived to-day, 2,500 lbs. of fine ore from the newly discovered Adriatic ledge, Reveille Dist.

The monthly shipments from Austin by Wells, Fargo, and Co. is \$125,050.26. By Miller & Ripley's fast freight, \$17,500.

Silver Bend *Reporter*, June 29th: The South Atlantic ledge, Reveille Dist., was sold during the week for \$5 a foot. The location comprises 1,200 ft. and is entirely undeveloped. The purchaser will immediately sink a shaft on the mine 200 ft.

Harvey A. Mills and John Grimes have sold mining property in this district to an Eastern company for the sum of \$140,000.

At a depth of 55 ft. below the level of the cut in the Gillilans ledge, from which the surface ore was taken, a level has been run north which is now about 90 ft. in length. Throughout the entire length of this gallery the vein is of striking uniformity, averaging about 6½ ft. in width, and of remarkable richness. Most of the ore will yield \$100 per ton, while the entire mass without assorting is profitable milling ore. The vein carries much of the black, compact and rich mineral stetefeldtite, which assays thousands of dollars.

The Silver Bend Co. recently had 100 tons of Transylvania ore worked, at the Belmont Co's mill, in order to determine the best mode of working it. It was treated by the ordinary wet crushing process, and about 60 per cent. of the silver was saved. The pulp assay of the 100 tons was \$101.89. Wastoe.

[In the Stock Circular, in another portion in this paper, will be found late mining news from this district.]

Enterprise, June 26th: The new machinery of the Petaluma mill will be ready to start up about the last part of the present week.

June 27th: Nineteen bars of bullion from the Savage mine has been assayed at the assay office of the Gould & Curry; their value exceeds \$40,000.

June 28th: The Gold Hill Quartz M. & M. Co. next month, will pay a dividend of \$75 per share, almost \$600 per foot.

June 29th: Wells, Fargo & Co., during the last week, shipped 8,942 lbs. of hullion valued at \$120,021.98.

Gold Hill *News*, June 27th: The Savage mine sent \$30,000 worth of bullion to San Francisco to-day.

**OREGON.**

The *Oregonian* says that parties from Grant county are now in that city for the purpose of purchasing a quartz mill, if they can do so profitably. The mill is to be located on the middle fork of John Day's river, in the immediate vicinity of rich leads of mineral. They report times as being better now than they have been for a year. It has been ascertained to a certainty that there are numerous rich and valuable leads in that county.

Salem *Record*, June 20th: Cooper's coal mine is on Bette creek, Marion county. One man is at work at the mine, opening tunnels and extracting coal. Several openings have been made; the principal one is in 40 feet. The coal bed dips into the hill, showing a strata of excellent coal two feet thick. Mr. Cooper has about 20 tons of coal out.

**QUARTZ MINING IN BRITISH COLUMBIA.**

Some considerable attention is now being given to quartz mining in British Columbia. Developments, during the past year, go far to prove that valuable lodes of the precious metals exist in various parts of that country. A correspondent at New Westminster furnishes us the following items:

At Shuswap District, "The Cherry Creek Silver Mining Co., Limited," have had three samples of ore assayed at the Government assay office, with the following result: Specimen No. 1, taken from the Black Ore lead, gives 1,591 ozs. of silver and 6 dwt. of gold to the ton; specimen No. 2, taken from the Hillside claim, above the present working, gives 1,259 ozs. of silver, with traces of gold; specimen No. 3, from the present working tunnel, gives 1,603 ozs. of silver, with traces of gold.

The Washburn Co., Cañon creek, Cariboo District, are at present taking out very rich gold-bearing quartz, and expect to have two large arastras in operation by the first of July.

COMPRESSED GUN COTTON.—This article is now manufactured for mining purposes by first making the cotton explosive in the usual way; this is placed in a pulping machine, and reduced completely to pulp. It is then compressed by hydraulic machinery, so that one inch length of charge of any given diameter is equal in explosive force to six inches of gunpowder filling the same bore. The cotton could not be put into a more portable form, and by bringing the charge nearer the bottom of the hole, it is apparent that its use will considerably lessen the labor of drilling, for the drill hole need not be so deep as when gunpowder is employed.

**Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!**

**REASONS WHY.**

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, he is ac nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium of State Fair.

**Opinions of the Press and others in regard to Bussey's Combination Lock.**

The Bank of British Columbia ordered the first one of those locks introduced in this city, and the following recommendation has been received by the inventor:

**BANK OF BRITISH COLUMBIA,**  
San Francisco, May 24, 1880.

Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor, and in every way meet our fullest approval. They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We deem the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost unnumberable.

As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it.

WM. H. TILLINGHAUST, Sub Manager.

We do hereby certify that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and indisputable to be hooked. We have applied several to Vaults and Safes, to entire satisfaction to parties interested.

KIETZBEG & LEAVITT,  
Pioneer Iron Works, cor. Fremont and Market sts.

SAN FRANCISCO, May 6, 1887.

I do hereby certify, that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safes and Vaults in every other respect as good as any other improved combination lock which I am acquainted with.

JOHN R. SIMS,  
Vault Manufacturer, Oregon street.

JACKSON, April 27, 1887.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons:

1st.—Because it is impossible for either burglar or expert to pick it.

2d.—The lock being constructed without a key-bolo, it cannot be blown to pieces by powder.

3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making.

R. COSNER,  
Attested by J. C. SHEPMAN, County Clerk.

JACKSON, April 27, 1887.

The undersigned, Treasurer of Amador County, do hereby certify that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any bystander gaining a knowledge of the set of the combination, when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it.

OTTJ. WALLBER,  
Attested by J. C. SHEPMAN, County Clerk.

CALIFORNIA LOCK AHEAD.—A special premium was awarded Mr. W. C. Bussey for his improved Combination Burglar and Powder-Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been fully sustained by its practical use. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.—[Mining and Scientific Press, Sept. 23, 1886.]

They are the only safe lock ever invented. Every State and County treasury vault, and every bank and business place should have one.—[Amador Ledger.]

This is a lock with which a series of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with two or more screws connected with one or more bolts, whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which we had awarded a special premium at the State Fair.—[Sacramento Union.]

We, the undersigned, practical Locksmiths, unhesitatingly pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed.

F. MARKT & C. E. ASHLEY,  
No. 13 Post street.

REFERENCES:  
R. COSNER, Sheriff.  
O. WALLBER, Treasurer.  
W. JENNINGS,  
C. H. INGALLS, } Supervisors.  
L. McLANE, }

Any good locksmith can put this lock on safe doors. Bored a single oil hole removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—[See page 30 in Pacific Coast Directory.]

A deaf or blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination.

1914ny11&ts.lam



## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

C. W. M. SMITH, W. B. EWER, A. T. DEWEY,  
DEWEY & CO., Publishers.

OFFICE—No. 505 Clay street, corner of Sansome, 2d floor.

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For sale by Carriers and Newsdealers.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

## Canvassing Agents.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1865.

Mr. S. D. Whittaker is our duly authorized traveling agent. June, 1867.

Mr. C. A. Wetmore is an authorized agent for this paper.

Wm. A. Ferrier is a duly authorized Traveling Agent of the Mining and Scientific Press. June 24th, 1867.

Dr. L. C. Yates is our duly authorized traveling agent. July 6, 1867.

## San Francisco:

Saturday Morning, July 6, 1867.

## Notices to Correspondents.

OUR CORRESPONDENT is informed that in almost all cases the diamond has been found in connection with alluvial gold washings. Thus, Mr. Patterson, Director of the Mint in Philadelphia, so long ago as 1857, described no less than nine specimens in the gold placers of the southern Alleghenies, as was predicted by Humboldt, who also anticipated the same as regards the Altaic district, and was fortunate enough to personally realize the latter prophecy by placing in the hands of the reigning Czarina of all the Russians the first gem of this kind ever found in that part of Central Asia. Diamonds have also been found in the alluvial gold fields of Australia and the Urals. It would therefore be an exceptional case if these rare articles had not been found in analogous localities and similarly associated in California and Montana. The diamond found along with gold in washing the river beds of Brazil is well known, and from description we infer that the magnificent gems which have rendered Golconda so illustrious are somewhat similarly found. Mr. Patterson, above alluded to, in the annual report for 1847-8, is stated to make mention of three diamonds having been found amongst the gold washings of North Carolina.

INVENTOR, Gold Run, Cal.—Any device for the application of water direct to the working of stamps, without the intervention of an engine or water wheel, would doubtless be novel and patentable. Steam has been so applied, but not in such a manner as to admit the use of either steam or water. We cannot express any opinion as to the economy or practicability of your invention without knowing more of its details. The matter of a much less first cost would be an important item in its favor, if it is not obtained at a sacrifice of practicability. If you would send us a rough drawing, or, better still, a model of your invention, we should probably be able to express some decided opinion with regard to its merits.

AN ISRAELITE is in error in considering that gold and silver coins were minted in Judea much earlier than the time alluded to in our reply to W. M., in our notices to correspondents which appeared on the 1st inst. The earliest Hebrew coin is of the date of the Maccabees. From the nineteenth century, B. C., when Abraham weighed to Ephron 400 shekels of silver as the price of the cave of Machpelah,\* until the second century, B. C., when Antiochus Sidetes gave permission to Simon Maccabæus to coin money "with his own stamp."† There cannot exist a doubt but the shekel morely meant, as its name implies, a certain denomination in weight.

\*Genesis XXIII v. 16.  
Maccabees XV v. 6.

AMALGAMATOR, VIRGINIA CITY.—The distillation of mercury and amalgam of that metal by means of superheated steam, was recommended by Niolette nearly 20 years ago, as can be seen in the *Comptes Rendus* 31, page 546, and *J. Pr. Chem.* 51, page 313.

CORRESPONDENCE.—"Quicksilver Mining in Monterey County," next week.

## Pacific Railroad—Interior Trade.

In a short time the locomotive will cross the Sierra Nevada, and deliver goods from this city to the valley of the Humboldt. Although less than 200 miles will be accomplished in distance, a difficulty in transportation of fully 500 miles will have been overcome; and we shall have nothing but plains between the railroad terminus and the various mining localities of the Great Basin and the territories to the north. San Francisco will then be brought practically 500 miles nearer to those great places of consumption, than she is now. Land carriage across these plains, after the mountains are crossed, is comparatively cheap, as the stock can be readily fed by the way.

In the progress of the eastern division of the road, more than double the distance of the western division, has been accomplished; but it has been over a level plain. That portion of the road is now approaching the great barrier of the Rocky Mountains, where its progress will become slow and expensive. That which has been already finished, is of but little account as a means for transportation to Salt Lake, or any portion of our territory west or north of that point. Hence, so far as the business of this city is concerned, nothing has yet been or will be immediately accomplished, to interfere with our interior trade, even under the old basis; but the advantage which we shall soon gain, will be immense, by the complete removal of our mountain barrier.

The result will be a more rapid filling up of the interior, and the more economic working of mines, which, under present circumstances, can scarcely be worked at all on account of the great cost of transportation. Intimate business relations will also spring up between the merchants of those localities and this city, which future advantages, on the eastern route, can with difficulty break up, even with slight advantages in their favor.

The prices of most goods in St. Louis and Chicago, which are in demand in the interior, are about equal with those of this city—if anything, San Francisco has the advantage, especially in breadstuffs, dried fruit, East India goods, and provisions generally. Heavy mining and other machinery forms no exception to this rule; or if there should be a small advantage the other way, the acknowledged superiority of California made mining machinery, over that made at the East, will always give quite a margin in our favor. We have often explained the cause of this superiority—the nature of which is such, that but very little chance exists of its ever being removed.

Another and inseparable advantage in favor of San Francisco, is distance. The distance from San Francisco to Salt Lake City, or the most distant mines of the Great Basin, or those of Idaho or Montana, by the route of the Continental Railway or any branch which can be constructed therefrom, is less than one-half that from St. Louis or Chicago. The running cost per mile of road on the eastern or western division, will be about the same; or at worst, that of the western can exceed that of the eastern but a trifle. The first cost of the chief commodities being about equal, the difference in extent of transportation must forever give San Francisco an advantage, which nothing but the most unwarrantable mismanagement can deprive us of. A change of the seat of supply, when once located here, (as it must be for reasons already shown) to our western rivals, will be a matter scarcely to be thought of. The future advantage that awaits this city from the interior trade that must soon grow up in this vast region, cannot be estimated. It belongs to San Francisco as legitimately as does that of Shasta or San Diego.

THE Erie Railway Company, in New York, it is stated, are about doing away with the use of wood on their locomotives, and have already commenced selling off the wood they have on hand. Coal is to be used hereafter.

FIRE-PUMP TRIAL.—We were present, among others, on Tuesday last, at the Occidental Hotel, to witness a trial of the Excelsior double-acting Force-Pump, which Mr. Leland has recently had placed in that hotel, for greater security from fire. The pump is located in the engine room, in the basement, and forces water through iron pipes from thence to the top of the building, being fed from the street water pipes. In the hall of each story of the main stairways a hose is connected with this pipe, through which water may be conducted to every room in the house. Previous to placing this pump in the building, reliance was had, in case of fire, upon the pressure of the water mains. This reliance was fatal at the Cosmopolitan, which was provided with a similar protection. When the fire took in the ceiling of the upper story of that hotel, there was not sufficient head to force the water six inches from the nozzle of the pipe, and when the engines arrived the city hose burst, and by the time that defect was remedied the flames had got beyond the control of the Department.

Mr. Leland has now provided himself against such a contingency by setting up one of these pumps, so that, in case of need, it may be instantly connected with the engine, and water thrown over any part, the roof of the hotel, or adjoining buildings, thereby being independent of the head in the street main. In the trial of Tuesday, at 35 strokes per minute, (which might have been increased to 50) the water was thrown from the floor of the basement to the floor of the upper story; and from the hose in the upper story it was readily thrown to all parts of the roof. The test was most fully satisfactory to most of the witnesses; although Capt. Cushing, the agent of these pumps, pronounced it unsatisfactory to himself, as it did not do as well as it had done on previous trials. The Captain explained the matter the next day, by ascertaining that the company's water meter, through which the pump derived its supply, had burst during the trial, thereby greatly interfering with its performance. To our mind, however, the test was fully satisfactory as it was, and we congratulate Mr. Leland and his guests on this additional security from fire. Two of these pumps were shipped by the Colorado, on the 4th instant, for Yokohama, having been especially ordered by Mr. E. M. Van Reed, of that city.

A NEW COMMERCIAL JOURNAL.—John H. Carmany & Co. will issue, in season for the next steamer, a new Commercial Journal, to be entitled *The Commercial Herald and Market Review*. Its editorial department will be under the control of H. Channing Beals, a gentleman long and favorably known in the commercial circles of this city. The financial and general stock market reports will be placed in charge of gentlemen of long experience in those departments. It is intended to make it a first-class commercial journal, and one which shall fairly and ably represent that great and growing interest in this city.

FINE PAINTING.—There is a spirited painting to be seen in the show-window of Snow & Roos, by the French artist, Narjot, entitled "Life in Arizona." It represents a skirmish between a small party of American soldiers and some Apaches. The scenery is from nature, being located on the Ranch of San Pedro, in Arizona. The artist has been himself a party in several encounters with the Indians, and paints with a truthfulness and spirit inspired by the reality. Mons. Narjot is already favorably known as a portrait painter, and he will lose nothing from the public by this new effort of his genius.

CORRECTION.—In the first item under our patent head of June 22d, copied from the *Sacramento Union*, Mr. I. H. Graves was spoken of as the foreman of the Pacific Railroad machine shop; he is the master mechanic of the road. Mr. James Gerrish is foreman.

THE PACIFIC CHEMICAL WORKS.—MESSRS. Falkenau & Hanks, the enterprising proprietors of these works, signalized the first annual recurrence of their establishment in business by a social gathering on the 29th ult., which was attended by a large number of their personal and business friends. These works are located at the corner of Center and Folsom streets, near the Mission, and cover quite an extensive area of ground upon which the several buildings necessary for their varied manufacture are built. It gives us much pleasure to learn that these gentlemen are meeting with a most satisfactory degree of success in their enterprise, as manufacturing and consulting chemists. Their works are well fitted up with all the necessary means and appliances for the manufacture of nearly or quite every kind of chemical called for, to any considerable extent, on this coast; and they have a full and carefully arranged case of re-agents, for testing minerals and chemicals. Druggists, dyers, daguerreotypists, and others, who deal in or otherwise employ chemicals, acids, etc., will always find at this establishment those which are equal to the best and purest in the market. Messrs. Falkenau & Hanks, being both practical chemists, give their unremitting and personal attention to every department of their manufacture. Among other things, they manufacture large quantities of cyanide of potassium, which is now being considerably used by quartz miners as an aid in amalgamating. Nitrate of silver also forms a large item of their manufacture; also, nitric, muriatic and sulphuric acids. Analyses of ores, minerals, waters, metallurgical products, soils, etc., as well as assays of ores, are made at this establishment.

THE COMING WHEAT CROP.—The present indications are that the California wheat crop for the present year will not quite equal that of the year past, although a very abundant harvest may be expected. Prices here will not vary much from last year, although they will not probably rule as high in New York. The difference will come out of the middle men. This class of men, owing to the close "corner" which had been effected, and which was kept up with most signal success, made enormous profits out of their operations last winter. They will have to be content with less this season, while the growers, and especially the California growers, will probably realize quite as much as they did by their last crop. It is stated in the last monthly report of the Agricultural Department "that the yield of wheat in all the States where that grain is raised will be much larger than usual." Later advices by telegraph, however, do not speak so hopefully; and the prospect now is that the crop will be nothing better than a usual one. The old crop has been very closely exhausted, so that there will be less to fall back upon than usual. This will open a good market for California. Our wheat-growers have every reason to be hopeful, and should not sacrifice their crops to the gain of greedy speculators.

THE FOURTH passed off most pleasantly and happily to all. But one or two accidents of any kind have occurred, and those not of any very serious nature. The fireworks in the evening eclipsed any ever before seen in this city, and were witnessed by a crowd variously estimated at from thirty to forty-five thousand. They were from the establishment of Church & Clark, and reflected the highest credit upon their pyrotechnical skill.

METALURGIST.—A PRACTICAL metallurgist, experienced in all branches of his business, and particularly in the manufacture of tough copper, wants employment. His address can be had at the office of the Mining and Scientific Press.  
2v14-4w\*

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the *MINING AND SCIENTIFIC PRESS*, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

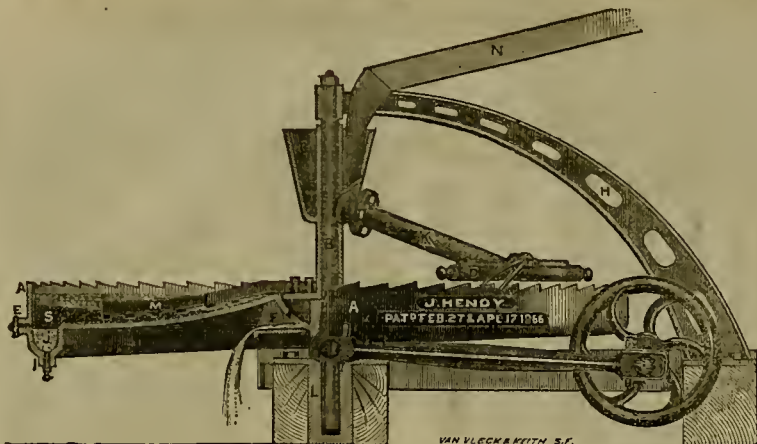


**AMUSEMENT WITHOUT TEMPTATION.**—Parents will find Woodward's Gardens free from the temptations too often presented at public places of resort; while the gymnasium, the birds and animals, and the meandering walks around the trees, flowers and shrubbery of the ground, cannot fail to delight both parents and children.

**Cholera—Perry Davis' Vegetable Pain Killer.**

Mr. PERRY DAVIS—Sir:—The benefits I have received from the use of your invaluable remedy, the Pain Killer, induces me to pen a word in its praise. Experience has convinced me that for Headache, Indigestion, Pain in the Stomach, or any part of the system, severe Chills, Weariness, common Colds, Hoarseness, Cholera, Cholera Morbus, Diarrhoea, Dysentery, Toothache, etc., there is nothing better than the Pain Killer. I have this hour recovered from a severe attack of the Sick Headache, by using two teaspoonfuls, taken at thirty minutes intervals, in a wine glass full of hot water. I am confident that through the blessing of God, it saved me from the cholera during the summer of 1843. Traveling amid dust, toil, change of diet, and constant exposure to an infected atmosphere, my system was daily predisposed to dysentery attacks, accompanied with pain, for which the Pain Killer was a sovereign remedy, one teaspoonful during the worst case in an hour, or, at most, half a day! I have heard of many cases of Dysentery being cured by its use. Put in the teeth, it will stop the toothache. Gratitude, and a desire for its general use, has drawn from me this unsolicited testimonial in its favor.  
D. T. TAYLOR, JR., Minister of the Gospel.  
Sold by all Medicine Dealers everywhere. 22v14 1m

**HENDY'S LATEST IMPROVED CONCENTRATORS,**



**FOR GOLD AND SILVER ORES,**  
With Revolving Stirrers and Rotary Distributor.  
Can be seen in Operation at the Union Foundry, First St., San Francisco.

**Directions for Operating Hendy's Concentrators:**

- First—Set the Pan, A, level, by its inner rim.
- Second—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- Third—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- Fourth—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in futuro, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length.

The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

**References:**

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:
- EMPIRE MILL.....Grass Valley, Nevada County.
  - ONEIDA MILL.....Jackson, Amador County.
  - SPRING HILL MILL.....Amador, Amador County.
  - GOLDEN GATE MILL.....Volcano, Amador County.
  - GOLDEN RULE MILL.....Stewart Flat, Placer County.
  - BENTON MILL.....Bear Valley, Mariposa County.
  - LOUISIANA MILL.....Coulterville, Mariposa County.
  - PEOPLE'S MILL.....Alleghany, Sierra County.
  - TYRON & CO'S MILL.....Prescott, Arizona.
  - WOOLSEY & CO'S MILL.....Prescott, Arizona.
  - NOYES & CO'S MILL.....Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.
- RECENTLY ORDERED FROM THE UNION IRON WORKS:
- VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators).....Nevada County.
  - GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
  - VULTURE CO. (4 Concentrators).....Prescott, Arizona.
  - MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
  - PLYMOUTH ROCK MILL CO. (2 Concentrators).....Mariposa County.
  - B. F. BROWN (1 Concentrator).....Melbourne, Australia.
  - MOREY & SPERRY (1 Concentrator).....New York.
- And in use in many other parts of this coast.

These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus: "J. HENDY, Patented February 27th and April 17th, 1866."

Orders or letters of enquiry, address,  
**JOSHUA HENDY, Patentee,**  
Union or Fulton Foundry, San Francisco.  
March, 1867.

**NORTH AMERICA**  
**Life Insurance Company.**

Usual Restrictions on Occupation and Travel  
**ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!  
**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery st.  
20v14n9p SAN FRANCISCO.

**RUBEN'S**  
**Evergoing Watch!**

The undersigned, having been appointed sole agents for the above Watch, are now prepared to furnish it at makers' rates.  
This Watch has a first class, full jeweled nickel movement, and requires no winding by key or stem, every opening and closing of the upper cover of the case winding the Watch for six hours. It is so constructed that it will run for ten days without being opened, and is guaranteed a perfect time keeper. Price, in heavy 18-carat gold cases, \$350. A liberal discount allowed to the trade.  
ISAAC S. JOSEPHI & CO.,  
1v15 2am3m 641 Washington street, San Francisco.

**REMOVAL.**

The well known establishment of  
**LUCY & HYMES,**  
MANUFACTURERS OF  
**Genuine Pale and Chemical**  
**OLIVE SOAPS,**

Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged.  
The capacity of this establishment is now the largest on the Pacific Coast. It is now in full operation, and prepared to supply the demand of the trade.  
Office—319 California St., San Francisco.  
1v15q4r

**Real Estate Sale**

OF THE  
**ESTATE**

OF  
**JACOB C. BEIDEMAN, deceased.**

BY  
**JOHN W. BRUMAGIN, Administrator,**

With the Will annexed, will commence, on  
**Wednesday, the 24th day of July,**

At 12 o'clock M.,

And continue from day to day, until the whole is sold,  
at the auction room of

**MAURICE DORE & CO.,**  
327 Montgomery Street.

**TERMS, IN UNITED STATES GOLD COIN.**

- 1-4 Cash;
- 1-4 in One Year,
- 1-4 in Two Years,
- 1-4 in Three Years.

Deferred payments to bear interest at eight per cent. per annum, payable quarterly, and secured by mortgage on the property.

Catalogues of the property can be obtained of H. F. WILLIAMS & CO., Clay street, or at the office of MAURICE DORE & CO., 327 Montgomery street. 1v15 3w

**Builders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVING BANK, California street, one door from Sansome street.  
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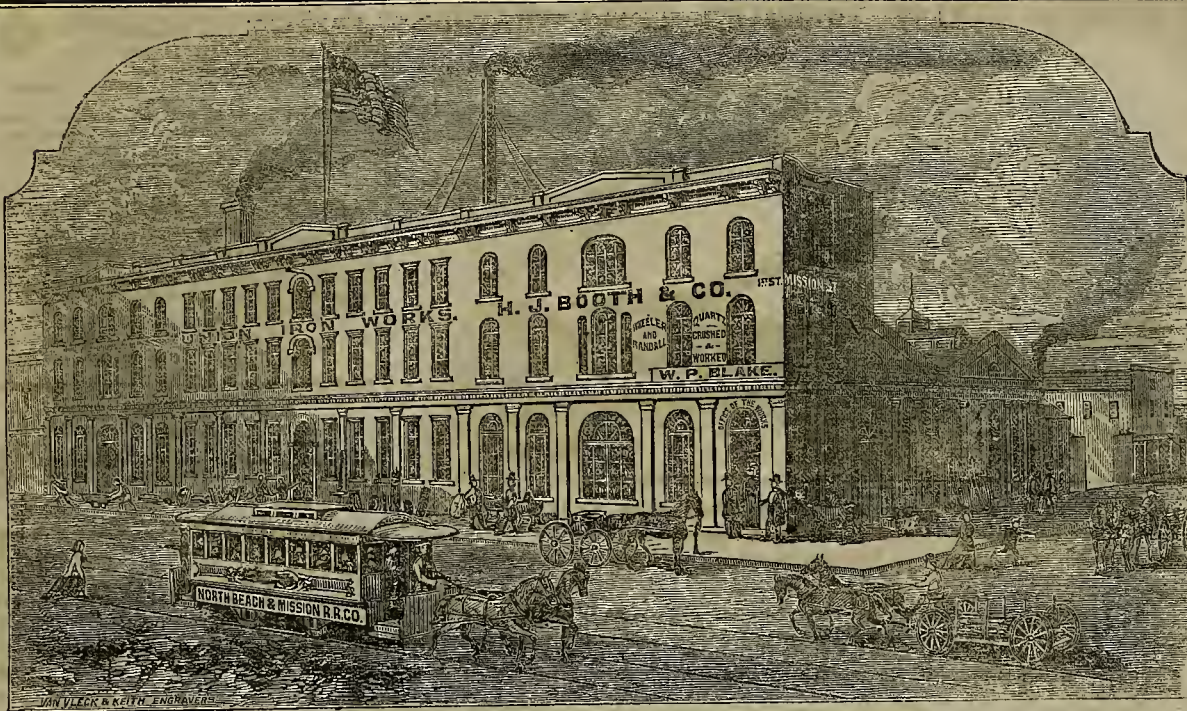
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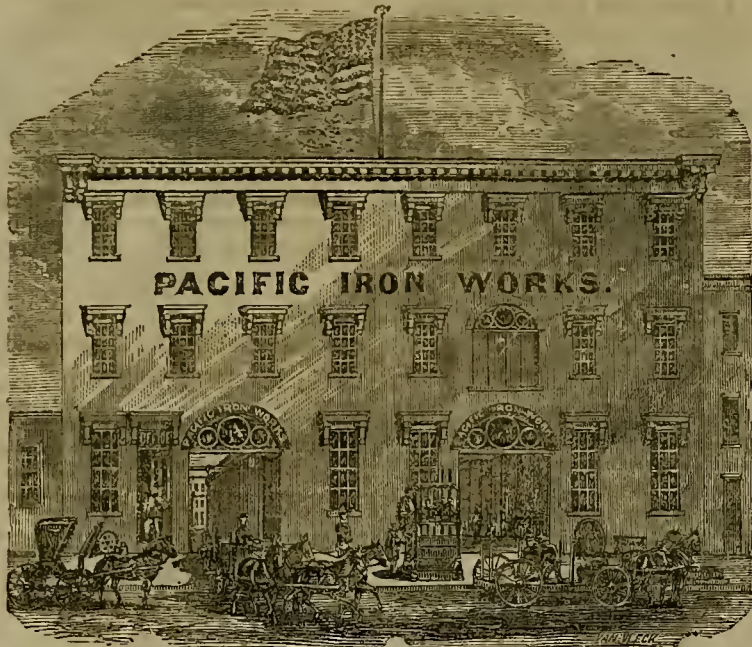
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NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of

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It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.

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and from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention to select such articles as are necessary in the development of the mineral wealth of this coast.

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THEY GIVE HEALTH TO THE SICK, STRENGTH TO THE WEAK, JOY TO THE AFFLICTED.

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THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast. The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic. To all departments new attractions are being constantly added. These Gardens are accessible by the Howard, Folsom and Market Street Cars. Entrances on Mission and Valencia streets, between Thirtieth and Fourteenth. OPEN EVERY DAY. Admission to all parts, 25 CENTS. Children, under 12 years, half price. 23v14qr

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HUCKS & LAMBERT, SOLE MANUFACTURERS OF THE CELEBRATED H & L AXLE GREASE, Natoma Street and North Beach, 2v13-3m SAN FRANCISCO.

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HARRIS BROS., OUTLERS, LOOKSMITHS, BELLHANGERS And Model Makers. 208 Leidesdorff street, bet. Sacramento and Commercial, SAN FRANCISCO. 21v14-4f

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SAN FRANCISCO Cordage Manufactory! CONSTANTLY ON HAND A LARGE ASSORTMENT OF MANILA CORDAGE, Whale Line, Bale Rope, etc., Manufactured from Puro Manila Hemp. Office, at TUBBS & CO'S, 611 and 613 Front street. Manufactory at the Potrero. 11v14-1q

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J. H. WHITE. JACOB ERAMER. Petrolin Oil Works. No. 109 Commercial street, San Francisco. Are now manufacturing LUBRICATING OILS & AXLE GREASE, From Petroleum of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricants are equal to any in the market, and surpass all others for cleansing off gum caused by the use of animal oils which contain stearine and margarin, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 23v14tr

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Professional Cards.

SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco. Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 22q

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of Monsts made for parties applying for patents at Washington or London. mar23-4f

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FRANKLIN K. FELTON. JAMES M. TAYLOR. FELTON & TAYLOR, Attorneys and Counsellors at Law, Court Block, 636 Clay Street, SAN FRANCISCO. Will practice in the State and Federal Courts. Special attention given to proceedings under the Patent Law. 18v14-1q

GEO. T. KNOX and E. V. SUTTER, COMMISSIONERS OF DEEDS. NOTARY PUBLIC, 615 Montgomery Street, San Francisco. 16v14tr

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J. W. WINTER, DENTIST. Office, 617 Clay street.....San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$30 to \$35. Teeth extracted without pain by local application. 18v14-4f

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Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 424 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU Has his studies and manufactory in the same building. Every kind of Apparatus, Trusses, orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 21v14-11p4f

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other materials crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, 14v14tr Agents for the Pacific Coast.

Greatest Invention of the Age.

BOWMAN'S AMERICAN WASHING COMPOUND

And house-wife's true friend, saves one-half the labor, one-half the time, and one-half the expense. For WASHING CLOTHES, CLEANING HOUSES, REMOVING PAINT, GREASE, etc., it is unequalled. It makes hard water as soft as rain water. For sale at \$1.50 per can of five gallons, at the manufactory, 223 Jackson street, near Battery. Please send your orders, by mail or express, to LYNCH & PARSONS, 23v14-2am6f San Francisco, Cal.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

O. W. MAYNARD. J. H. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, CENTRAL CITY, COLORADO. 19v12-1y

REMOVAL. PACIFIC CHEMICAL WORKS.

WALKENAU & HANKS HAVE REMOVED THEIR OFFICE to 623 Montgomery street, opposite Montgomery Block, where they will receive orders for Chemicals of all descriptions, and for Assays and Analyses of Ores, Minerals, Metallurgical Products, Mineral Waters, Commercial Articles, etc. Laboratory, corner of Center and Folsom streets, Mission. 21v14-4w

EUROPEAN METALLURGICAL WORKS, Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character. After a careful analysis has been made, Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites and the (so-called) "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, retuling by euepilation, done at moderate rates.

PRACTICAL MINING SCHOOL. The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business. S. P. KIMBALL, J. R. MURPHY. 10v10

J. A. BAUER, Chemical Laboratory, AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO. Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc. Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Geology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Gold Chloride, Platin Chloride, Sodium Amalgam, Sulphate of Copper, etc., for sale. 12v14-6m

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA. LEAVE FOLSOM STREET WHARF, AT 11 O'CLOCK, A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Matzarah. All touch at Acapulco. Departures of 14th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. On the 24th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

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FACTS FOR THE PEOPLE—Every family should have a bottle of Healy's Curative Oil in the house, prepared to annihilate pain.

New Mining Advertisements.

Chico Senores Gold and Silver Mining Company.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the first day of May, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Haywood Junion, J.C. Heidemann, etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 523 Clay street, San Francisco, Cal., on Saturday, the twenty-seventh day of July, 1887, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

EDWARD C. LOVELL, Secretary. Office, No. 523 Clay street, San Francisco.

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with ALMAGERAS Pans, etc. FOR SALE.

BELOC FRERES, Bankers, 635 Clay street, San Francisco.

Mining Notices--Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-ninth day of May, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like E.F. Bauldwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of May, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, at No. 418 and 420 Clay street, San Francisco, Cal., on Monday, the fifteenth day of July, 1887, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal.

Chilpanco Mining Company—District of Ores, Sonora, Mexico.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the 25th day of May, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Mosheimer, Jos., etc.

JOHN F. LOHSE, Secretary. Office, 318 California street, San Francisco, Cal.

Chalk Mountain Blue Gravel Company, Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1887, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1887, in United States currency, to the Secretary, San Francisco, Cal.

Office, N. E. corner Clay and Front streets, San Francisco.

Cordillera Gold and Silver Mining Company, Chihuahua, Morelos Mining District, Mexico.

Notice—There is delinquent, upon the following described stock, on account of assessment levied on the twenty-seventh day of April, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Stewart, David, Withers, J.J., etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 523 Clay street, San Francisco, Cal., on Saturday, the twenty-seventh day of July, 1887, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal.

Dardanelles Copper Mining Company, Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the third day of June, 1887, an assessment of eight cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary at Crescent City, California.

Office, at Woodbury & Marshorfs, Crescent City, California.

Gold Hill Tunneling Gold and Silver Mining Company, Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice—The Fourth Annual Meeting of the stockholders of the above-named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twentieth (20th) day of July, 1887, at 3 1/2 o'clock, P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary. Office, 415 Montgomery street, San Francisco, Cal.

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of June, 1887, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 706 Montgomery street, (Room No. 4, 2d floor) San Francisco.

Office, 706 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal.

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that a meeting of the Stockholders of the Gold Quarry Company will be held in San Francisco, at the office of the Company, No. 706 Montgomery street, Room No. 4, second floor, on MONDAY, the twenty-ninth day of July, at 12 o'clock, noon, of that day, for the purpose of taking into consideration the increase of the Capital Stock of said Company, from the sum of six hundred thousand dollars, divided into six hundred shares of \$1,000 each, to the sum of two millions four hundred thousand dollars (\$2,400,000), divided into twenty-four hundred (2,400) shares of one thousand dollars (\$1,000) each.

Office, No. 523 Clay street, San Francisco, Cal.

Hope Gravel Mining Company—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of June, 1887, an assessment (No. 15) of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 529 Clay street, San Francisco, California.

Office, No. 529 Clay street, San Francisco, Cal.

Hanscom Copper Mining Company, Location: Low Divide District, Del Norte County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of May, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Shares, Amount. Lists names like Washington Ayers, J.D.C. Beach, etc.

JOHN HANSCOM, Secretary. Office, at the Etna Iron Works, Fremont street, between Howard and Folsom, San Francisco. Office hours: from 8 A. M. to 12 M.

I. X. L. Gold and Silver Mining Company—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of June, 1887, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, in the store of J. G. Hodge & Co., 418 and 420 Clay street, San Francisco, Cal.

Office, 418 and 420 Clay street, San Francisco.

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1887, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Office, 311 Market street, San Francisco, Cal.

Mount Davidson Gold and Silver Mining Company, Storey County, Nevada.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-second day of May, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Bursh, Thomas, Gibbons, P., etc.

Office, 121 Sutter street, San Francisco, Cal.

Nuestra Senora de Guadalupe Silver Mining Company, Location of Works: Tayoltita, San Dimas District, Dnrange, Mexico.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like H. Heilmann, Mrs. Elizabeth Nolting, etc.

Office, No. 210 Post street, San Francisco, Cal.

Seaton Mining Company—Location of Works: Drytown, Amador County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of May, 1887, an assessment of one hundred dollars per share was levied upon the capital stock of said Company, payable July 6th, 1887, in United States gold coin, to the Secretary, at his office No. 60 Exchange Building, San Francisco, California.

Office, No. 60 Exchange Building, San Francisco.

St. Louis Silver Mining Company, Cortez District, Lander County, Nevada.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of May, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Shares, Amount. Lists names like Baldwin, John E., Fry, Henry, etc.

Office, 331 Montgomery street, San Francisco.

Postponement—The above sale is hereby postponed until Monday, the 29th day of July, 1887, at the same hour and place. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco.

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of June, 1887, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, No. 64 Washington street, San Francisco.

Office, 64 Washington street, San Francisco.

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1887, an assessment of fifteen dollars (\$15) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1887, in United States currency, to the Secretary, San Francisco, Cal.

Office, N. E. corner Froot and Clay streets, San Francisco.

Important to Californians—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations.

These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.

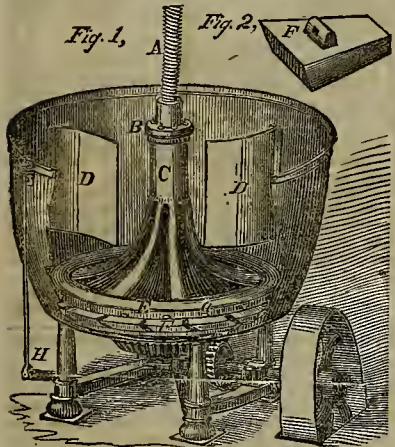
Office, 121 Sutter street, San Francisco, Cal.

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco.



Machinery.

STEWART'S CELEBRATED HINGED Grinder and Amalgamator.



Is the Cheapest and Quickest Pan Now used. It is flat-bottomed, loses far less power in throwing the pulp, and circulates the same under the muller to better advantage than any other Pan in use...

VARNEY'S PATENT AMALGAMATOR. These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner...

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces...

FOR SALE! PATENT RIGHT OF HUNT'S WINDMILL for the State of California or the whole Pacific Coast.



NELSON & DOBLE, AGENTS FOR Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters, Blacksmiths' and Horse-Shoers' Tools...

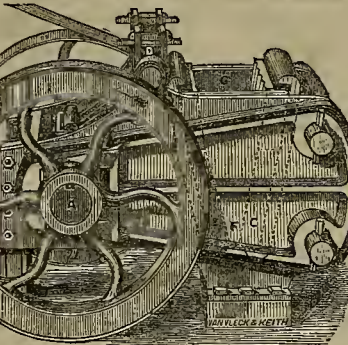
SAN FRANCISCO BRUSH FACTORY, No. 211 California st., manufactures to order all kinds of BRUSHES.

At lower prices than cost of Eastern importation. Brushes for all classes of machinery. A superior Scrubbing Brush from soap Root fiber; also, Sluice Brushes from the same material...

To Quartz Miners and Others. NOTICE!

I WISH TO CALL YOUR ATTENTION TO A PULVERIZER of my own invention, which I have called the HITCHENS' ORE PULVERIZER. It is now in operation at the South Park Saw Mill, on Brannan street, between Third and Fourth streets...

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Smashing Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction...

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off...

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

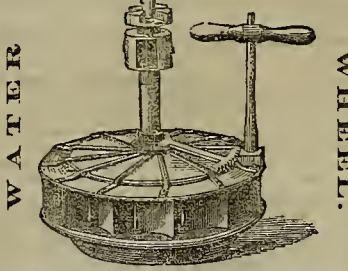
The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mining Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-PLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found to be the most economical and efficient mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations are afforded on application to the subscribers.

LEFFEL'S American Double Turbine WATER WHEEL.



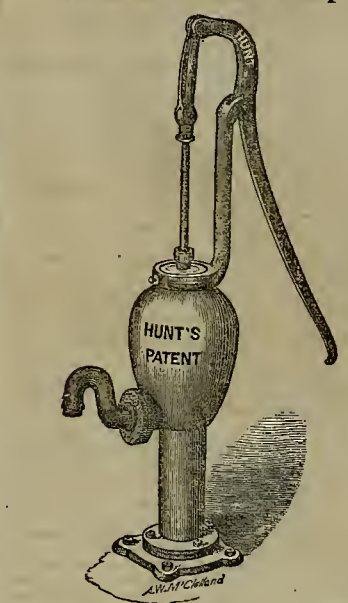
THESE WHEELS, UNEQUALED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, saw Mills, Flour Mills, Quartz Mills, etc., etc.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast...

HUNTER'S EUREKA AMALGAMATOR. For sale, the right to build and use in mills. A working plan will be furnished each purchaser. First-class machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer of wood.

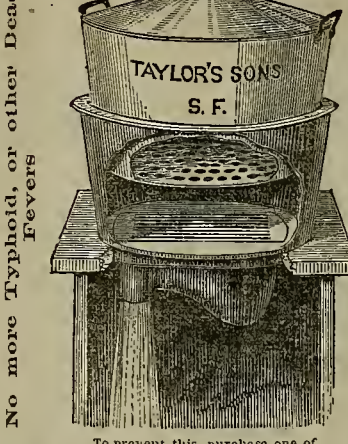
Hunt's Globe Pump



Is extensively employed for raising water by hand or wind mill power, for houses or garden use. I manufacture five sizes, from 3 to 8 inches diameter in the chamber. These Pumps are all fitted for iron or lead pipes. They are very durable and easy to repair.

No. 3.—3-inch Chamber, 6-inch Stroke. No. 4.—4-inch Chamber, 6-inch Stroke. No. 5.—5-inch Chamber, 6-inch Stroke. No. 6.—6-inch Chamber, 10-inch Stroke. Manufactured at No. 23 Second street, and 110 Jessie street, San Francisco, by E. O. HUNT, Windmill Builder.

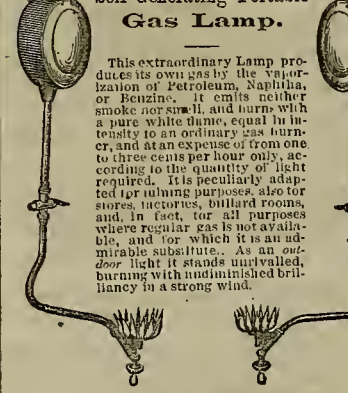
HEALTH! HEALTH! Contracted by Inhaling the Noxious Gases of Sowers and Cesspools.



To prevent this, purchase one of Taylor's Stench Traps and Garbage Baskets.

And promote the health, comfort and cleanliness of your family. [For description see Mining and Scientific Press, April 6, 1867.] Sold wholesale and retail by TAYLOR & SONS, at No. 429 Pacific street, San Francisco. 15v1411

THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required.

Directions for Use. Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cap, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

Business of the Patent Office.

The issue of patents for the week ending May 28, embraces 289 new inventions, 11 re-issues and 2 designs, making a total of 302. This is by far the largest number ever issued for a single week, though not the largest issued on one day. The total issue of January 1, 1867, was 360, but that was for two weeks preceding that date.

A controversy has been going on for the past few weeks in the Department of the Interior, between the Commissioner of Patents and the Commissioner of Pensions, in reference to the rooms occupied by the clerks of their respective bureaus in the Patent Office. The difficulty seems to be thoroughly uncompromising in its character. Neither of them show any disposition to yield, and meanwhile the business of the Patent Office is falling behind to such an extent that it will require a very long time before it can be transacted within a reasonable time after its reception.

Secretary McClellan, who was then Secretary of the Interior, moved his office into the building in the spring of 1853, and was soon followed by the Indian Bureau, Land Office, Pension Office and Agricultural Department. It is not a little singular that the Secretary of the Interior does not interpose his authority to decide the vexed question. A portion of the Pension clerks are now occupying a separate building, and there is no good reason apparent why the rest of the bureau should not do likewise.

A NEW SCARECROW.—A member of the American Institute, suggests as the best scarecrow to keep birds from cherry trees, strawberry beds, etc., the stuffed skin of a cat, with big glass eyes. The position of the effigy should be changed every day, or the birds will find out that it is a dummy. As the material for its construction is plentiful, would it not be well for some of our gardens and orchards to try it, and report the result.



**AN OPEN FIELD FOR INVENTORS.**—Engineering, after speaking of inventions, closes its remarks by pointing out to inventors what is yet before them. It says:

Who can reflect upon the almost immeasurable forces of solar heat and lunar attraction exercised daily upon our planet, and with visible results, without hoping, and indeed to some extent believing, that human ingenuity will yet find means for penetrating nearer and yet nearer to these tremendous mysteries of nature, and turn them into new channels for the good of man? With countless millions of tons of hydrogen in the sea and of oxygen in the air, shall we not yet find means to burn the very waters of the globe, and literally set the river on fire? With millions of tons of carbon in the earth, shall we not yet convert it, by some means, into palatable and wholesome food? And shall we not yet find cheaper and readier means of converting the vast stores of vegetable fiber, with which nature abounds, into comely clothing, than by the present infinitesimal spinning and weaving of thousands of yards of yarn to form a single yard of cloth? That we may yet navigate the air is hardly less likely now than was the navigation of the sea by steam seventy years ago.

Future invention must give us cheaper food, cheaper clothing, and cheaper lodging. Past invention has not sufficiently secured these, and the condition of trade and of society is now such that the majority of the population, even when working almost continuously, can gain but a decent subsistence, without any practical advance upon their daily necessities.

The Engineer thinks that agriculture presents a wide field, especially for the chemist. It believes that the future must look for a highly scientific and artificial agriculture. The present capacity of the soil ought to be fully doubled by the aid of science and art.

**FLAME** is one of the most beautiful things in the world. Not a sunset sky in summer, not a blown tropic-flower, is more brilliant than flame; flame is the flower of fire. The ivy has no splendor like the mantling flame; it reddens like the thyrsus of the god.

**COAL**—A company has been formed in Santa Cruz for the purpose of prospecting for coal on the San Lorenzo, where there are said to be indications that it exists.

**Quartz Mill Construction and Superintendence**

THE UNDERSIGNED IS AT PRESENT OPEN FOR engagement as a working Superintendent in the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address, E. M. SHAW, San Francisco, care Mining and Scientific Press. 59v143m

**CUT NAILS.**

2,000 KEGS ASSORTED SIZES,

For sale in any quantity, to close invoice, at the very

Lowest Rates, by

**THOS. H. SELBY & CO.,**

116 and 118 California Street,  
SAN FRANCISCO. 19v143m

**To the Mining Community.**

THE UNDERSIGNED, WHO HAS HAD THIRTY YEARS constant practice in superintending mines, is now prepared to inspect and report on Mines and Mining Properties, and advise as to the management of the same. Office, 851 Harrison street, San Francisco. **WILLIAM WILLIAMS,** Practical Mining Engineer. 16v14qr

**Notice to Miners, Well-Borers and Water Companies.**

**M. PRAG** IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Miscellaneous Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. 8v13-1y Stove Store, No. 125 Clay street, below Davis.

**Pratt's Abolition Oil.**

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lane Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 554 Sacramento street, opposite What Cheer House, San Francisco. 16v14qr

**GOVERNMENT HOUSE,**

Corner of Sansome and Washington sts.

SAN FRANCISCO, CAL.

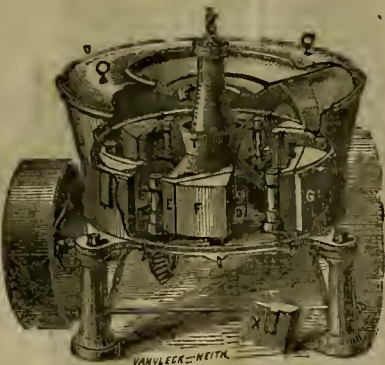
THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes.

The rooms of the House are well furnished, large and airy, and are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half the regular rate. 16v12-6m

SANBORN & CO

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

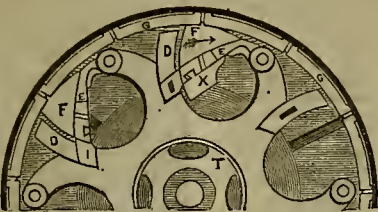
Patent dated April 10th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

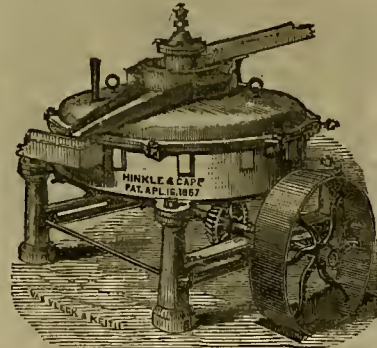
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each muller separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconveniences, as the arms play freely a inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each muller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 6 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

**EXPLANATION.**—E, muller-hanger; F, muller plate or shoe; G, side dies; I, supporting lip; D, bearing surface; J, feeder; X, weight to counter-balance wear of muller plates, or shoes; U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

dies are easily removed at any time, or when worn out, and an extra set of mullers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc. We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or muller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned. For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of mullers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$300, gold coin.

For further particulars, apply by letter to **PHILIP HINKLE and CHARLES S. CAPP**, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or **S. P. KIMBALL**, Esq. at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured. Send for Circulars.

**PHILIP HINKLE and CHARLES S. CAPP**, Patentees, 513 Clay street, San Francisco. 25v14-1f

**Portable Steam Engines!**

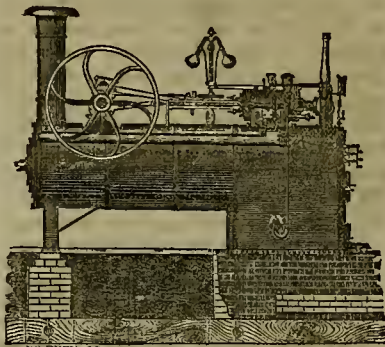
"Hoadley's" and "Hittinger's" Make.



**HOADLEY'S.**

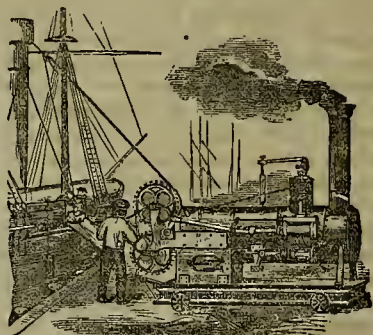
**FOUR SIZES,**

8, 10, 12, and 15-Horse Power,



**HOADLEY'S.**

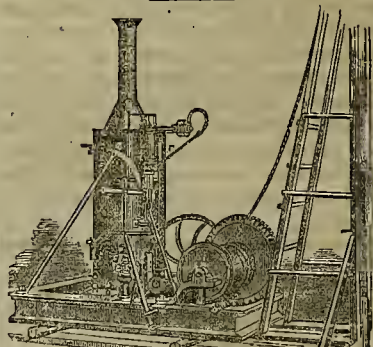
3 to 40-Horse Power.



**HITTINGER'S.**

**THREE SIZES,**

5, 7, and 10-Horse Power



**HITTINGER'S.**

**TWO SIZES,**

5 and 7-Horse Power,

**Stair Work of all Kinds, MADE TO ORDER, And shipped to all parts of the Coast.**

**N. P. LANCLAND, STAIR BUILDER,**  
No. 49 Beal street,  
Between Market and Mission,  
SAN FRANCISCO. 10v14-1y

**Newel Posts and Balusters CONSTANTLY ON Hand and for sale.**

**Steam Pumps, FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT. PICKERING'S GOVERNORS For Steam Engines. Giffard's Injectors, For Feeding Boilers.**

**STODDART'S IRON WORKS,**  
Beale Street, San Francisco. 23v12-3m

**BLAKE'S QUARTZ BREAKER! PRICES REDUCED!**

MACHINES OF ALL SIZES FOR SALE —BY— **WM. P. BLAKE,** Corner First and Mission streets, or Box 2,077 3v18f SAN FRANCISCO.

**Mechanical Drawings.** Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

**QUARTZ MINERS, MILLMEN,** And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

**First Class Mill,** In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps. Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or **J. B. HITCHCOCK,** Millwright, Russ House. 19v14-3m

**DUDGEON'S PATENT Hydraulic Lifting Jacks —AND— OILER PUNCHES,** 16v14 Eighth street, cor. Minna. qr

**COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, AND ECONOMY, with the Minimum of weight and price.** These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction, account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the horrible principle is the pioneer's friend, and enables him to draw engines on their own wheels, to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world. All sizes on hand from 3 to 30 horse power, with and without carriages. Also, Portable Saw and Grist Mills. For sale by **TREADWELL & CO.,** Corner of Front and Market streets. 9v14-5m16p



New Books.

THE CALIFORNIA DIGEST OF MASONIC LAW, containing the Old Charges and Regulations of 1720; the Constitution and General Regulations of the Grand Lodge of California, as amended to 1866, etc., etc. Collated by Lorenzo G. Yates, Deputy Grand Lecturer, etc.

This work makes up a volume of 236 pages, neatly printed upon beautiful paper. In addition to the subject matter given in the title page, the work also contains the Constitution of the Grand Chapter; Rules of Order of the Grand Chapter; List of Subordinate Chapters; List of Past Grand Officers; Constitution of Grand Council; List of Subordinate Councils; Statutes and Rules of Order of Grand Commandery; Subordinate Commanders and List of Past Grand Officers of Grand Commanderies; Digest of Decisions of Grand Masters, etc., etc. The Grand Master, Gilbert B. Claiborne, whose opinion of such a work ought to be conclusive as to its merits, in a note to the collator speaks of it as follows: "I have cursorily examined the MS. of Bro. L. G. Yates' Digest of the Jurisprudence of Masonry in this Jurisdiction, under the Constitution of 1859, and have no doubt it will prove useful and valuable to the members of the Fraternity, as a book of reference. If he concludes to publish it, he will please send five copies to my address." For sale by D. Appleton & Co., of this city.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA: Containing a complete history of the county, with sketches of the various towns and mining camps, the names and occupation of residents; also, full statistics of mining and all other industrial resources. Compiled by Edwin F. Bean, Nevada. Printed at the Daily Gazette Office.

The above comprises a volume of over 400 pages, and forms the most thorough and complete digest of the kind which has yet appeared of any mountain county in the State. The work has been prepared with great care, and the typography of the book is highly creditable. The historical sketch of the county, comprising also its natural history, mineral productions, etc., is very full. Separate historical sketches, with directories, are given for each township. Professor Silliman has furnished an able and interesting paper on the mineral district of Grass Valley. Nevada county has long been recognized as the leading and most important mining county in the State; while the fact has more recently been developed that, in addition to its thousands of ledges of gold-bearing quartz and immense area of placer deposits, it also produces a soil on which can be raised, in the greatest perfection, all the productions of the temperate zone, while for its adaptability for the production of the grape it may rival even the famed vineyards of France and Hungary. Hence it is well that the interesting details brought together in this volume should be thus placed upon permanent record for present and future reference. Hudson & McCarty are agents for the sale of the book in this city.



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ORGANS.  
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MUSICAL INSTRUMENTS,  
Sheet Music, Music Books, Strings, etc. Largest Importers  
in San Francisco. Send orders to  
KOHLER, CHASE & CO.,  
257 4th St. 421 Montgomery street, San Francisco.

Pacific File, Reaper and Mower Section  
MANUFACTORY,

No. 53 Beale Street, between Market and Mission,  
SAN FRANCISCO.  
Files re-cut and warranted as good as new, or no charge.  
The only establishment in the State. We also man-  
ufacture Reaper and Mower Sections.  
1415tf HURNING & FISHER, Prop'rs.

ROOT'S PATENT  
FORCE BLAST BLOWER.

Adapted for Smelting, Foundry, Mining and Steamships.  
Requires 50 per cent less power than any Blower now in  
use. For further particulars, address KEOP, BLAKE &  
CO., Stockton, or Wm. T. Garratt, corner Mission and Fremont  
streets, San Francisco. 1416-1417tf

Excelsior Double-Acting Suction and Force Pump.  
The Best for Mining, Farming and Domestic Use.

Hooper's Patent, Aug. 15, 1865.  
THE EXCELSIOR PUMP is a California invention of intrinsic merit, and as such is being rapidly introduced, and giving perfect satisfaction. At the Mechanics' Institute Fair (1865), it was awarded, for its superiority, a Premium Medal.

It is manufactured by California Mechanics, in the most perfect and durable manner.

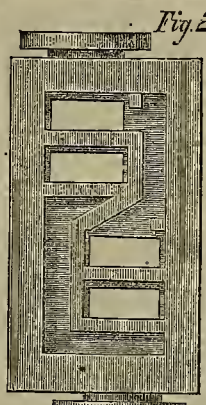
It is remarkably simple in construction, and its valve chest is almost instantly accessible without disconnecting the air-chamber, suction or discharge-pipes. It can be worked at any speed.

Figure 1 is a sectional view of a 6-inch Mining Pump, showing the plunger and hump-packing; and the valve-chest containing the puppet valves. Fig. 2 illustrates the water-passages and valve seats in the chest.

The following sizes are constantly manufactured of this

SUPERIOR DEEP-WELL PUMP.

- No. 1—Cylinder 2½ inches; stroke, 6 inches; capacity 750 gallons per hour; weight, 60 pounds.
- No. 2—Cylinder, 3 inches; stroke, 7 inches; capacity 1,250 gallons per hour; weight, 80 pounds.
- No. 3—Cylinder, 4 inches; stroke, 9 and 8 inches; capacity, 2,500 gallons per hour; weight, 200 pounds; with iron frame and slide complete.
- No. 4—Cylinder, 5 inches; stroke, 15 inches; capacity 5,420 gallons per hour; weight, 530 pounds.
- No. 5—Cylinder, 6 inches; stroke, 24 inches; capacity 12,575 gallons per hour; weight, 1,000 pounds.



Nos. 3, 4 and 5 are made to endure the severe test of use in mines, and are constantly superseding those of other manufacturers. The pistons being packed with hemp, are proved to be far more durable and less expensive than leather.

We manufacture to order 8 and 10-inch Pumps. Also, sell at cheap rates, 5 and 6-inch Brass Pumps for ships.

See illustration of the Valve of this Pump, and further description, in another part of this paper.

For Circulars, or further particulars, inquire of or address J. W. BRITTON & CO., Agents, 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, or lam CUSHING & CO., Prop'rs, San Francisco.

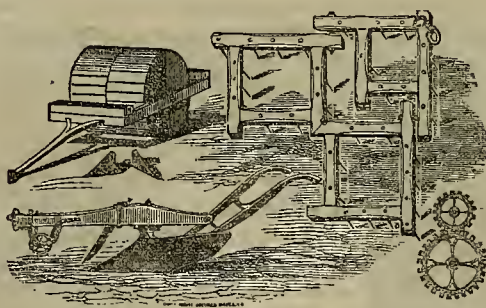
W. WALLACE WEBSTER,  
Boston.

J. BERTRAM WEBSTER,  
Stockton, Cal.

1850 PIONEER STORE. 1867

WEBSTER BROTHERS,

IMPORTERS AND DEALERS IN



STEAM ENGINES, BAXTER'S CALIFORNIA GANG PLOWS,



Agricultural Machines, Hardware, Crockery,  
OILS, Etc., Etc.

Stockton, California.

Office in Boston, No. 10 Central Street. Office in New York, No. 53 Beekman Street.  
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W. T. GARRATT,  
City  
BRASS AND BELL FOUNDER  
Cor. Mission and Fremont sts.,  
SAN FRANCISCO.  
Manufacturer of Brass, Zinc, and Anti-Friction or  
Babbet Metal Castings;  
CHURCH AND STEAMBOAT  
BELLS.

TAVERN AND HAND BELLS AND GONGS,  
FIRE ENGINES, FORCE AND LIFT PUMPS,  
Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, HYDRAULIC PIPES AND NOZZELS For Mining purposes, Iron Steam Pipe furnished with Flanges, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."  
Highest Market price paid for OLD BELLS, COPPER AND BRASS. 27

Foundry for Sale.

A One-half Interest in the  
UNION IRON WORKS,  
SACRAMENTO,

Owned by William R. Williams, is offered for sale on the most favorable terms.

A Good Bargain

May be had, as the proprietor is going home to Europa. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets.

Inquire at the office of the Foundry, or address  
WILLIAM R. WILLIAMS,  
Sacramento, Cal.

Golden City Chemical Works.

LABORATORY,  
Corner of Seventh and Townsend Streets.  
OFFICE,  
Corner of Montgomery and Bush Streets.

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Prof. J. D. Whitney, S. A.,  
James Otis, Prof. W. B. Ewer,  
Wm. Overmuer Morris, E. N. Bugbey,  
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SAN FRANCISCO, SATURDAY, JULY 13, 1867.

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the fire-box, and receives the water from the side pipes in which it is injected by the feed pump. By being so situated, it becomes partially heated before it enters the

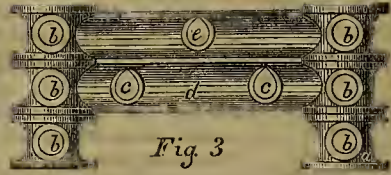


section; *a, a* are the vertical pipes forming the side wall, and at *b* is seen the inner pipes; *d* is the transverso pipe below the furnace-grate. At *c, c* are shown two upright or vertical pipes, branching off at a right angle from the pipe, *d*, and having free communication with it. In the next section of the series of *b* there is but one vertical pipe, *e*, and it also freely communicates with the arched side pipes, *a*, of Fig. 2. These pipes are composed of an outer and inner pipe, similar to the side pipes, the inner one extending down to the fire-grate. Thus each pipe in the combined series presents within it a thin film of water to the immediate action of the heat, and as it evaporates is fed with water of a lower temperature from the inner pipe, which by its outer surface forms the inner wall of the water-film. The fire, passing over the top of the fire-wall at the back side of the furnace, completely encircles the series of pipes beyond the furnace, and also freely acts upon the arch where they are joined together; it then passes underneath the horizontal partition seen in Fig. 1, about midway between the top and

boiler in the alternate ordershown in Fig. 3. There is another advantage in this form of boiler that will readily present itself. Suppose a manufacturer wishes to extend the limit of the steam-producing capacity of his boiler. All that is necessary then is to remove the wall at the back end of the boiler and add as many sections as he chooses, as each section of the horizontal pipe, *d*, and the vertical one, *a* (Fig. 2), are cast together in one piece; and to extend the length of a boiler, all that is necessary is to unite a sufficient number of these sections by bolting them together in proper order by the flanges seen in Fig. 3.

It will also be observed that the horizontal pipes, *d, d*, are below the fire-grate, and consequently contain water of a low degree of temperature. Therefore all sediment, as it collects in the vertical tubes, falls into the horizontal tubes and into the colder stratum of water, and there quietly remains, with no danger of burning on the surface, as in the old style of plate boilers. From these lower tubes where it collects it can be easily blown out by the engineer at any time, and no danger of sediment or incrustation detrimental to the surface of the boiler need be apprehended.

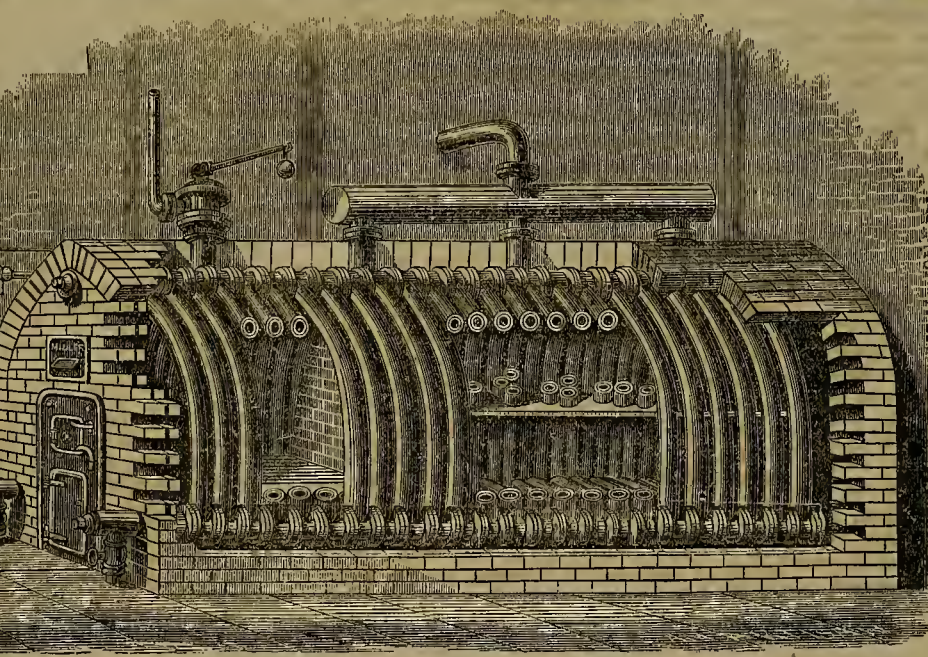
Each section of the pipes actually forms a boiler by itself, separate and distinct from the others, yet having free communication with them at both top and bottom—the entire series receiving water from the same source and evaporating steam into the same steam-space. The immense amount of fire surface secured by this mode of construction, and the small body of water required to be present, must enable it to generate steam very rapidly, and at a comparatively small expenditure of fuel. A patent was granted to Mr. Jos. A. Miller, C.E., of New York, Jan. 8, 1867.



## An Improved Tubular Steam Boiler.

We give herewith a full illustration of a novel and an apparently improved construction for a tubular steam boiler. The steam capacity of all boilers depends upon the amount of surface exposed to the fire; and all improvements tend mainly to an increase of that surface. It is also well understood that the thinner the sheet of water is which is exposed to the action of heat, the more rapid will be the production of steam. It has been the aim of the inventor of the boiler herewith illustrated to combine, as far as possible, both these advantages. How well he has done his work, we leave for the reader to judge after perusing the following description, which we clip from the *New York Artisan* of January 16, 1867:

Fig. 1 is a perspective view, broken away at intervals so as to show the arrangement of the pipes or tubes of which it is wholly composed. A series of vertical pipes, which may be of cast iron or other material, are arranged in two parallel lines on each side of the fire chamber, and also extending back from the fire wall at any desired distance, according to the amount of steam to be produced. These pipes are joined at their upper ends, and in form are similar to a gothic arch. In Fig. 2 is seen a transverse section, in which *a, a* represents the arched row of vertical pipes, connected at the top and also connected at the bottom by horizontal transverse pipes, *d*. At *b* is seen an inner pipe fitted into *a*, which extends down to a level with the grate upon which the heat is generated. It will be seen that by this arrangement a thin film of water is thus presented to the action of the fire, which is almost instantaneously converted into steam, and ascending, it fills the steam space and the horizontal tube at the top of the arched series of pipes. From this pipe it may be conducted to whatever place it may be needed to perform its labor. The volume of water in the space, *b*, is of a colder temperature, and supplies the film presented to the fire with the necessary amount to take the place of that evaporated. The transverse pipe, *d*, is placed below the grate of



MILLER'S PATENT AMERICAN STEAM BOILER.

vertical side pipes. At *c, c* and *e*, we see other vertical pipes or tubes that have free communication with the transverse bottom pipes, and also communication with the vertical side pipe at or near the place where they join at the apex of the arch. At Fig. 3, this arrangement is shown in a horizontal

bottom of the pipes, and still further heats them, and is then conducted under the series of horizontal pipes, *d* (Fig. 2), and is then carried into the flue or chimney. The series of vertical pipes, *c, c* and *e*, etc., are commenced immediately behind the fire-wall, and continue the entire length of the

lence. This circumstance is not of itself dangerous, but if there be an excess of gas in the mine, and at the same time, from accident or carelessness, a means of ignition, then, indeed, the consequences are very likely to be serious. Hence the barometer becomes the miner's safest guide.

## NEW MODE OF DETECTING FIRE-DAMP, ETC., IN MINES.—Mr. J. Rofe writes to the Geological Magazine, and shows that miners have only to watch the barometer, and provide in accordance with its indications, for the supply of air to the mines in case of fire-damp, etc. Alluding to the well known "Blowing-well" of Preston, in Lancashire, England, he states that some time since, in a well recently constructed by him as a cesspool to some chemical works, he observed the phenomena characterizing the blowing-well! When the atmospheric pressure diminished, the air came from the well, loaded to a disagreeable extent with the offensive vapor of the cesspool. On continuing his observations with a barometer, he found similar results. He concludes from these facts that a coal mine must be regarded as a gigantic well, from which, when the atmospheric pressure diminishes, the air expands, and rushes out with great violence. This circumstance is not of itself dangerous, but if there be an excess of gas in the mine, and at the same time, from accident or carelessness, a means of ignition, then, indeed, the consequences are very likely to be serious. Hence the barometer becomes the miner's safest guide.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

## The Reese River Country and its Mines.

BY A. J. HOWK.

[Continued from Page 2.]

## HOT CREEK.

Our road crosses these hills through Eagle Pass, and four miles further brings us to the head of Hot creek. Here we find a broad pass running through the high mountain range on the level of the valleys that lie on either side, with what little descent there is to the east. Shortly after entering the Pass, we reach the scalding hot springs or pools which break out at intervals along its course, emitting steam and sulphurous vapor. Its borders are fringed with jointed, reed-like rushes, growing to the height of ten or twelve feet, which, with their varied hues of many delicate tints and clouds of steam rising here and there above their waving tops, present a novel and grateful sight to the weary eye long accustomed to rest on monotonous stretches of dry, sage-covered plains or parallel mountains, everywhere, over hundreds of miles, producing the same vegetation, and differing only in their rock formation, which is ever changing from the regular but up-tilted strata of slate, granite, syenite and marble, to the chaos of indescribable volcanic rocks of scoria and trachyte. About two and a half miles after entering the Pass brings us to one of the mammoth quartz lodes of this region, known as the Indian Jim. This immense lode rises to a great height on the north or left hand side of the cañon, going east. It is full 200 feet wide, with occasional pockets of extremely rich ore. The lode is not of pure quartz, but appears to be mixed with vast quantities of the enclosing or country rock, fallen into the seething mass of the quartz from the sides as it was forced up from below, filling the vast fissure with a conglomerate of quartz, limestone and slate. On the south side of the cañon is situated the Merrimac and Norfolk lodes, supposed to be identical with the Indian Jim. Five or six miles further, at the eastern entrance to the Pass, we find the town site of Hot Creek, in

## HOT CREEK MINING DISTRICT.

This is about lat. 38° 30', forty-five miles E.N.E. of Belmont and one hundred miles S.E. from Austin, via Smoky Valley and Charnock's Pass. The district was discovered in the spring of 1866 by the Robinson Brothers (the same mentioned in a former letter as the discoverers of Silver Peak). They were piloted here by a Shoshone Indian, called Jim, after whom the lode described above was named. From July to September following, this whole region swarmed with prospectors from the older districts on the west; a great number of lodes were discovered, producing at the surface the most fabulously rich silver ore heretofore found. Ore yielding from \$3,000 to \$12,000 per ton, and in some instances much higher, was not of unfrequent occurrence in small quantities; but, through want of capital, the lodes are yet undeveloped to the extent that will fully establish their permanency. As far as explored, horn silver or native chloride of silver, is the predominating ore at the surface. Probably the most massive deposits of this rare ore ever found in Nevada occur here (except, perhaps, the reported developments in the Combination Company's mine at Belmont). There are no mines in the immediate vicinity of the town, the site being selected for its facilities in the way of water and fuel. The latter is very abundant to the north of the Pass, which is properly in Morey District, the cañon or pass being the dividing line between the two. The larger number of mines are located six

miles south, near the head and on either side of Rattlesnake Cañon.

The whole surface of the country in that vicinity appears to be of limestone; but it is evidently only a capping, overlying granite, as in one instance, at the Oro mine, the granite is forced up with the lode. Among the most noted mines are the Keystone, Gazelle, Indian Hunter, Oro and Old Dominion. On the former two, extensive developments are in progress, under the management of Mr. O. A. Gager, of the Parrot mill. In the early part of the past winter, a small, inefficient mill was erected in this district by the Combination Company, for the purpose of prospecting the oro, and I understand larger works will take its place during the coming summer. This company is ably represented by Mr. Gould, as superintendent, who may be called the pioneer in milling in what is known as the lower country or the region lying between Silver Bend and Pahranaगत. This section is not as well supplied with timber as that on the north and south, but affords sufficient fuel for many years, until the shrill whistle of the locomotive and the rolling thunders of cars reach through all these valleys and mountain passes, bringing fuel to the mines and carrying ore to the exhaustless timbered slopes of the Sierra Nevada.

We are now in the very core of the richest silver region ever discovered, before which the history of the once famous mines of South America and Mexico sink in insignificance. He would indeed be a credulous man who, on a thorough examination of the "Great Southeast" of Nevada, would longer doubt the truth of the prediction or promise of Bishop Simpson. I am not speaking of Hot Creek especially, but of all the surrounding country.

[To be continued.]

[Written for the Mining and Scientific Press.]

## Quicksilver Mining in Monterey County.

NEW IDRIA Q. S. MINE,  
Fresno County, July 1, 1867.

MESSEURS. EDITORS:—Some few days ago, while crossing the adjacent mountains surrounding the New Idria quicksilver mine, I came abruptly upon a few nicely built miners' cabins, near by a beautiful and never-failing stream of water, known by the very appropriate name of "Clear Creek." In those cabins are living the employés of Monterey Quicksilver Mining Company, which has just commenced operations on one of their locations, called the Clear Creek mine. Here, by a well executed tunnel, they have penetrated into the mountain nearly 300 feet—gaining, I should suppose from observation, a perpendicular height of 150 feet. The tunnel was commenced about fifteen feet above the bed of the creek, in magnesian earth, intermingled with lime and other mineral substances, demanding no special remark, except, perhaps, to correct the erroneous idea that magnesia forms the base of all the ledges in this vicinity.

At the end of sixty feet drifting in the above tunnel, the parties came unexpectedly against a face of hard rock, which proved to be a channel of black slate, similar in character to the rock found in the Idria mine, running nearly east and west, dipping north about 3½ feet in six feet, and traversed by fissures or cracks, and in places faintly painted with vermilion. The next channel intersected was a kind of soapstone, similar to what is termed the bedrock of the New Almaden ledge; but quicksilver ledges carry no regular bedrock—neither was there ever a well-defined ledge of cinnabar known to exist. The so-called ledges are channels of mineral ground, running in a certain direction, traversed by other channels of rock-bearing mineral indications, and on either side deposits of cinnabar are promiscuously found. I have seen this statement verified in the Old Almaden in Spain, the New Almaden, and every other quicksilver mine in California, and no doubt such is the character of quicksilver ledges throughout the mining world.

This channel of soapstone at the Clear Creek mine, presents a somewhat peculiar appearance, having passed through numerous well-defined branches of calcareous spar, all dipping north at an angle of forty-five degrees, or thereabouts. When I visited

the mine the parties had just intersected the mineral channel—quite different in character from anything yet passed through in said tunnel. This mineral channel, or so-called ledge, also dips north, and shows every indication of the probability of discovering large deposits of metal. The appearance of the ledge, at this depth of 150 feet, is truly encouraging. There are three other locations belonging to this company, viz: The Boston, Andy Johnson, and Fourth of July. Assays have been made from each of these locations, showing gold from \$13 to \$55 per ton of rock, and from 7½ to 33 per cent. of quicksilver.

The accuracy of this statement cannot reasonably be doubted, as particles of gold have been found in the refuse taken from the New Almaden furnaces. Omitting the existence of gold, and taking into consideration the almost inexhaustible amount of cinnabar bearing rock at command, the percentage for quicksilver alone must be very encouraging indeed, and warrants a determined and vigorous prosecution of the company's mines.

CAPTAIN FAULL.

## Facts About Patent Matters.

NUMBER FIVE.

## THE EXAMINATION, APPEAL, ETC.

Having got your case ready, the next step is to send it to the office, directed to the Commissioner of Patents. When the case reaches the office, it is examined by the Chief Clerk, who receives and opens all mail matter, or cases handed in. He makes a memoranda of the money and papers received, then sends the letter to another room, when the case is made up, by placing the papers in a kind of envelope, called a file, on which is endorsed the name and residence of the applicant, name of the invention, date of reception of the fee, drawings, specification and model—the latter, in the meantime, having been sent to another room where it is labelled with the name of the invention, and date of its reception, and where it is retained until sent for by the examiner. The file is then sent to the draughtsman's room, where the case is entered on a record book, after which, with other cases belonging to the same class, it is sent to the room of the examiner in charge of the class to which it belongs. This classification is quite extensive, but some idea of it may be obtained by naming a few, as for instance, one class embraces all agricultural implements and processes—another, mills of all kinds—another, all machines for working wood—another, all steam engines, etc.—another, civil engineering, etc.

The examiner takes up the case in its order, sends for the model, and examines the drawings to see that they are exact duplicates and correct in all other respects. He then examines the specification in connection with the drawings and the model, to see if the invention and all its parts and their operation is fully and correctly described. If there is any error in either of these, in any particular, he returns it to the applicant, or his agent, if he has one, with a letter pointing out the defect, in order that it may be corrected, which letter (and all others relating to the business of the office) is signed by the Commissioner. When the applicant receives his papers, he proceeds to make the correction, by writing out the necessary amendments on a separate sheet, indicating the line and page where it is to be inserted, and what, if any, of the original, is to be erased, and returns them together with the original papers, *unaltered in any respect*, to the office. They are then sent again to the examiner, who enters the amendments, indicating their proper places by directions in red ink, and if all right, it is then ready for examination; if not correct, it is again returned with another letter, and so on until it is right.

The papers having thus been made all right, and the examiner having become familiar with the peculiar features of the applicant's device, proceeds to make the examination. To facilitate this duty, all the drawings of patented articles are placed in large folios, arranged in classes, and placed in cases in a very large apartment called the draughtsman's room. Of these there are about 40,000, [now 52,000.] The drawings of all rejected cases are similarly arranged in another large room. Proceeding to the class to which the invention belongs, he draws forth one of the folios, and carefully examines every drawing in it and so on through all the class, to see that the same has not before been patented. If the same or a similar device is not found there, he then goes through the same class in the rejected cases in the same manner; and if not found there, and it is of a character or class in which anything has been done abroad, he proceeds to the library, and there examines the various foreign reports of in-

ventions and other works to see that the same thing has not been patented or described abroad.

Each examiner's room is also provided with a variety of publications relating to the class in charge there—in some cases forming of themselves quite large libraries—and they too, are to be examined. If in none of these places, anything containing the features claimed by the applicant can be found, it only remains for the examiner to look over the caveats on file, (and which occupy large cases in still another room,) to see that no one has filed a caveat for the same invention, and then it is ready to pass for issue.

But it frequently happens that in one or the other of these places, the same device will be found. In that case, a letter is written, rejecting the application, and giving the name and date of the prior inventor, either patented or rejected, or naming the publication and page where it is described. If the applicant, after examining the references thus given, is not satisfied, he has the right to ask a re-examination, after filing such reasons as he may desire, pointing out the difference which he may believe to exist between his invention and those given as references, or, if possible, he may so amend his case, by striking out the claims to those features shown in the references, so as to avoid them, and still obtain a patent on others. If a second time rejected by the examiner, he may thereafter appeal to the Board of Examiners-in-chief; and from them to the Commissioner in person—then to the United States Court for the District of Columbia, and finally to the Supreme Court. *The papers, however, must not be altered or amended after leaving the Examiner's room.* All subsequent action is simply an appeal to a higher tribunal, which is to decide upon the case as finally passed upon by the examiner, simply affirming or reversing his decision, or that of the previous tribunal, whichever that may be. The party is, however, at liberty to file such argument at each successive step as he may see fit. No additional fee is required on appeal to the board, but at each subsequent step.

[To be continued.]

MENHADEN OIL.—The manufacture of menhaden oil has become, of late, quite an extensive and important branch of business in New England. These fish are caught in great numbers, and at frequent intervals, all along the coast from New York city to the eastern part of the coast of Maine. They were formerly caught in part for food—being cured like mackerel—but chiefly for manure. The recently enhanced value of animal oils has now made them more valuable for their oil; while the residue, after treatment for oil, still possesses considerable value for manure. They were formerly taken altogether in seines upon the seashore; but latterly they appear to be caught at sea. Some twenty vessels are annually fitted out for this purpose, from different ports in the State of Maine; having furnaces and presses for doing all the work of expressing the oil on shipboard. In addition to these vessels, there is scarcely a town on the coast of Maine, below the mouth of the Kennebec, where more or less of this oil is not manufactured. There is an establishment of the kind near Bristol, R. I., operated with a capital of \$40,000. A number of others, of less extent, are operated in the same town.

BREAKING CASTINGS.—The *Scientific American*, in answer to a correspondent, suggests the following method of breaking up large castings: Drill a few holes of three-quarters or one inch diameter from six to ten inches deep, filling them nearly to the top with water, and then insert carefully fitted steel plugs to rest on the top of the water. A blow from a heavy drop will probably do the business. In your case the mass of iron is three feet square; perhaps inch holes, drilled ten inches deep, and filled to within two inches of the top, would be effective. The steel plug should be about four inches long and fit as nearly water tight as possible.

HONEY BEES.—Notwithstanding the difficulty of keeping honey bees, in their domestic state, in California, they appear to thrive remarkably well when left to themselves. The mountains are becoming full of them, and bee-hunting has become a profitable business. California will soon literally become a land "flowing with milk and honey."



## Mechanical.

**CUTTING GLASS UNDER WATER WITH SHEARS.**—The London *Photographic News* gives the following hints and instructions relative to a mode of cutting glass with a common pair of scissors, which may not be known to the majority of our readers, and in places where glazier's diamonds are not accessible, the process may be of some value. It requires a little patience and some dexterity to thus cut glass to a given line with a smooth edge, yet it can be done under water after a few careful trials. To mechanics and others who often have occasion to cut glass into peculiar shapes, it may be worth while to remember this simple application. The operation is detailed as follows:

In order to insure success, two points must be attended to; first and most important, the glass must be quite level while the scissors are applied; and second, it is better to begin the cutting by taking off small pieces at the corners and along the edges, and so reduce the shape gradually to that required, for if any attempt is made to cut the glass all at once to the shape, as we should cut a piece of cardboard, it will most likely break just where it is not wanted. Some kinds of glass cut much better than others; the softer glasses cut best. The scissors need not be at all sharp, as their action does not depend much upon the state of the edge presented to the glass. When the operation goes on well; the glass breaks away from the scissors in small pieces in a straight line with the blades. This method has often proved very useful in cutting ovals, etc., which would be very expensive if ground out; and though the edges are not so smooth as may be desired for some purposes, the method is worth knowing.

**NEW USES FOR MICA.**—Pischer, of Nuremberg, lately suggested the use of mica for various decorative purposes. For one such application, the thin plates are first purified by treatment with strong sulphuric acid, and then silvered by the ordinary process adopted with looking glass. The mica thus acquires a beautiful silver luster, and it may easily be cut into any shape to be used for inlaying work. The flexibility of the mica, will, of course, allow of its being applied to round surfaces. When a sheet of mica is heated to full redness for a time in a clay muffle, it loses most of its flexibility, and is changed considerably in appearance. Under reflected light it has a dead silver-white look, but viewed by transmitted light it is seen covered with grey spots. This latter appearance is lost when two or three pieces are superposed, and the transparency is lost. The mica after heating is also a beautiful material for inlaying work. It should be cut into the shapes required before it is heated. Another very pretty effect is obtained by scattering small fragments of mica on freshly-poured sheets of gelatine, and varnishing it with a dark-colored solution of gelatine. Finely ground mica on colored gelatine also shows very pretty effects; and the very finely-ground material mixed with a solution of gum-arabic may be used, Pischer says, for silver ink.—*Mech. Magazine.*

**CRYSTALLIZED BY CONCUSSION.**—A circumstance apparently confirmatory of the disputed theory of a molecular change in iron from mechanical shocks, is related by a correspondent at Underhill, Vt. He says that an old relic of the Revolution, a French gun barrel, which had been refitted with new stocks and locks several times, after standing fire perhaps the millionth time, burst, and in such a manner that every one who saw it pronounced it to have been originally a cast iron barrel, until an old iron maker convinced them by showing the weld on the under side. But the appearance otherwise was exactly like cast iron, and brittle at that. Mr. E. attributed the change in the iron to the action of the sulphur in the powder and its long use and many times repeated action.

**CEMENT.**—A cement particularly adapted for attaching the brass work to petroleum lamps, is made by Pischer, by boiling three parts resin with one of caustic soda and five of water. The composition is then mixed with half its weight of plaster of paris, and sets firmly in half to three-quarters of an hour. It is said to be of great adhesive power, not permeable to petroleum, a low conductor of heat, and but superficially attacked by hot water. Zinc white, white lead or precipitated chalk may be substituted for plaster, but hardens more slowly.

**PRESERVING LUMBER.**—Much attention is now being paid in the Eastern States to preparing lumber, so as to make it more durable than in its natural state. The importance of some process for preserving lumber, in its great variety of uses and exposure to the destructive action of moisture, heat, and imperfect ventilation, has long been recognized, and a successful and economical means to this end has been found in the process of "Burnettizing." That business is carried on in Bangor, Maine, on a very extensive scale. The material used is chloride of zinc, which, it is claimed, preserves wood from the adherence of animal and vegetable parasites, and from the attacks of insects; and also completely preserves it from wet and dry rot, besides rendering it unflammable when used of a certain requisite strength. Its effect on canvas, cordage, metals, etc., is said to be equally beneficial; and the claims of the proprietor of the Burnettizing Works are strengthened by testimonials from a vast number of ship builders, railroad men, manufacturers, etc.

**PAPER PIPES, CISTERNS AND PAILS.**—We have already alluded to the introduction of paper pipes for conducting water, and the advantages which they possess over those made of iron or lead. Large tanks and cisterns are now being made; also pails, etc. In making these articles, the paper, by a peculiar process, is laid in sheets over a mold. The same material is also being used for the manufacture of sugar molds. The pails made from it are said to outlast galvanized iron, and to withstand a very great degree of heat. They are not effected by acids or other corrosive substances, and are greatly in request on shipboard, and other places where severe usage is expected. The price is rather high, \$1.50 in currency at wholesale in New York; still it is thought their greater durability render them cheaper in the end than either wood or iron.

**STEEL WIRE.**—The use of steel wire has been greatly extended since it became known that a wire could be produced which combined the advantages of lightness with hardness and extreme tenacity. It is now employed not only in the manufacture of needles, fish-hooks, springs, music-springs, small tools, umbrella-frames, and crinolines, but also for ropes and cable. Steel wire rope is now very generally used in the mines, both of this country and Europe, where the light weight of the rope is of such importance both in respect to safety and economy; also on railway engines, and for drawing plows where stationary steam power is used for preparing the soil. Large quantities have been required during the last five years for submarine telegraphic cables. Steel wire ropes are also used on canals for towing purposes. Some idea of the quantity of steel wire used may be formed from the fact that one establishment in Great Britain has made during the last year more than 30,000 miles of one size, No. 13, equal in diameter to .005 of an inch.

**PRINTING ON GLASS.**—DeMothey, a Frenchman, has devised an ink and other preparations by which he is enabled to print on glass, by means of rollers, similar to those used in calico printing. After printing, the glass is subjected to heat, by which the picture is vitrified and permanently fixed in the glass. The colors are mixed with a silico-borate of potash and lead, as usual in painting in glass; the composition being rendered plastic by rosin and turpentine.

The largest hardware manufactory in the United States is located at New Haven, Conn. It employs 800 hands, and turns out 4,000 different kinds of articles, mostly Yankee notions. The annual value of its productions is estimated at from four to five millions of dollars.

**KYANIZING BY STEAM.**—It is said that while it costs about ninety cents each to kyanize railroad sleepers by steeping them in the liquid—the process usually employed—the same thing can be effected equally well by means of hot vapor, at an expense not exceeding ten cents.

A WHOLE WELDED ROLLER from Dusseldorf is exhibited at the Paris Exhibition by Prussia. A steam dome is welded upon the boiler, and so accurately and smoothly is the whole work done as to be hardly distinguishable, superficially, from a casting.

## Scientific Miscellany.

**MELTING WROUGHT IRON.**—Many people, even well informed iron men, have an idea that wrought iron cannot be melted—that it will granulate and burn up, or oxidize in the furnace, rather than fuse. Such, however, is not the case. Wrought iron may be melted and cast into molds, like ordinary cast iron, provided a sufficient degree of heat is applied. Cast iron is fused at a temperature of 3,000°; but wrought iron requires a degree of heat not less than 6,000° for fusion; even if we could readily produce the requisite degree of heat for melting wrought iron, where should we find the material sufficiently refractory to melt it in or retain it, as in a mold, while it was solidifying. It is more easily melted when subjected to great heat in the presence of carbon and manganese. In the process of the manufacture of the best kinds of steel, wrought iron is cut up into small fragments, weighing four or five ounces each, placed in a black lead crucible, with a little pulverized charcoal and black oxide of manganese. Thus prepared it is subjected to the requisite degree of heat, melted and run into ingots, which are rolled or hammered into the desired shapes.

Wrought iron is nearly a pure iron, and especially free from carbon; steel is a very pure cast iron—and like it, is a carburet of iron; hence it can readily be melted. Wrought iron can be melted only after it has been again re-charged with the carbon of which it has been deprived in the process of puddling, pressing, etc. For all practical purposes, therefore, wrought iron is infusible.

**DRYING BY SUPERHEATED STEAM.**—Steam, when heated above 212°, becomes more of an absorbent, and so increases as the heat is increased. A room containing superheated steam becomes a Turkish bath—that is, has a steam atmosphere, and, proportionally, so far as the air is concerned, becomes a vacuum. Fruit, lumber, etc., may be rapidly dried by this process. A fruit-drying apparatus of this description is sold in New York, from two or three dollars up to almost any price, according to size, etc. Lumber is dried by this process. It is simply placed on cars, and drawn slowly through a drying room, until thoroughly dried. The drying may be effected in a few hours. So powerful is the action that a four-inch scantling may be so thoroughly dried as to destroy the grain; yet, by proper management, no damage is done. The wood can be seasoned to any required extent. It is by far the best process for drying fruit. Fruit should be rapidly dried, as soon as ripe, and before its starch is converted into sugar. When so dried, it is much better in quality and appearance, and keeps much longer and better.

**FREEZING GLYCERINE.**—According to the statement of Dr. W. S. Squire, a mass of glycerine (not nitro-glycerine), on freezing, leaves a small portion of the liquid still in a fluid state; on carefully draining this from that portion which has been congealed, the latter is much lighter in color than when liquid. The solid portion is heavier than the remaining liquid, and sinks in it. The liquid drainings cannot be solidified, even when exposed to a great degree of artificial cold in the laboratory. At least Dr. Squire had not succeeded in congealing it; it was simply rendered a little more viscid. Even a journey from London to Edinburgh, giving it both percussion and intense cold, did not freeze it, or in any way induce crystallization.

**PLANTS BUT AIR.**—Modern chemistry teaches us that plants consist almost entirely of condensed gas, and return after death to their natural elements. The small amount of mineral matter which they contain is represented in the ashes which are left after combustion.

**DECOMPOSITION BY GASEOUS CURRENTS.**—M. Grenet, of France, has made the remarkable discovery that certain bodies are decomposed by the simple passage of a current of inert gas. For example, when a current of nitrogen, hydrogen, or common air, is sent through a solution of the carbonate of lime, of baryta, or of potash, carbonic acid is set free, while lime, or baryta or potash, is precipitated. The gases will disengage sulphuretted hydrogen from the sulphidates of the alkaline sulphides. In like manner sulphuric acid gas may be disengaged from sulphide solutions, and acetic acid from acetates. Oxides of nitrogen are eliminated from nitrates at a temperature much lower than the temperature of decomposition. These salts emit acid very slowly in the same atmosphere, and a rapid current is supposed to simply increase this tendency to dissociation.

**THE CHOLERA.**—The French Academy of Sciences recently offered a prize of \$20,000 for a satisfactory solution of the nature of and remedy for the Asiatic cholera. Several essays have been handed in, opened and examined; but no one has been considered worthy of the prize; although several have been thought to possess sufficient merit to entitle them to special awards, which have accordingly been declared. This learned body thereby express the opinion that neither the nature of the Asiatic cholera is well understood; nor has any reliable and scientific course of treatment yet been devised for its cure.

**RARE CELESTIAL PHENOMENA.**—A very interesting celestial phenomena will take place on the 21st of August next—once the like of which has occurred but twice before in the records of history. The planet Jupiter will on that day be seen unaccompanied by either of her satellites for the space of fully two hours. Of her four moons, three will be invisible, on account of their passing simultaneously over the planet's disk, while the fourth will, at the same time, be immersed in the shadow of the planet.

**HOW TO KEEP KEROSENE LAMPS CLEAN.**—Most people who use kerosene lamps have found great difficulty in keeping them clean. The oil seems to creep up by the wick and otherwise, and thus on and over the outside of the lamp. The *Scientific American* suggests, as a remedy, to smear the edges of the lamp where the oil comes over, with the white of an egg, gum-arabic or any other convenient substance which is repulsive to the oil.

**THE PROGRESS OF APPLIED SCIENCE.**—Industrial Exhibitions may be taken as the index of the extent of the practical application of scientific principles. The international Fair at the Crystal Palace, London, 1851, displayed the products of not quite 14,000 exhibitors. That at Paris in 1855 embraced 24,000 exhibitors. That at London in 1862 contained 29,000. At the present Exposition at Paris there are no less than 45,000 exhibitors.

**POWER OF THE SUN'S RAYS.**—A lens has recently been made for Mr. Parker, of London, three feet in diameter, three inches thick in the center, and weighing 212 pounds. In the focus of this powerful lens the most refractory metals are almost instantly fused and completely dissipated in vapor, while unyielding stony substances are as readily vitrified.

**CONVERSATION BY TELEGRAPH.**—A remarkable discovery is reported in Italy, by which it is claimed that two persons at a distance may converse by telegraph, so that they may recognize each other's voices. The *modus operandi* has not been made public, and for the lack of it the asserted invention is considered very doubtful.

WHEAT has been subjected to a temperature of 100 degrees below zero, and to a temperature of 210 degrees above zero, without destroying its germinating properties.

**COAL VS. WOOD.**—It is stated in the *N. Y. Gas-Light Journal*, that while a ton of coal yields but 11,000 feet of gas, a cord of wood has been made to yield 98,000 feet.



New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

**DALTON'S IMPROVED HEADER.**—The Contra Costa Gazette says that Mr. H. N. Dalton, of Pacheco, has made what is generally conceded to be an important improvement upon the Haines' Grain Header. The improvement consists mainly in attaching the driving beam or pole, at a point near the wheel axles, in place of attaching it at the back of the frame. By application of the driving power at a point near the center, the machine is always better balanced, is under easier control in adjusting to any length of standing grain; it is turned with less strain upon the frame and steering wheel, will run with less wear and much lighter upon the team, and, more than all the rest, will perform its work easier and better, because the driving force is always exerted at so much smaller angle with the plane on which the knife is working than when this force is applied at the back of the frame—often at an angle of ten degrees or more. The first of the improved machines, which was put to work a few days since, is said to be answering all expectations in practical operation. A second one will follow it in a few days, and there seems little reason to doubt that Dalton's improvement will meet with merited favor, and eventually supersede the original Haines' arrangement entirely.

**INVENTION FOR FIRING FUSE.**—The Marysville Statesman of the 7th inst. says: "We saw yesterday, at the gun shop of Mr. P. George, on Second street, a very important and valuable improvement, in the shape of a patent for attaching and igniting fuse. The arrangement is a small brass needle after the style of a needle gun. A piston runs through the center, at the end of which is a percussion cap. To this piston is attached a small chain which works a spring. By affixing a string to this chain and pulling at it, the cap is made to explode. It will be readily seen that a person desiring to fire a blast can thus remove to any distance he pleases, simply by lengthening his string. Another important consideration is that very little fuse is required, a piece six inches long being sufficient for all purposes. The real value of this invention cannot be too highly prized, and its general use may be the means of saving many valuable lives."

**INGENIOUS.**—A Nevada county correspondent of the Times, speaking of Messrs. J. and A. E. Redstone, says: These gentlemen have invented and improved on everything, from a toothpick to a marine engine, and have received medals from the World's Fair and the different States in the Union for their improvements in machinery. Among the curiosities here are a steam boiler and engine, which can be carried readily by four men, and steam can be generated in six minutes. They are now having manufactured in Sacramento a log-sawing machine, of their invention, which will do in one day the work of twenty men.

**DEWEY'S HARVESTER.**—The Stockton Independent speaks as follows of a new harvester recently invented by Mr. Henry Dewey, which is at work at the Live Oaks, near Woodbridge: A gentleman who saw it in operation, says it cuts forty acres per day with six men and six horses, and the inventor thinks he could cut fifteen or twenty more if there were no stumps in the way! Fifty or sixty acres a day is pretty fast harvesting we should think. The inventor, Mr. Dewey, intends to secure a patent.

**WALTON'S TAMPING MACHINE.**—Mr. E. W. Walton, of Drytown, Amador county, Cal., whose invention for sharpening drills we noticed a few weeks since, has also another useful invention in that direction, which he calls a "tamping machine," which is designed to facilitate the splitting of wood by the use of powder. The apparatus may be described as a hollow auger, or drill, which, containing the charge and is inserted into the log to the depth required. The powder is then discharged by means of a cap, and expends its force on the interior of the log.

**FOR HEMORRHAGE.**—A Frenchman has invented a new paper which instantly stops the hemorrhage caused by wounds. Marshal Neil has passed a contract with him for 300,000 quires of this bibulous paper.

**MILK-WEED FIBER.**—An ingenious mechanic has discovered a process by which the enamel can be removed from the fiber of the milk-weed. The fiber then becomes

equal to cotton—soft, silky and of great strength. Cloth made from it is very strong. The value of milk-weed as a fiber, has long been recognized; but the difficulty hitherto has been to prepare it thoroughly and cheaply. Perhaps the above invention has accomplished the desired object.

PATENTS RECENTLY ISSUED.

65,538—FURNACE FOR DESULPHURIZING ORES.—William Bruckner, San Francisco, Cal.:

I claim the incline partition, D, in the form of a deviating square, or any other shape, placed at any inclination or angle to insure a constant passing around it of the material to be treated, said partition to be constructed of iron plates in sections or as a whole, and covered with fire-proof material, with surfaces flat or double concave, substantially as described and for the purposes set forth.

This invention is designed for an improvement on the revolving desulphurizing cylinder furnace, previously patented by Mr. Bruckner, and consists in the substitution for the spiral projectiles originally used, of a partition running through the center of the cylinder, dividing it into two equal parts. The partition has each end cut off, at an angle of about 45° with the direction of its side, giving it a rhomboidal shape. This partition is made to answer the purpose previously accomplished by the spiral projections, and by its use the ores are effectually stirred and mixed, so that every particle is repeatedly and successively brought into contact with the oxidizing flame, until the ores are thoroughly desulphurized.

65,628.—PAPER REEL FOR TELEGRAPHIC REGISTERS.—Lewis W. Worth, Sonoma, Cal.:

I claim the reels, B, C, adjustable drum, F, with ratchet, P, pawl, R, and spring, S, with cord, L, arm weight, W, for the purpose herein specified and set forth.

The object of this invention is to provide a more ready means, in connection with a telegraph register, for winding up the paper and keeping it from kinks, and also to enable the operator, by having the paper stretched before him, to more easily read it. It may be readily attached to any register in ordinary use.

65,750.—TEETH FOR LIFTING LODGED GRAIN.

William Marcus Jackson, Woodland, Cal.: I claim the elastic shoes in combination with the yielding fingers, applied to a frame or section to be attached to a reaper, and all arranged to operate in the manner substantially as and for the purpose set forth.

**SINGULAR DISCOVERY.**—The engineers of the new Blackfriars bridge in London, who have been compelled to excavate into the bed of the river, lower than engineers have ever gone before, have made a most unexpected and singular discovery of an immense deposit of bones fifteen or twenty feet below the bed of the Thames. In the gravel and near the clay were found the bones of the ox, the sheep, the horse, and a few human remains!

The Americans have secured for American steamboats the exclusive use of two of the principal rivers of China. Our English cousins appear to have failed in their efforts in that direction. Cause—the faulty construction of their boats for inland river traffic. Americans beat the world in that particular class of navigation. The English are striving to kick up a breeze in consequence of their being shut out from those rivers.

**THE BRITISH POSTAL SERVICE.**—The reports of the British Post Office for 1865 show a profit over and above expenses of \$7,400,000. The net revenue of the Department for 1856 was \$3,000,000. All the charges for ocean service are paid in full out of the postal results, notwithstanding the appropriations are made directly by act of Parliament.

**THE FOREST SPRINGS MILL,** near Grass Valley, will soon have four of Hendy's patent concentrators attached to the works.

BULLION PRODUCT OF THE LEADING CLAIMS ON THE COMSTOCK LODE.

FIRST SIX MONTHS OF 1867.

COMPANY.	January.	February.	March.	April.	May.	June.	Total.
Hale & Norcross.....	\$102,571 72	\$117,639 44	\$78,144 02	75,462 58	\$150,826 68	\$117,728 23	\$844,372 67
Savago.....	250,000 00	270,000 00	150,000 00	337,000 00	408,000 00	370,493 95	1,765,493 95
Crown Point.....	140,000 00	129,560 00	64,541 58	63,971 00	82,000 00	77,550 00	557,812 58
Yellow Jacket.....	156,200 37	117,438 97	108,913 85	222,075 44	278,684 63	185,913 65	1,079,276 91
Gould & Curry.....	56,423 00	45,165 41	52,818 47	63,130 18	74,862 68	44,446 48	346,906 21
Chollar-Potosi.....	80,000 00	100,000 00	65,000 00	245,094 00	334,289 17	345,000 00	1,190,383 17
Empire M. & M. Co.....	38,163 00	26,787 00	23,081 00	22,884 68	21,933 00	21,500 00	164,338 68
Imperial.....	115,948 67	118,200 00	90,431 95	95,162 91	94,000 00	107,000 00	518,749 54
Confidence.....	24,006 10	11,411 66	8,652 71	18,202 78	12,000 00	14,000 00	87,573 45
Ophir.....	.....	.....	.....	.....	.....	.....	.....
Kentuck.....	43,574 71	70,095 42	53,572 25	108,963 63	132,333 88	130,265 61	545,865 90
Gold Hill Q. M. & M. Co.....	5,400 00	8,600 00	7,300 00	10,000 00	10,866 62	12,500 00	55,666 62
Totals.....	1,022,377 57	\$1,014,238 10	\$728,916 44	\$1,252,937 09	\$1,589,795 66	\$1,456,887 81	\$7,064,553 67

FIRST SIX MONTHS OF 1866.

COMPANY.	January.	February.	March.	April.	May.	June.	Total.
Hale & Norcross.....	.....	\$61,646 03	\$64,089 33	\$62,027 18	\$55,942 45	\$104,247 33	\$361,822 33
Savago.....	\$140,000 00	150,000 00	110,000 00	68,553 70	115,000 00	130,000 00	711,553 70
Crown Point.....	52,327 24	155,461 63	149,552 35	115,102 11	110,514 82	109,601 05	691,559 10
Yellow Jacket.....	111,794 13	85,000 00	96,519 65	84,827 28	130,368 24	292,274 00	800,781 30
Gould & Curry.....	133,163 95	152,864 76	174,098 45	142,472 28	160,804 21	146,640 49	900,132 15
Chollar-Potosi.....	43,200 00	53,745 00	65,500 00	87,338 00	90,365 00	74,862 00	441,405 00
Empire Mill & M. Co.....	33,191 82	35,000 00	27,697 00	29,642 49	34,363 04	34,432 75	200,277 10
Imperial.....	81,591 21	74,523 50	49,223 90	91,533 61	57,755 89	62,240 90	425,469 11
Confidence.....	19,474 12	10,141 19	12,474 01	17,624 09	15,869 42	20,869 47	95,452 30
Ophir.....	51,523 04	27,478 51	49,604 45	84,340 81	81,593 57	25,665 89	320,206 27
Kentuck.....	.....	.....	.....	.....	.....	.....	.....
Gold Hill Q. M. & M. Co.....	.....	.....	.....	.....	.....	.....	.....
Totals.....	\$971,555 41	\$803,160 72	\$817,177 15	\$781,351 55	\$852,568 65	\$1,000,883 88	\$4,926,707 36

We obtain the above valuable tables, showing the bullion yield of the Comstock Lode for the first six months of 1867 as compared with the same period in 1866, from the Commercial Herald and Market Review, a new paper, the first number of which was issued on the 10th inst. "The increase of the bullion yield of the Comstock Lode," says the same paper, "as observed in the above comparison, is very marked, showing the returns of twelve companies during the first half of 1867 to be \$2,317,946 31 more than during the same period in 1866. Making an allowance for the companies on the Comstock Lode whose names do not appear in the above table, and the prospective increase of those quoted, the probable yield of that Lode for the year 1867 will reach nearly \$20,000,000." We have been unable to obtain the yield of the Kentuck and Gold Hill Quartz M. & M. companies for the first six months of 1866. The Ophir mine produced no bullion during the first half of the present year.

Mining Share Market.

During the past week the mining share market has experienced a marked depression. There does not appear to be any well-founded cause for such a decline. The statement of the product of the mines, represented by these stocks as given above, gives evidence of permanence and increased future value.

**SAVAGO.**—Continues to be well maintained, opening at \$4,980, then selling at \$4,750, ex-dividend of \$300 paid on the 8th instant, rapidly advancing to \$5,000, and at the close \$4,900 is asked. The ore extracted during the week ending July 6th, amounted to 1,629 tons, the estimated value of which is stated to be \$66,440, equal to \$40 78 7/8 ton. Of this amount the north mine, on the seventh level, yielded 898 tons; the middle mine 347 tons, and south mine 281 tons. The short product of the week under review is accounted for by the intervention of the Fourth of July. We are informed that the northwest end of the seventh level, at winze No. 1, is an excellent ore, yielding most of the first class ore now obtained from the mine. The other portions of the claim continue to look as well as formerly. The actual bullion returns in June aggregated \$370,493 96, leaving a cash balance of \$70,000 in the treasury after discharging the dividend, amounting to \$240,000.

**HALE AND NORCROSS.**—No sales; quotable at close at \$3,200 asked. The developments on the third floor of the 700-foot level, and between the 700 and 780 feet levels, are said to disclose a very good quality of ore. The new discovery, east of the clay wall between the 700 and 780 feet levels, is now four feet wide, and continues as good as previously reported. The drift from the 780-foot level, running toward the new shaft, is in 150 feet. The new shaft was 320 feet in depth on the 7th inst. During the month of June the yield of Bullion was \$117,728 23 from 3,302 tons of ore.

**YELLOW JACKET.**—Shows a marked decline since our last reference, falling from \$1,600 to \$800, and closing yesterday at \$1,000. A considerable quantity of pay ore is obtained from the north mine, while in the south mine, it is reported, the ore is decreasing in quantity and quality, about 75 tons being the daily product.

**CROWN POINT.**—Has changed hands to a considerable extent, rising from \$1,550 to \$1,700, then selling at \$1,500, and closing yesterday at \$1,445. During the week ending July 6th, 516 1/2 tons of ore were taken from the 400-foot level, and 136 tons from the 500-foot level. The winze from the 500 to the 600-foot level is 64 feet in depth, and a cross-cut from the winze was run 37 feet east, passing through unfavorable ground. Work has been discontinued at this point for the present. A drift carried east on the 400-foot level, near the Kentuck line, is said to look well. The body of ore on the 500-foot level has been opened 94 feet in length, and is said to look favorable at the south end, but at the north end it has narrowed down to about eighteen inches. The cash balance in the treasury at the close of June amounted to \$20,254 25.

**GOULD AND CURRY.**—Advanced from \$980 to \$725, seller 30, then sold at \$700, and at the close realized \$591. In the northeast drift, from the fourth station, the clay seam still continues in the middle; the rock on either side of it is softer and more damp than heretofore, indicating the probability of striking water. It is thought

that the ground is slightly more favorable for ore, as the rock is more quartzose. The mine is said to look well for a considerable quantity of ore. There are at the dumps some 3,000 tons of ore, estimated to yield about \$28 per ton. KENTUCK receded from \$635 to \$400, and closed at \$390.

**CHOLLAR-POTOSI.**—Has been active to a considerable degree, advancing from \$457 50 to \$485, declining to \$435, seller 10, and closing at \$430. We have no material change to note in regard to this mine. The new shaft has attained a depth of 69 feet below the third station—759 feet from the surface. The ore sent to custom mills during the week ending July 7th, amounted to 2,284 tons. From the annual report of this company for the fiscal year ending May 31st, 1867, we learn that the average per ton of ore worked was \$25 75, and the average reduction expenses \$14 97 per ton. The amount of ore mined and delivered to the mills amounted to 57,709 1/2 tons, showing an average cost of \$4 48 per ton. Compared with the previous year, it shows a reduction of \$1 51 per ton. From the Secretary's annual report we condense the following:

RECEIPTS.	
Bullion product.....	\$1,520,946 93
Ore sold.....	27,374 30
Other receipts.....	22,903 79
Total.....	\$1,571,225 02
DISBURSEMENTS.	
Labor account.....	\$264,198 96
Working ores.....	761,853 25
Dividend No. 1.....	17,000 00
Other expenses.....	174,054 50
Cash on hand May 31st.....	108,947 21
Total.....	\$1,317,053 96

**OPHIR.**—Opened at \$340, receded to \$320, and closed at \$300. This company is taking out some six different assays of which, made on the 6th instant, show an average yield of nearly \$400 to the ton. The drift in the north mine is being carried alongside the ledge at the rate of four feet a day, which is double the distance made in running it on the ledge. Cross-cuts will be run through the ledge at intervals.

**OVERMAN.**—Continues to be actively dealt in, declining from \$225 to \$195, seller 30, improving to \$250, and closing at \$230. The annual meeting of the stockholders of this company was held on Thursday last; 2,921 shares out of 3,200 were represented. J. J. Robbins, A. K. Grim, J. E. de la Montagnie, John Sime, and H. L. Hill, were unanimously elected Trustees for the ensuing year. Mr. Montagnie was subsequently chosen President, and T. Norwood, Secretary. A series of resolutions were adopted censuring the late Board of Trustees for removing Mr. McCullough from his position as Superintendent of the mine, and thanking that officer for the manner in which he had performed his duty, and endorsing Messrs. Robbins and Montagnie in opposing the action of the majority of the Board. Mr. McCullough was appointed Superintendent, and the suit commenced against him by Mr. Curtis for the possession of the mine, in the name of the company, was ordered to be discontinued. The balance of cash in the treasury, as near as can be ascertained, amounts to more than \$38,000. Yesterday, at the adjourned meeting, Messrs. Sunderland and Barron were elected trustees in place of H. L. Hill and A. K. Grim, resigned.

**BELECHER.**—Advanced from \$380 to \$460, receded to \$400, and closed at \$380. IMPERIAL improved from \$210 to \$214, closing yesterday at \$212. The aggregate sales of Stocks and Legal Tender Notes, etc., since Saturday last, amounted to \$1,459,964.

**ELECTION OF OFFICERS.**—CALIFORNIA S. M. Co.—Trustees: Thos. Bell, Jos. Barron, C. T. Emmet, A. C. Peachy, and Wm. E. Barron. President, Wm. E. Barron; Secretary, George Staacke; Treasurer, Thos. Bell; Superintendent, P. N. McKay. Office, corner California and Sansome streets.

**CHOLLAR-POTOSI M. Co.**—Trustees: A. K. P. Harmon, Thos. Bell, Lloyd Tevis, Wm. E. Barron, Chas. Hosmer, Thos. Sunderland, and A. Hayward. President, A. K. P. Harmon; Secretary, W. E. Dean; Treasurer, Wm. C. Ralston; Superintendent, Isaac L. Requa. Office, 428 California street.

**OVERMAN S. M. Co.**—Washoe, Nev. July 11th. Trustees: J. J. Robbins, J. E. de la Montagnie, John Sime, A. K. Grim, and H. S. Hill. President, J. E. de la Montagnie; Secretary, T. Norwood; Superintendent, H. V. S. McCullough. Office, 619 Montgomery street.



Contributed for Our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

169.—We have received several very rich specimens from the famous Green Emigrant lode, Bald Hill, near Auburn. This mine was located in 1865, and has proven to be of extraordinary richness. The specimen which we have numbered as above, shows coarse free gold, in hard white quartz, free from sulphurets.

170.—Is a piece of soft argillaceous talc, showing numerous small, but well defined cubical crystals of iron sulphurets, and two or three larger ones, very much decomposed. The latter show very coarse gold. More or less fine gold is seen imbedded in the talc, having evidently found their way thither through the agency of sulphurets.

171.—Consists almost entirely of gold; much of it, no doubt, left by the decomposition of sulphurets; but the largest portion probably found its way into the quartz apart from any contact with sulphurets.

172.—W. Collins sends us several samples of ore from the "Collins claim," two miles south of Georgetown. These specimens are from the ledge, where it is tapped by a tunnel, at a depth of 150 feet. The lode is six feet in thickness. Nos. 172 and 173 are highly charged with cupriferous sulphurets. A working test gives about \$10 to the ton—probably the sulphurets also contain a considerable amount of gold, which might be profitably extracted by concentration, and treatment by the chlorination process. The quartz is highly discolored from the decomposition of the pyrites, and is quite friable. No. 174 is a specimen of white, hard quartz, carrying regularly formed crystals of arsenical sulphurets, which are more favorable indications of gold than the cupriferous variety. We are not aware that any of the sulphurets found in this vein have been assayed.

THE NEW YORK METAL MARKET.—We learn from Winterhoff's circular that the dullness in the metal market still continues, although in some articles quite large transactions have taken place.

COPPER.—The low price which has ruled since April, having attracted some attention, several large purchases have recently been made. Four million pounds of Lake Superior have been sold for 23 1/4 to 24 cents for Portage Lake; and 24 to 24 1/2 for Detroit. The manufacturers as yet keep out of the market. The ruling price is still below the cost of production—hence it is perfectly safe to buy as a speculation. In England the best selected sold on the 30th of April as low as £76 to £77; but the market subsequently improved, and the last quotations are £82. The consumption has been reduced, but probably not less than the production. The smelters in the Atlantic States have no supply of either California or Chilean ore.

TIN.—The small stocks and low price of this metal has also induced several large purchases on speculation, at from 21 1/2 to 23 cents for Straits. Banca is quiet, with small sales at 25 1/2. English, nominal, at 22 1/2—all gold.

LEAD is quoted at 6 1/4 for ordinary foreign, with a few parcels of Spanish and German at 6 1/2—all gold.

A GOOD SIZED BERRY PATCH.—Mr. John Lusk, of the Pacific Fruit Market, of this city, has now under cultivation in Oakland, a lot of 90 acres, all in raspberries. The average yield will be about 1 1/2 tons to the acre, or one hundred and fifty tons for the entire ranch. This, at fifteen cents a pound, the usual wholesale price, would amount to the very comfortable sum of \$45,000. As many as 180 Chinamen are sometimes engaged in picking at one time. Every day's surplus is saved, and converted into wine.

SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD

Monday, July 9.

Table listing various mining stocks and their prices for Monday, July 9. Includes items like 162 sbs Ophir at 330@340 per foot, 60 sbs Ophir at 330 per foot, etc.

AFTERNOON SESSION.

Table listing various mining stocks and their prices for the afternoon session on Monday, July 9. Includes items like 417 sbs Justis Independent Cons. at 12@20, 1 sh Kentuck at 475 per share, etc.

Tuesday, July 9.

Table listing various mining stocks and their prices for Tuesday, July 9. Includes items like 15 sbs Confidence at 63@62 1/2 per share, 25 sbs Segregated Belcher at 17@18 p ft, etc.

AFTERNOON SESSION.

Table listing various mining stocks and their prices for the afternoon session on Tuesday, July 9. Includes items like 824 sbs Ophir at 320@325 per foot, 180 sbs Ophir at 320@324 per foot, etc.

Wednesday July 10.

Table listing various mining stocks and their prices for Wednesday, July 10. Includes items like 120 sbs Ophir at 325@330 per foot, 180 sbs Ophir at 320@327 1/2 per foot, etc.

Table listing various mining stocks and their prices for Thursday, July 11. Includes items like 3 sbs Confidence at 70 per share, 5 sbs Segregated Belcher at 18 per foot, etc.

Thursday, July 11.

Table listing various mining stocks and their prices for Thursday, July 11. Includes items like 3 sbs Confidence at 70 per share, 5 sbs Segregated Belcher at 18 per foot, etc.

Friday, July 12.

Table listing various mining stocks and their prices for Friday, July 12. Includes items like \$5000 June 7 3 10 Bonds at 79 1/2 per cent, 40 sbs S. F. Gas at 63 per share, etc.

MINING SHAREHOLDERS' DIRECTORY

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and Date of Assessment or Day of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Large table listing mining companies, their locations, assessments, and dividends. Includes entries for Adella, Sierra Co., Bullion, Storey Co., Belcher, Virginia, Nev., etc.

Latest Stock Prices Bid and Asked.

Table showing latest stock prices bid and asked for various companies and bonds. Includes entries for United States 7 3 10 Bonds, Legal Tender Notes, California State Bonds, etc.

MINING STOCKS—WASHOE DISTRICT.

Table listing mining stocks in the Washoe District, including Alpha, Bullion, Belcher, Bullion, G. H., Crown Point, Confidence, Chollar-Potosi, etc.

ROAD-MENDING IN PARIS is done by steam-rollers of about twenty-seven tons weight; fine sifted gravel is plentifully scattered over the surface of the road way, and this is broken small. The road mending is generally carried on at night; and you may often find in the morning some 250 to 300 yards of fresh roadway, smooth and fit for travel.

THEY have a girl of ten years in a private gymnasium at Roxbury, Mass., that lifts 370 pounds, one of thirteen that lifts 400 pounds, and one of fourteen that lifts 460 pounds. Roxbury is the home of the celebrated strong man, Dr. Winship.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

**Miner, July 6th:** A new tunnel, commenced for opening a series of parallel claims on the range of the Tarshish, has been named the Illinois tunnel. Immediately after the rich strike last spring, Mr. E. Arnold secured the second extension, north, on the Tarshish. The croppings of this lode were so wide that in order to secure the whole without chance for a future troublesome neighbor, Mr. A. located a series of claims, thus "corralling" the continuation of the lode, which is some time to rival the Comstock in the value of its production. It is thought the Illinois tunnel will pierce the rich portion of the lode within 300 feet of its mouth, and at sufficient depth to give promise of pay ore.

The failure of the Washington Company to make the mill at Davidson's perform satisfactorily last fall, combined with the knowledge that the Leviathan ore is of a similar refractory nature with the Morning Star there tried, has put a damper on operations in the East, and the owners here, it is thought, will take the matter in hand soon and see what can be done.

An offer was made yesterday by a responsible party, for fifty tons of ore now lying in the tunnel of a claim in this county, of \$100 per ton, the purchaser to take it where it now lies. We also have reason for believing that this mine might, with proper management, furnish enough such ore to keep a small mill running and be a profit to its owners, instead of, as now, feeling in their pockets every six weeks for cash in the shape of assessments.

One of the workmen in the Tarshish mine, an old miner and man of good judgment, offers to bet a month's wages against an equal amount, that he can pick three men to go in with him and in one day take out ten thousand dollars' worth of ore from the lode as it now stands.

While "working up" the old Sunshine claim, Mr. Ray, one of the present proprietors, found several small veins of ore, samples from which looked well, and on being pulverized and horned out showed a residue of fine appearing blue-black sulphurets. An assay made by Mr. Graff gave a product of \$108 in gold and silver to the ton. The amount in sight is not large, but the vein matter of the lode is from 20 to 30 feet wide, and several of these small ore-veins are scattered through it. It is a galeniferous ore, also hearing zinc, and like most of our ores, refractory, though it will smelt with great ease and he profitable ore if a sufficient body is found. It will be further explored.

In the Ringgold tunnel a soft decomposed substance resembling the rich pocket ore of the Tarshish has been struck. They have been running in very hard quartz for some time, and if this change does not lead immediately to a body of pay ore, which is probable, it will enable them to make better headway. Having recently secured indisputable title to their ground, the company will prosecute the work more vigorously than ever.

## Colusa County.

A correspondent of the *Sutter Banner*, writing from Wilbur's Springs, says: "A prominent citizen of Marysville, Dr. S. J. S. Rogers, has been prospecting out here, and has located the water privilege of Sulphur creek, from this place to the mouth, for the purpose of running a quartz mill, which he proposes building."

## El Dorado County.

**Placerville Courier, July 6th:** The Woodside mine, at Georgetown, is at last free from water, and the workmen are sinking in the main shaft. In a short time they will commence drifting out the rich ore, which was in sight last fall when the water run them out.

On the Eureka mine they have an engine and hoisting works. The shaft is down 130 ft. from which a drift is being run to the east. In this drift they have some very rich rock, but as yet the main ledge has not been reached.

The formation in this (Georgetown) district is generally a talcose slate, particularly the hanging wall. The quartz is well filled with rich sulphurets, and ledges vary in thickness from 6 inches to 12 feet, and it is very common to find a ledge with well defined walls, from 4 to 8 feet in width.

The main shaft on the Taylor mine, owned by H. E. Greene, of San Francisco, is 10 ft. 8 in. by 6 ft. 3 in., timbered and has a partition in the middle. It is an incline, with an angle of about 60 degrees, and is down 10 feet. The lode was followed down

something over 60 feet, at which point it was broken up and run about perpendicular, but the main shaft was continued on its regular grade, and at 100 feet a cross-cut was made running in a northwesterly direction until the ledge was cut, at which point the range of the ledge was about 10 feet west of the main shaft. The ledge varied in thickness in going down, but at 100 feet it is from 18 inches to 3 feet, and shows more free gold than at any other point. After cutting the ledge in the cross-cut, a drift was run about 20 feet north and 20 feet south. The walls at this depth are well defined and over 6 feet apart, and binds the streak of quartz. This formation is of black slate or gouge, well filled with sulphurets and fine streaks of quartz, which looks like the formation in Hayward's mine in Amador, and the Golden Rule near Jamestown. It is the intention of the owner to continue the main shaft down 100 feet further. There is an engine and hoisting works on the ground, which will either be put up, or larger horses obtained and the sinking continued by whim.

Low Mining Company has a shaft down 100 feet; ledge 8 feet thick; shaft to be sunk 60 feet further.

The Mount Hope shaft is down 61 feet; ledge broken up, but will be from 4 to 6 feet thick.

Philadelphia Slide, a new location, on which but little work has been done; this ledge is about 6 feet wide.

North Canyon Company, also a new location, and as yet has had but little work done on it. Arrangements are being made to fully test this mine as well as the rest during the summer and fall.

## Humboldt County.

**Times, June 29th:** Prospectors at the Shasta Bnttes have been successful in finding coal in three different places.

## Inyo County.

C. F. Duval, writing from Lone Pine district, Inyo county, Cal., to the *Territorial Enterprise*, of July 7th, says: "The mines, I cannot deny, are rich, and there is not one claim located that will not pay from the surface. The great difficulty is, there is no water. The Mexicans are the only ones who work their ore and extract silver. I have some rock ready for the furnace, but there is no water to finish it. A person of means, say \$5,000, if there was water, could double his capital every two months, by building furnaces capable of smelting from 5 to 10 tons per day, the largest in the district being 250 pounds per day. I am cool and deliberate in writing this letter, although I am seated upon two sacks of ore worth \$300 at least."

**Visalia Delta, June 26th:** The editor has seen some specimens of silver-bearing rock from the Kearsarge lode, in the Hot Spring district, Inyo county, in which the pure native silver may be seen "sticking out" in every direction. The rock pays, with close working, some \$600 per ton, and the lode is large, clearly defined, and apparently inexhaustible.

Work is being pushed forward in Kearsarge, Alabama and Lone Pine districts. In the first they are enlarging Capt. A. B. Paul's mill, and will soon be crushing. In the Alabama, work with arastras, furnace, etc., is going on briskly, while the Lone Pine region is "like an ant-hill" with busy miners, who have five or six furnaces, numbers of arastras, etc., and are bringing in the precious metal daily.

## Kern County.

**Havilah Courier, June 29th:** A new vein has been discovered near Agua Caliente. It has been named the "Relief." The vein will average two ft. in width, and has been traced 1,000 ft. on the surface, and prospects well its entire length. A shaft has been sunk 10 ft., and some of the richest rock ever found in the county taken out.

Another lead, the Phenix, has been discovered in New El Dorado Dist. The vein crops out round a hill for hundreds of yards, and in no place is less than two ft. wide, in many places six ft. of rich rock, that will pay not less than \$50 per ton.

The Queen Victoria has been traced 300 yards. The ledge is from six in. to two ft. wide, of exceedingly rich ore.

On the St. John mine, two shafts have been sunk, one 50 and the other 42 ft., disclosing a fine body of rich ore. St. Jean & Co. have made arrangements to have an 8-stamp mill put up.

In Piute Dist., Erskine & Co. are down on the Big Indian lode 50 ft.

Raines Co., on the Bright Star lode, from a recent crushing of 500 lbs. of rock crushed in their arastras, obtained \$500.

Bird & Co. are making one oz. to the hand in their placer claims.

## Nevada County.

**Gazette, July 8th:** A number of specimens taken from the Mary Etta mine, contains considerable coarse gold, and abound

in auriferous sulphurets. The rock is but little worn, indicating that they were detached from ledges in the immediate vicinity. The ledge has been traced a distance of 1,000 ft., shafts having been sunk upon it at depths varying from 14 to 60 ft., showing a vein from three to five ft. in width. The country rock is a soft granite and easily worked. The Enterprise ledge, near by, is small, but very rich, the rock paying by mill process \$45 a ton. This ledge is also in soft granite. The South Yuha Mining Co. have recently commenced operations on their ledge, which has been lying idle for six years, and have favorable prospects.

The cement mill formerly owned by Cozzens & Garber, between Red Dog and You Bet, which was purchased by Nece & West, will be started in operation again the latter part of this week. The present owners will continue drifting until they strike the regular pay lead.

**Transcript, July 9th:** Holburt & Co.'s claims at Diamond Creek, were cleaned up after twenty days' work by two hands and yielded 17½ ounces, worth \$19 per ounce.

**Excelsior.**—Meadow Lake *Sun*, July 6th: Twelve hundred pounds of sulphuret rock, taken from the Union Ledge No. 2, Excelsior Co.'s claim, were burnt in a small prospect furnace, constructed after the Knapp & Peacock model. The rock, after passing through the furnace, was completely desulphurized. It takes about 2½ hours to destroy the sulphurets.

The California Co. have 25 men in their mill and mine. Rock is being crushed in the mill from the Green Emigrant, and is paying well. The California Co. are down 100 feet on the Knickerbocker Ledge, and are drifting from the shaft. There is plenty of good ore in the bottom of the shaft. In a few days the company will be crushing rock from their own ledge.

The Mohawk & Montreal Co.'s Mill is now running. They have the finest mill in the district; and will undoubtedly make a good run. We now have four mills running; that is, the U. S. Grant, Mohawk & Montreal, California and Excelsior.

The Gold Run Co. have run their tunnel in 210 ft.; the ledge is 4 ft. wide. The ores from this mine are heavily filled with sulphurets, which, under a common burning process, shows as much gold as we have seen obtained from a like quantity of rock in this district.

The Excelsior Co. have started up their mill and are now crushing rock from Union Ledge No. 1. The rock is from the surface, contains much free gold, can be easily worked, and a good return is expected. The Excelsior Co. have hundreds of tons of desulphurized ore on the tops of their two ledges, which will pay well for working by ordinary mill process.

The Kentucky Co., at Snow Point, Eureka Township, is working away in good earnest, sinking for the "Blue Lead." A shaft is down 150 feet and will, it is thought, strike the bed-rock at the depth of 250 feet from the surface.

**Gazette, July 10th:** The U. S. Grant Co. are progressing rapidly in the work of opening and developing their mine. Their mill is kept running regularly, the rock yielding good pay, and three 8-hour shifts are kept at work sinking on the ledge. It is probable the company will erect a 20-stamp mill this summer.

July 11th: The snow at Meadow Lake is all gone, except in a few spots, where it drifted to a great depth in the winter. The California Co. have sunk a shaft on the Knickerbocker ledge, 100 ft. A tunnel is now being run to strike a chimney on the ledge. Considerable native copper is found in this ledge. Work will soon be commenced on the California, Indian Boy, and Indian Queen ledges. The California mill is crushing ore from the Green Emigrant. The rock will pay \$50 per ton. The Excelsior Co.'s mill has just been started up. The owners of the Phenix ledge have resumed operations. The ore prospects well. The last clean up at the Golden Eagle Co.'s mill yielded \$20 per ton. The Lightfoot Co. are taking out rock for crushing. The Enterprise Co. have let a contract to sink 50 ft. deeper on their claim.

## Placer County.

**Herald, July 6th:** Last Chance quartz claim, on Rock Creek, owned by Lawler & Co., is now prospected to the depth of 16 ft. and shows well in free gold. The owners are greatly encouraged, and intend to prosecute their work with vigor.

Mr. Walter has recently been sinking a new shaft on his quartz claim, near Doty's Flat, and on Wednesday evening last struck it richer than ever. Our informant remarked it paid \$40 to the handfull.

**Dutch Flat Enquirer, July 10th:** Work has been commenced on the Blue Bell. The vein is narrow, at one point only reaching a

width of about two ft. Repeated proofs have shown it to be rich in free gold at the surface.

**Auburn Stars and Stripes, July 10th:** On the 4th instant, Mr. Waldamer, in his claim between Ophir and Doty's Flat, struck a vein of gold-bearing quartz, or rather quartz hearing gold, that completely eclipsed the Green Emigrant or any other mining yield ever before made in Placer county. Within three days \$18,000 was taken out, the cold chisel having been required to cut out the solid gold in some instances. (A national strike.—Ed.)

## Shasta County.

**Courier, July 6th:** The Baker quartz ledge, at French Gulch, prospects surprisingly rich, and shows every indication of being a ledge of extraordinary value. As high as \$75 has been obtained from a piece of rock taken from this claim. The rock is decomposed and porous, resembling honey-comb in appearance.

The Highland mill, at French Gulch, is being repaired and improved, and will soon be the most complete mill in the county. With the addition of five more stamps, the mill can reduce a large quantity of rock per day.

A prospecting party has left Copper City for the headwaters of McCloud river, where it is supposed good gold diggings may be found.

## Sierra County.

**Mountain Messenger, July 6th:** The Von Humboldt Quartz Co. are steadily going on with their tunnel, and contemplate putting on another shift, to run night and day. The prospects of this claim are flattering.

A ledge of rich quartz has been discovered about three miles above American Hill. Specimens of the rock show plenty of free gold.

The Monongahela drift claims at American Hill are in a prosperous condition. They lack only about 30 ft. of having their new tunnel completed.

Some very rich quartz has been recently discovered near Gibsonville, in the northern portion of the county, some specimens of which are literally filled with gold.

The North American Gravel Co., at Hepesidam, took from their diggings on the 26th ult. a piece of gold weighing 17 ozs. The mines in that section are reported to be paying extremely well this season.

## Siskiyou County.

The Yreka *Union*, of July 6th, proposes that a wagon road be made from Scott's Valley to Sawyer's Bar, on Salmou River, for facilitating the transportation to and from the Salmon River mines.

## IDAHO.

**World, June 29th:** A Portuguese company on Orleans Bar, opposite Pioneer City, made a clean up after a run of 13 nights—not working in daytime—and took out 110 ozs. The same company's previous clean up, after a run of 11 nights, netted 105 ozs. and \$9. In the Bar claims of Wilson & Giberson, one week's run of sluices has yielded \$7,000. Davis & Co's claim has just given upwards of \$2,000 after a week's run.

The Lemhi correspondent writes from Leeshurg, June 17th: There are about two dozen claims paying over expenses. Some Idaho boys opened ground, at a heavy expense, which pays from three to four dollars a day. An Idahoan named McCafferty sold to some boye one interest for one thousand dollars, when the snow was on the ground. They have since abandoned the claim and gone back. The country has no appearance of mineral resources. From surface to bedrock is a mass of nigger-head boulders. As yet I have not seen any quartz gravel. The country is going and will soon be gone. Crowds are leaving for Montana. Hundreds say they would return to the Basin were it not for John Chinaman not leaving a vestige to live on. Board is \$15 per week; meals \$1. I have not seen \$100 since I have been here. Every one seems broke. I would say to one and all, stay where you are. The whole country seems a mystery—one-half thrown up by eruptions, and a pity the other half wasn't blown away.

A new excitement and general stampede has occurred, on account of a report that rich gold diggings had been struck a few miles from Idaho City, on the south side of Moore's creek.

**Owyhee Avalanche, July 6th:** The Silver Cord mine is improving. The Woodstock mine is yielding rich ore from a 14-inch ledge. The North Star is turning out some fine ore. McCready and others are driving a tunnel to strike an extension north of the North Star. They expect to strike the vein at 80 ft. The Poorman and Oro Fino are turning out rich rock as usual. Some 13 tons of Whiskey ledge rock has been worked in the Minoar mill; assayed value, \$1,519.48.



Several more mills might be supplied at a profit on War Eagle.

The Potosi has out some extra rich rock. Haight and others are opening a rich gold ledge on Florida Mountain. The Baxter, a newly discovered ledge, is 14 inches at the present depth, 40 ft. It is yielding ruby and sheet silver, and polybasite, and also fine black sulphureted ore. The vein is soft, and no blasting is required. Ore from the Leviathan ledge will pay \$1,200 per ton. The Silver Monarch prospects rich.

**Leviston Journal, June 29th:** An astrata has been started on Smith's Gulch, Warren's diggings. Three tons of ore from the Hic Jacet ledge yielded \$52.85 per ton. At Pierce City a few claims on the new ditch are paying well. Some parties have been working the sluices of both whites and Chinamen.

**World, July 3d:** J. P. Lamling has lately commenced crushing ore from the Juniata ledge, at Rosenbaum's quartz mill. It has averaged \$116 per ton. New diggings have been discovered on Lost river, a tributary of Boise river. Prospects of from 5 to 15 cents per pan have been found. The gold is fine and resembles Moore's Creek district.

**NEVADA.**

**Esmeralda.**  
**Enterprise, July 9th:** Parties recently in from Pine Grove, Wilson district, Esmeralda county, state that mining operations are more active than ever. Chevalier & Palmer have struck a very large body of rich ore in the tunnel of the Mountain View, and the Wheeler boys have also struck a rich ledge of rock in the Wheeler claim that will pay several hundred dollars per ton, and that they are now taking steps to get a mill of their own. The ore in this district is worked solely for the free gold it contains.

**Enterprise, July 9th:** Ore has been struck in the 400-foot level of the Belcher that will yield \$50 per ton.

**Humboldt.**  
**Register, June 29th:** Hon. J. A. Banks, after visiting the principal mining districts in the State, returns thoroughly satisfied with the mineral resources of Humboldt. He proposes to address the Miner's Convention here on the 4th of July. A proposition will be made to establish a uniform assessment year throughout the country, to harmonize as far as possible the various district laws, and provide a fund for their publication and circulation.

**Unionville Register, July 6th:** W. S. Sargent has a deed from E. Page Davis, of New York, to the Mountain King S. M. Co. for mining property in Echo district, bearing \$1,200 revenue stamps. The consideration is \$600,000.

**Pahravanagut.**  
**Reveille, July 2d:** Mr. Evans has entered into contracts with agents of companies for the erection of two mills, one of 10 stamps, and the other of 20 stamps, which are to be constructed at Hiko, for dry crushing and roasting. It is intended that work on them shall be pushed forward at the earliest practicable moment, and that the machinery shall be on the ground ready to be put in place. There are from 300 to 400 men in the district, the larger part of whom are engaged in mining, and greater activity prevails than ever. Mr. Evans visited several of the principal mines in the district, prominent among which are the Illinois and List, all of which are now worked to advantage. The first attempts at mining were rude and generally injurious, but a good system has at last been arrived at under which the most flattering developments are made; and it is known that there is sufficient valuable mining property in the district, without taking into account probable discoveries, to render it ultimately one of the most important in the State. Considerable work has been done at random over a large surface, and few if any of the veins have been opened to the depth of 80 ft., and those that have reached that depth show large veins and good ore. The Illinois has penetrated to the depth of nearly 100 ft., and develops a large body of fine mineral.

**Reese River.**  
**Reveille, July 2d:** The machinery of the mill on the lower grade, formerly known as the Union, has been taken down and several loads hauled to Hot Creek, where it is to be erected immediately. The new mill will be of the same capacity as the original, which had 10 stamps, and will be furnished with furnaces for roasting the ore. In anticipation of its speedy erection the miners of the district are employed in taking out ore for its supply.

The largest and most valuable bar of silver, yet produced in this city, was exhibited yesterday at the assay office of Bolt & Stetefeldt. It weighed 1,535 ozs., and was valued at \$1,945.64. Its weight was greater by several ounces, and its value by several dollars, than the largest and most

valuable bar hitherto produced here. The bullion is of uncommon fineness, and was obtained from ore of the Bael North Star, reduced at the Parrott mill.

**July 31:** The Chihuahua ledge, in Newark Dist., varies from three to five feet in thickness, the whole body of which will furnish milling ore above the average quality. The tunnel has been run into the hill the length of 110 ft., out of which 1,000 tons of ore are estimated to have been taken, and the workmen are still employed in the work of extraction. A location has been made on the extension of the Chihuahua, from which the owners take out handsome ore. The mill of the company is situated in Gillson Valley, which is believed to extend to the Humholdt, where a good supply of water may be obtained from a large brook, but the immediate vicinity of the mill site is deficient in timber, plenty of which exists on the southern and western slopes of the mountains. The Chihuahua mine is situated on the hillside about half a mile west of the mill. The mill was commenced last January, and will not be completed before the close of next September. It will be of the capacity of 20 stamps, and the battery will be arranged for wet crushing. The mill will not be provided with roasting furnaces. The mill structure is of wood, placed upon foundations of stone, and its various parts are substantial and well arranged. The experiment of attempting the reduction of the ores of the district without the aid of fire seems to be hazardous, and leads one to question the experience and intelligence of the management. A simple analysis of the ore would show whether or not it could be profitably reduced by amalgamation. Except upon the surface, the ore contains a large proportion of sulphur, and fire would appear to be the certain means of saving its silver.

Sufficient work has been done on the Lincoln ledge to determine its good character. There are also a number of ledges in the hands of small companies, that exhibit good size and fair quality of ore, many of which will be worked if the operations of the Centenary Co. prove successful.

**Washoe.**  
[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

**Trespass, July 2d:** The Puebla mine, in Surprise Valley, is turning out some very rich ore. The district was discovered late last fall, and quite a number of ledges located. The Puebla has been prospected but little, but the rock is very rich in mineral. Some very rich pieces have been exhibited, being a portion of 2,000 lbs. brought to this city, obtained at a depth of 10 ft. on the croppings. A cross-cut run through the vein shows its width to be 10 ft. with well-defined walls. A small quantity worked at the Mariposa mill yielded \$214 in gold and silver per ton, silver predominating. The ore resembles that taken from the famous Highbridge claim, at Belmont, and is very rich. One hundred lbs. of the ore was sent to San Francisco yesterday, to Miles Goodman, who is a large owner in the claim. The balance, some 1,800 lbs., will be worked here, and if the practical return is as large in mineral as there is reason to suspect, a mill will at once be despatched to the district, and the mine will be opened.

**Enterprise, July 4th:** Yesterday Mr. J. B. Hill brought up from the Gould & Curry mill 27 bars of bullion, weighing over 2,100 lbs., and worth \$60,000. The bullion is from Savage ore.

**July 7th:** The Gold Hill Q. M. & M. Co. yesterday declared a dividend of \$15 per share, almost \$600 per foot.

The Savage Co. have declared a dividend of \$300 per share for the present month, an increase of \$100 per share over last month.

**Gold Hill News, July 6th:** The Kentucky Co. have declared a dividend of \$40 per share, payable on and after July 18th.

**MONTANA.**

**Post, June 15th:** A nugget was found in Cooleys' Dry gulch, just below town, weighing \$593.45. The Rock Creek stampers have not yet been heard from.

Wm. Margetson, writing from Virginia City, Montana, June 9th, says snow fell in the valleys to the depth of six inches, on the 5th and 6th inst. The miners are doing little or nothing in mining operations, being froze up; they are patiently waiting for the melting of the snow, and a warm spell of weather. So says the San Bernardino *Guardian*, of June 6th.

**OREGON.**

**Oregonian, June 25th:** The editor has seen some beautiful specimens of gold-bearing quartz, obtained on the east side of the Willamette, 50 miles southeast of Eugene City. The pieces of rock were threaded with gold to an extent which gave them the appearance of being largely composed of

that metal. Several ledges have been discovered in the vicinity where these specimens were obtained, and is believed that some will prove really valuable. The pieces of rock we saw were obtained from a ledge which projects above the surface of the ground; and though narrow, the ledge presents an excellent appearance.

**UTAH.**

**Salt Lake Vedette, July 1st:** Lewis Robinson and two other men brought into this city on Thursday last 40 ounces of gold dust, which they had crushed out of quartz in two days. The dust was assayed by Bohm & Mollitor, of this city, and run into a bar that weighed 38 31-100 ounces, and was valued at \$740.06. Its fineness is 934 1/4. The only account the discoverers have as yet given is, that the mines are about 200 miles from here and are rich. Outsiders locate the mines in the Green River country somewhere, from the fact that Robinson owns a ferry on that stream. That there are good gold mines in Utah is beyond a doubt, but they are concealed by those who know where they are, and prospecting is very much discouraged.

**WASHINGTON.**

**Dalles Mountaineer, June 25th:** Quartz has been discovered on the Met-how River, Washington Territory, and there is no doubt but what there is extensive placer diggings in that region. A place was found where a party of miners had formerly been at work. An Indian stated that a number of years ago a party of white men had mined there, but they left to go to Frazer river. They had done considerable work, and from a little prospecting by Mr. Howe, he is satisfied that the diggings will pay wages. The party that are prospecting on the Wenachee, are supposed to have good diggings.

**Cox's CEMENT MILL.**—This mill, to which we have already alluded, consists of an iron pan six feet in diameter and eighteen inches deep, in which four iron rakes or stirrers are made to revolve. A large stream of water pours into the pan, and the fine stuff finds its way through small holes under the false bottom. The large stones are discharged through a gate. There are two sluices connected with the pan, one to carry off the coarse stones, the other to carry away and wash the fine dirt and gravel, which contains the gold. Mr. Hittell, of the *Alta*, who has recently witnessed the operation of this machine, near Placerville, writes of it as follows:

The first mill was not made strong enough and has been broken; but after it had been at work some time, I saw that the clay was thoroughly separated from the stones, leaving these clean and bare. I am therefore disposed to accept the general verdict that the success of the invention is no longer doubtful. The cement consists of gravel in a very tough clay, so tough that the mass in the mine must be broken down by powder, and the fractures go through stones as well as clay. The stamp mill by which the hard cement has been reduced heretofore, has to spend much of its power in crushing the stones which contain no gold. These rakes save that unnecessary trouble, and it is estimated that Cox's mill will wash cement at an expense of less than a bit a ton. A few weeks will decide the question, and if present expectations are realized, we shall see another important advance made in the art of mining and in the production of gold.

**ICE QUARRIES.**—The Glaciers of the Alps are worked for ice precisely like stone quarries for their products. Not only so, but they are also excavated into galleries. Some of these galleries have been fitted up for places of resort, and magnificently furnished as saloons. The depth of snow and ice exclude the beams of the sun; but the calcium light sheds its brilliant luster through these unique chambers, which is reflected as from thousands of mirrors of glass. Such an establishment, with all the conveniences of a well appointed parlor, would have been a most inviting place of resort and repose during the hot days of last week in this city.

**HIDDEN TREASURE FOUND.**—It is reported that a large amount of treasure—\$340,000—has recently been unearthed by some negroes near Pensacola, Florida. It was in a wooden chest in a brick vault, and must have lain in its resting place for a great number of years, as no one had any knowledge of it.

**Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.**

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Any of the above Books will be furnished by return mail or express, on receipt of the price with postage added. Any other books desired will also be furnished at the lowest San Francisco retail prices.

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## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

G. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

## Canvassing Agents.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

Mr. S. D. Whittaker is our duly authorized traveling agent. June, 1867.

Mr. C. A. Wetmore is an authorized agent for this paper.

Wm. A. Fowler is a duly authorized Travelling Agent of the Mining and Scientific Press. June 24th, 1867.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

## San Francisco:

Saturday Morning, July 13, 1867.

## Notices to Correspondents.

AN OLD TRAPPER requests us, in the course of the jubilation indulged in at the recent annexation of a large part of Northwest America and the anticipated national enlargement of the fur trade in consequence thereof, to pay a few brief respects to the memory of an American, who probably in his own person combined enterprise, energy and inexhaustible perseverance to a degree that has never been excelled, if ever equalled, by any one person belonging to any country. Ledyard was with the celebrated navigator, Cook, during his last voyage, in the course of which he (Ledyard) became first acquainted with the immense value of the fur trade. The information thus acquired he first laid before the ship owners of New York and Philadelphia, by whom his views were received most coldly, notwithstanding Astor subsequently realized such an immense fortune therefrom, although he only to a small extent, comparatively, carried out similar plans to those pointed out by Ledyard. By the merchants of the cities named, Ledyard was informed that he might possibly find patrons at L'Orient. On this hint he at once took ship for Europe, and succeeded temporarily in obtaining promises of adequate assistance, which, however, his anticipated patrons failed to fulfil when the period for starting the expedition arrived. Ledyard then visited Paris, where he became acquainted with the celebrated Paul Jones, who at the commencement of the acquaintance lent a favorable ear to Ledyard's views—in fact, promised to engage in the speculation; but, from some unexplained cause, eventually withdrew from his engagement. Ledyard then determined to penetrate, unaided, into the fur region by land. With this object he proceeded to St. Petersburg, and succeeded in obtaining an interview with the celebrated Empress Catharine, from whom he obtained permission to visit Siberia. But in getting as far as Yakutok, he was arrested without any notification whatever, transported by post to the frontier of Poland, where he was dismissed with the warning never to set foot again into Russia, if he did not wish to be hanged. He arrived, ragged and penniless, in London, where, by the recommendation of Sir Joseph Banks, to the African Association, he was commissioned in 1788 to take charge of an employing party about to be sent into Central Africa. Poor Ledyard got as far as Cairo, where his life was abruptly terminated, owing to his having administered to himself an injudicious remedy for a bilious attack.

**BROOM-STICK.**—The modern popular belief in witchcraft arose contemporaneously with the Protestant Reformation. This fanatical belief was acquiesced in by no less a person than Luther. It is commonly considered to have arisen as a consequence of a distorted conception of the newly-awakened principle of faith that a higher agency than the Pope existed, and was presumed to be a demonstration against the agency on earth of his satanic majesty.

CONTINENTAL Life Insurance Company,  
302 Montgomery street, corner of Pine.

## The Magnesium Light in Mines.

## A VALUABLE INVENTION.

Every mine superintendent and mining engineer must be aware of the great advantage which the presence of "daylight," even for a few minutes, would be in their daily or weekly examinations of the condition of a mine, especially in the searches for faults or cracks in the roof. As the mine foreman goes about in the various drifts and galleries, particularly in a mine with bad ground, how eagerly he scans the roof under which himself and the men under his charge must be daily and almost hourly exposed, often immediately after the most violent convulsions from blasts. How often does a small crack pass unobserved, even by the most critical eye, admitting the corroding and drying influences of the air to penetrate, until a large mass or flake falls, to the danger of life and limb.

Great and terrible as is the loss of life from explosions in the English mines, yet immensely greater is the loss from other accidents. Carefully compiled statistics show that for every single life lost from explosions, three are lost by falls from roofs! The loss of life from explosions, usually killing by the wholesale, gives such accidents a sensational character, whilst but little attention is paid to the individual casualties of most accidents of a different nature. The deaths from accidents in shafts were, in England, for the last two years, greater than those resulting from explosions; notwithstanding the explosions, during that period, have been more than usually frequent and destructive.

The chief portion of deaths by falls from roofs and from accidents in shafts, are caused by an insufficient knowledge of the faults and irregularities of the strata; a knowledge which it is almost impossible to acquire by the dim light of a candle or lamp, on the powder-begrimmed and dust-covered walls of a mine. What a boon, then, would it be to all, if the broad light of day could be poured into the mine, even for a few moments only, during the weekly or daily examinations for such faults which it is the duty of the proper officer to make.

## HOW IT CAN BE DONE.

British mining associations and government inspectors, while they have been unceasing in their endeavors to secure safety from other causes of accidents, have not been unmindful of similar needs in this direction, and have frequently called attention thereto. Within a few months past, a Mr. Latkin, who has been some time experimenting with the view of utilizing the magnesium light, has devised a lamp of that description for the especial use of persons whose duty it is to see that the mine is at all times safe from roof and wall faults. With this lamp in his hand, the chief underground manager is enabled to make as minute an examination into the details of the structure and condition of the walls and roof of a mine as though he was examining a wall in the broad light of day. The lamp is carried in the hand, and is not heavier or more inconvenient than an ordinary Davy lamp; while it is capable of producing the magnesium light, and shutting it off at will. A spirit flame is used to ignite the magnesium, which is used in the form of a fine powder, the flow of which can be stopped and turned on at pleasure; thus securing economy, in using the more expensive light only when occasion may require. By diluting the magnesium powder with fine sand, in varying proportions, any degree of light can be readily attained. This invention is exciting considerable interest among mining men and others in England. It is neither costly nor intricate in its operation, and is not at all liable to get out of order. Of course it can be used either as a naked light, or with a Davy protection. The invention, for one of its kind, is second in importance only to that of Sir Humphrey's.

## Home Trades and Manufactures.

**A FUSE FACTORY.**—In our issue of the 2d of February last, we made mention of a newly invented machine for the manufacture of blasting fuse, and of the fact that a manufactory for making that material would soon be established in this State. We are now happy to state that Mr. Eva, the inventor, returned from New York on the last steamer, whither he had been to superintend the construction of his machinery. That machinery is now in this city, and will be put in operation in about two weeks, in the building on Brannan street, between Third and Fourth streets, occupied by Mr. Korbel, as a cigar-box manufactory. A sufficient amount of machinery will be put in operation to supply the entire demand on this coast.

We have already spoken of the necessity of such a manufactory here. The importance of having fuse fresh from the manufactory is well understood by those whose lives are often endangered by working with a defective article. Much difficulty is encountered in the use of imported fuse from its deterioration in transportation. In passing through a hot climate the tar or other material with which it is served, is liable to penetrate to the powder, and destroy the continuity of the conducting medium of the fuse, thereby greatly delaying blasting operations, and endangering the lives of those engaged in such work.

**THE BARREL MANUFACTORY** on the Potrero is now nearly ready for active operation. A portion of the machinery was started up about a week ago, and several thousand staves have already been got out, more as a preliminary trial of the machinery than with the view of turning out regular work. The proprietors were disappointed with regard to a portion of their machinery, which arrived around Cape Horn, some three months since, and were compelled to dispatch an agent to the East to remedy the defect. That agent returned on the steamer which arrived on the 3d inst., and the works will soon be under full headway.

Considerable difficulty has also been found in procuring the right kind of wood, especially for pork and other barrels which require considerable strength, and have necessarily to be made of hard wood. Nearly all the California woods check badly, in seasoning, some so much so as to render them absolutely worthless. The proprietors prefer to "go slow" in their enterprise, at considerable cost, rather than to rush their work into the market in a slipshod manner. Their object is to establish a reputation for their manufacture from the start.

Every operation connected with the business, which can possibly be done by machinery, will be so done, and every piece of machinery will be of the most modern and improved character. Every kind of cask or barrel used on this coast will be turned out at these works. This establishment will be prepared to supply the demand for the entire coast, and at a cost which will admit of no possible competition from the East or from hand manufacture anywhere. This enterprise is one, the want of which has long been felt in this community, and we trust the proprietors will be amply rewarded for their investment.

**THE DANFORD ATMOSPHERIC LAMP** is a kerosene burner, introduced here recently from Philadelphia, by Messrs. Gillig, Mott & Co., well known hardware dealers, of Sacramento, who have the exclusive sale of the same for the States of California and Nevada. This lamp gives a clear, steady, brilliant light without the use of a chimney. By clock-work, a fan wheel is made to revolve with great rapidity, throwing a steady current of air upon the flame, thus insuring perfect combustion, brilliancy of flame, and at the same time preventing smoke or any disagreeable smell from the oil. Sold in this city by E. Ayers, Washington street, opposite post office.

## Prices of Breadstuffs the Past Year.

The enormously high prices of breadstuffs the past year at the East were more the result of combinations of speculators than of any actual scarcity of supply. The crops, both in the Atlantic States and in Europe, were indeed less than usual; but the surplus would have been amply sufficient to have met all contingencies. The "corner" was successfully maintained, longer than was anticipated by the speculators themselves, notwithstanding the heavy shipments from California. Of course that fact was greatly to the advantage of this State, although the chief profits therefrom went to the middle men, rather than to the benefit of the growers. We were told, at one time, that California wheat, which had been shipped to France, had re-crossed the Atlantic and gone west to Chicago. The inference was that Chicago was sending to this State for wheat. Nothing could be further from the truth. The wheat re-shipped from France was a small sample lot, and was received at Chicago at a time when the warehouses there were full. Upwards of 4,000 tons of wheat, and a still larger quantity of flour, was on store in Chicago when that wheat reached there, and the daily receipts were fully equal to the current demand. The story was circulated and garnished for the interest of the speculators.

About the same time the dealers in New York were astonished by the arrival of two or three cargoes of wheat from Liverpool. The fact of that importation was trumpeted abroad as an evidence of an approaching scarcity in the New York market. It is now pretty generally suspected that those importations were made at a great loss by heavy holders in Chicago, who took that method to counteract the efforts of the speculators who had sold "short," and who were endeavoring, by every possible artifice, to "bear" the market, so that they could settle their differences with the least possible margin of loss.

**WORCESTER'S IMPROVED GLOBE VALVE.**—Mr. J. M. Thompson has left at this office one of Worcester's improved globe valves. The improvement appears to have a decided value, which only needs to be seen by engineers to be appreciated. It consists in causing the valve to rotate on the screw-stem, which raises or lowers it in such a manner as to allow of its wearing a perfectly tight seat, through any scale or mud which may accumulate on the seat or valve, and which by its presence often causes leakage and damage to the valve. This valve is being rapidly introduced in most of the western cities. The right for this coast is for sale by Mr. Thompson, at the Mammoth mills, Plumas county. Further information may be obtained by calling at this office, where one of the valves may be seen.

**THE CITY COLLEGE.**—The sixteenth session of this well known Educational Institute commenced on the 5th inst. The faculty of this institution consists of nine Professors and Teachers of ability and experience. The course of instruction embraces all the studies usually pursued in the best Grammar and High Schools, as well as in regular Collegiate Institutions. Attention is also given to physical as well as mental and moral culture. Its situation, being located in a convenient yet retired portion of the city, near Union Square, with all its other advantages, and its thorough course of study, renders it a most desirable place for instruction. Rev. P. V. Veeder still continues the Acting President of the Institution.

**WHO WANTS A BUILDING LOT?**—The extensive auction sale of the real estate of the late J. C. Beideman, advertised in another column, presents one of the most favorable opportunities for securing a homestead ever offered in this or any other city. A wide margin in choice, as to situation, and plenty of time for payment, is afforded.



**A NEW SAVINGS BANK.**—We would call the especial attention of our readers, miners, and manufacturers, to an advertisement in another column, of the "Farmers' and Mechanics' Bank of Savings," 225 Sansome street. This is a new banking institution, incorporated under the banking laws of the State, and approved April 11th, 1862. Its Directors are among the best men in our community—men of wealth, and of high social and moral standing—thus giving to the community a guarantee of permanency and usefulness. Such an institution as this promises to be, has been long wanted by the farmers, drovers, miners and manufacturers of the State. Deposits as small as one dollar are received—thus meeting the wants of those who are anxious to accumulate from small beginnings.

Parties can make their deposits from time to time, and draw them, as in other banking institutions; and can deposit them for temporary or permanent purposes, receiving interest thereon, after a certain length of time. The miner can remit his gold dust, his money or his bullion, for sale or for coinage; and check against the same, or leave it on deposit, drawing interest. We know of no institution organized among us, giving more promise of success and usefulness.

**LEVEY'S FIRE EXTINGUISHER.**—A trial of Levey's Fire extinguisher was made on Tuesday evening last, under the supervision of the Fire Department. A 12x12 building, of redwood, containing several tar barrels, a lot of shavings steeped in coal oil, etc., was prepared for the purpose on Union Square. The building was fired, and when the signal was given by the Chief of the Board, Mr. Levey approached with his extinguisher, and succeeded in putting out the fire. He had the flames under control in less than two minutes, and they were completely extinguished in about two minutes more. The universal verdict was that the trial was a success. It would appear to be almost impossible for a fire to spread much if one of these machines could be brought to bear upon it before it had got much headway. We shall probably give a full and illustrated description of this novel fire extinguisher next week.

**CROSSING THE OCEAN ON A RAFT.**—Three persons started from New York on or about the 1st of June, to cross the Atlantic on a "raft." This novel seagoing craft is designed as a life-saving raft, constructed chiefly of inflated water-proof material. There is no hold or cabin upon it, everything being exposed to the action of the wind and waves; but the adventurous party have confidence that the raft will ride every sea. The object of the voyage is to test its utility. They will visit England and go to the World's Fair at Paris. The raft was spoken when about 170 miles out—all hands well.

A CANNON was recently manufactured at one of the foundries at Grass Valley, according to the *National*, out of an old 8-inch shaft—the bore being 1 1/4 inches in diameter and fifteen inches in length. After being bored, it was put into a lathe and turned and polished. If we are not mistaken, this is the second cannon manufactured in Grass Valley.

THE ARRIVALS and departures by sea from San Francisco for the six months ending July 1st, were as follows: Arrived, 16,488; departed, 8,300—showing an increase of 8,188; nearly one-half the arrivals being a permanent addition to our population. Of this increase about 2,000 were from China.

A NEW LIGHT-HOUSE is to be erected at Cape Mendocino. The tower will be constructed of iron, and the lens of the first order of Fresnel, revolving at an interval of thirty seconds. The foundation of the tower will be 360 feet above high water mark. It will be lighted about the middle of November.

**BESSEMER STEEL WARE.**—Bessemer steel is now used in the manufacture of ordinary iron cooking utensils. All kinds of hollow ware for domestic purposes, are now made of this material. They are pressed into shape from a flat plate very much as bonnet shapes are pressed, and are of course turned out without seam or rivet. The superiority of steel over cast iron as a conductor of heat, as well as its increased strength for a given thickness, and many other considerations, render this description of iron ware economical at a much higher price than the ordinary ware. The cost of manufacture by this process is much less than the cost with cast iron—the difference being almost equal to the increased cost of steel over iron.

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**SCOTT RIVER G. M. Co.**—Siskiyou county, July 10th. Capital stock, \$120,000; 100 shares. Trustees: George Hearst, Joel J. Josselyn, J. W. Pearson, Wm. A. Bolinger, and W. P. Pool.

THE first steam fire engine in China arrived in March last, and has given such satisfaction that several more will soon be ordered. These engines were from the same establishment which has supplied all the steam fire engines in this city.

**COMMERCIAL HERALD AND MARKET REVIEW.**—The first No. of this paper was issued last steamer day. Its appearance is quite creditable.

JACOB SNOW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street.) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 16v14t

Persons desirous of obtaining the finest Wood Engravings, can procure them only by having the picture photographed on the block, by  
D. H. WOODS,  
No. 23 Third street.  
16v14t

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty.  
Call and examine the work. Finest quality of artificial work also manufactured. 16v14t

**Gold Bars,** of whatever size, if well cast, assayed for two dollars, at A. P. MOLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14-3m

**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler—repairs alone. One is in operation of the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to  
AUSTIN A. WELLS, Agent.  
25v14-7

**METALLURGIST.**—A PRACTICAL metallurgist, experienced in all branches of his business, and particularly in the manufacture of TROUGH COPPER, wants employment. His address can be had the office of the Mining and Scientific Press. 25v14-4w\*

**NORTH AMERICA**  
**Life Insurance Company.**

Usual Restrictions on Occupation and Travel  
**ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!  
**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery st.  
26v14ur9p SAN FRANCISCO.

**Cyanide of Potassium**

**QUARTZ MILLS,**

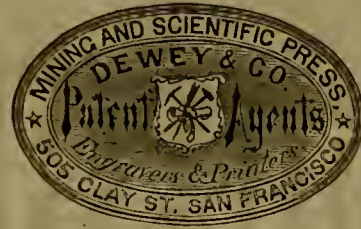
Photographers, Electrotypers, Etc.

Manufactured by the

**PACIFIC CHEMICAL WORKS.**

For sale by all Wholesale Druggists and Dealers in Photographer's Stock.  
2v15-alt

**Builders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 16v146pqr



**LINSEED OIL.**

**The Pacific Linseed Oil & Lead Works**

Are now prepared to furnish dealers and consumers  
**Pure Linseed Oil,**  
Raw or Boiled, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market. Orders from the country will have prompt attention.  
Address,  
**Pacific Linseed Oil and Lead Works,**  
Care of L. B. BENCHLEY & CO.,  
19v14-3m9p San Francisco.

**PACIFIC**  
**Rolling Mill and Forge Co.,**  
SAN FRANCISCO, CAL.

Established for the Manufacture of  
**RAILROAD AND OTHER IRON**  
—AND—  
**Every Variety of Shafting**

Embracing ALL SIZES of  
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames.

**HAMMERED IRON**  
Of every description and size.

Orders addressed to **PACIFIC ROLLING MILL and FORGE CO.,** Post Office, San Francisco, Cal., will receive prompt attention.  
The highest price paid for Scrap Iron. 9v143m9p

**Real Estate Sale**

—OF THE—  
**ESTATE**

—OF—  
**JACOB C. BEIDEMAN, deceased.**

—BY—  
**JOHN W. BRUMAGIM, Administrator,**

With the Will annexed, will commence, on  
**Wednesday, the 24th day of July,**

At 12 o'clock M.,

And continue from day to day, until the whole is sold.

at the auction room of

**MAURICE DORE & CO.,**

327 Montgomery Street.

TERMS, IN UNITED STATES GOLD COIN.

- 1-4 Cash;
- 1-4 in One Year,
- 1-4 in Two Years,
- 1-4 in Three Years.

Deferred payments to bear interest at eight per cent. per annum, payable quarterly, and secured by mortgage on the property.

Catalogues of the property can be obtained of H. F. WILLIAMS & CO., Clay street, or at the office of MAURICE DORE & CO., 327 Montgomery street. 1v15-3w

**JAMES M. TAYLOR,**  
Attorney and Counsellor at Law,  
Court Block, 636 Clay Street,  
SAN FRANCISCO.

Will practice in the State and Federal Courts. Special attention given to proceedings under the Patent Law. 2v15-1qy.

**THE GREAT LIGHT.**

**THE DANFORD**

**Atmospheric Lamp.**

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent. less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM.  
For sale only by  
**L. A. BEERS,**  
2v15-4y 417 Washington street, opp. Post Office, S. F.

**ARMES & DALLAM,**

215 and 217 Sacramento street.

SAN FRANCISCO.

IMPORTERS AND JOBSERS OF

**WOODEN WARE,**

- Willow Ware,
- Feather Busters,
- Baskets, in great variety,
- Clothes Wringers,
- Brushes, all kinds,
- Paper Bags, all sizes,
- Blacking,
- Ten Pins and Balls,
- Twines for all uses,
- Fish Hooks and Lines,
- Cordage,
- Broom Materials, Stationery, Bale Rope, etc., etc

Having recently enlarged the capacity of our

**PIONEER**

**WOODEN WARE MANUFACTORY,**

To meet the demands of our rapidly increasing trade, we are now extensively engaged in manufacturing

- Brooms,
- Brushes,
- Falls,
- Tubs,
- Keelers,
- Sieves,
- Churns,
- Fruit Boxes,
- Salt Boxes,
- Wash Boards,
- Cheese Hoops,
- Poach Baskets,
- Broom Handles,
- Cheese Safes,
- Curtain Rollers,
- Kegs, all kinds,
- Pastry Boards,
- Butter Molds,
- Butter Tubs,
- Tar Buckets,
- Clothes Frames,
- Barrel and
- Half-bbl Covers,

And many other articles in the Wooden Ware line, of very superior quality, which we offer to the trade at lower prices than the imported article commands in the market.

We are SOLE AGENTS for the sale of

**SHERMAN'S**

**Improved Clothes Wringer**

For the Pacific Coast.

We would call the attention of the trade to the superiority of

**"ARMES' STAR EXTRA BROOMS,"**

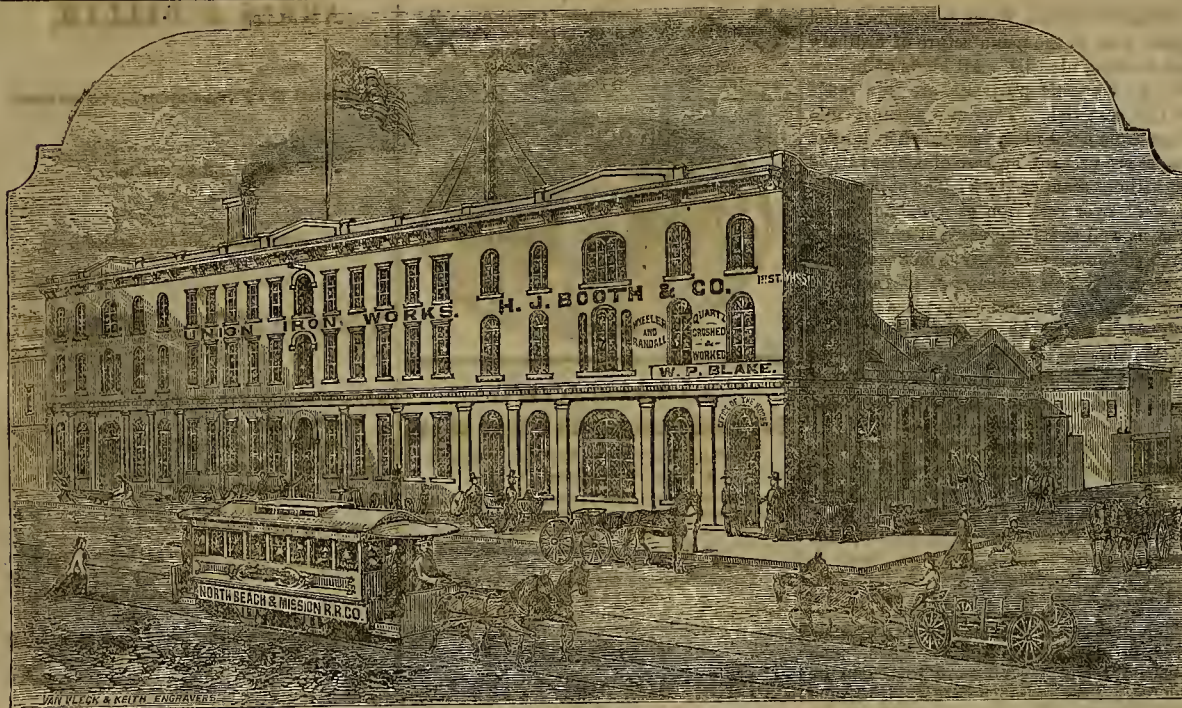
Being made from selected materials by the best workmen. They are unequalled for durability, fineness and beauty of workmanship. None genuine except those bearing a star and the fac-simile of the signature of C. W. & G. W. ARMES on the label. Trade mark secured. Parties ordering this Broom should specify "ARMES' STAR EXTRA," to insure their getting the genuine article.

Our customers can always rely upon having their orders promptly filled with goods of superior quality at the lowest market rates.

**ARMES & DALLAM,**

21v14-1am6m9p 215 and 217 Sacramento street.





Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Works, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats; Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

**BOILERS.**—Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

**PUMPS.**—The Excellent Star double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's lugs, Frater's concentrators, Waklee's pans, Beers' pan, Ceraman Barrels, Arastra, Gearing, Chile Mills, Settlers of all descriptions, Sectors of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

**DRILLING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

R. J. BOOTH. GEO. W. FRISCO. IRVING M. SCOTT  
24712 **H. J. BOOTH & CO.**

**A New Silk Fiber.**—An Eastern paper says: "The Department of State has received information from the United States Consul at Lambayeque, Peru, that an important discovery has been made in Peru of the silk plant. Preparations are being made to cultivate it upon an extensive scale. The shrub is three or four feet in height. The silk is inclosed in a pod, of which each plant gives a great number, and is declared to be superior, in fineness and in quality, to the productions of the silkworm. It is a wild perennial, the seed small, and easily separated from the fiber. The stems of the plant produce a long and very brilliant fiber, superior in strength and beauty to the finest linen thread. Small quantities have been woven in the rude manner of the Indians, and the texture and brilliancy is said to be unsurpassed."

**HOW TO DETECT ADULTERATED QUICK-SILVER.**—Mercury is often found in the market fully adulterated with lead, tin and bismuth. Of lead it can absorb, or dissolve, almost one-half of its weight without losing much of its liquidity. This adulteration can be easily discovered by rubbing some of the metal on the open palm; if it soils the skin it is adulterated—if pure, it leaves no trace. Besides, if dosed with lead, it will leave a tail behind—that is, the drops, instead of being globular, will assume an elongated form, and a more or less flattened surface.

**TOUGH WOOD.**—It is said that the white nut pine of California is the only kind of tree on the Pacific coast which will afford a wood tough enough for ox yokes. The Indians manufacture their bows from a species of yew, which is found in the deep cañons of the Sierra Nevada.

**DIVERS at work in Boston Harbor to get the sunken yacht Wave out of the channel** have recently found two of the women who were drowned when she went down, clinging to the rigging, holding on with a death grip. Had they let go they would have come to the surface, and might have been saved.

**TOWNE & BACON,**  
Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices  
In this City,  
**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgomery,  
Over Pacific Fruit Market.

**Machinists and Foundries.**  
**PALMER, KNOX & CO.,**  
**Golden State Iron Works,**  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
**STEAM ENGINES AND QUARTZ MILLS**  
DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing.**  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

**WHEELER & RANDALL'S**  
**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

**Genuine White Iron Stamp Shoes and Dies**

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10qy-tf

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.

**Steam Engines, Boilers,**  
**SAW AND GRIST MILLS,**  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
18v13-1y One block north of Couch's Wharf.

**UNION IRON WORKS,**  
Sacramento.

**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
**CROSS' PATENT BOILER FEEOER,**  
**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
**Dunbar's Patent Self-Adjusting Steam Piston**  
PACKING, for new and old Cylinders, manufactured to order.  
Front Street, between N and O streets,  
14v11 SACRAMENTO CITY

**Pacific File, Reaper and Mower Section**  
**MANUFACTORY,**

No. 53 Beale Street, between Market and Mission,  
SAN FRANCISCO.  
Files re-cut and warranted as good as new, or no charge.  
The only establishment in the State. We also manufacture Reaper and Mower Sections.  
14v15f **DURNING & FISHER, Prop'rs.**

**GEORGE T. PRACY,**  
**MACHINE WORKS,**  
Nos 109 and 111 Mission street, between Main and Spear,  
SAN FRANCISCO.

**STEAM ENGINE, FLOUR AND SAW MILL**  
And Quartz Machinery, Printing Presses,  
AND  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. 247-3

**SAN FRANCISCO**  
**Foundry and Machine Works,**

N. E. Cor. Fremont and Mission streets,  
Manufacturers of  
**Marine and Stationary Engines**  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.  
—ALSO—  
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
**Dunbar's Improved, Self-Adjusting Piston Packing,** requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

**MACHINERY OF ALL DESCRIPTIONS**  
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
6v11-1y **DEVOL, DINSMORE & CO**

**GLOBE**  
**Foundry and Machine Shop,**  
STOCKTON, CAL.

**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF

**Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,**  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.  
13v13-1y

**LEWIS COFFEY,** J. S. DUNSON  
**LEWIS COFFEY & RISON,**  
**Steam Boiler & Sheet Iron Works.**

THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.  
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna,  
SAN FRANCISCO.

ALL KINDS OF Brass, Composition, Zinc, and Rabbit Metal Castings. Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Locks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE.  
V. KINGWELL. 13v13-1y J. H. WEED.

J. O. HANSCOM, H. S. SMITH, **HANSCOM & CO.,** J. T. PENDERGAST, I. W. W. HANSCOM.  
**Etna Iron Works!**

Southeast corner Fremont and Tehama streets,  
SAN FRANCISCO.

**Practical Machinists and Iron Founders,**  
MANUFACTURE  
**STEAM ENGINES,**  
QUARTZ MILL MACHINERY OF ALL KINDS,  
SAW MILLS, FLOUR MILLS,  
Dunbar's Improved Self-Adjusting  
**PISTON PACKING,**

Never so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or anywhere else  
**Wheeler & Randall's New Grinder and Amalgamator,**  
Which only needs examination to be appreciated.  
Tyler's Improved Water Wheel,

Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.  
All Wheels warranted to give the power as set forth, or the money will be refunded.  
**Sole makers for this coast of the "Pendergast White Iron Stamp Shoes, and Dies."**  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
13v12

**FULTON**  
**Foundry and Iron Works.**

**HINCKLEY & CO.,**  
MANUFACTURERS OF

**STEAM ENGINES,**  
**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.**  
Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-37

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets,  
SAN FRANCISCO.

**MARINE.**  
**Locomotive,**  
And all kinds of  
**HIGH PRESSURE**  
**Steam Boilers**  
MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
**Old Boilers Repaired**  
**D. CAMERON.**  
6v12-1y

**CITY IRON WORKS COMPANY.**

F. CLERC, B. KLEINCLAUS, W. DERRIS.

**CLERC & CO.,**  
Iron Founders, Steam Engine Builders, and Makers of all kinds of Machinery.  
No. 28 FREMONT STREET, San Francisco. 9v146m

J. NEWSHAM, J. BIGWOOD.  
**SOUTH BEACH IRON WORKS,**

Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
AND ALL KINDS OF  
**MACHINERY FORGING.**  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 13v14-17

**JOHN LOCHHEAD'S**  
**Steam Engine Works,**

Beale street, near Mission, San Francisco.  
**STEAM ENGINES OF EVERY DESCRIPTION BUILT**  
to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the  
**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m



**OLD PROPELLING POWER REVIVED.**—A method of propelling boats, now in use in France, has been introduced upon the Erie Canal at Buffalo, New York. By this system, a steel wire, five-eighths of an inch in diameter, is laid along the center of the entire length of the canal. This wire cable runs over a drum on the deck of the boat, and a small engine of four-horse power turns the drum, and the boat is thus drawn along. It is claimed that a boat of two hundred and fifty tons may be pulled along in this way at the rate of two miles per hour, with a consumption of only twelve hundred pounds of coal in twenty-four hours.

We alluded to this re-invention several weeks since, as a very old idea, but nevertheless a very useful one.

**GREAT YIELD OF QUICKSILVER.**—Twelve and three-quarters tons of cinnabar ore, from Chapman's mine, three and a half miles south of San Jose, yielded sixty-four flasks of quicksilver, valued at three thousand dollars.

**WE ARE NOW OFFERING OUR IMMENSE STOCK**  
—OF—  
**Fine Custom Made Clothing**

**Gents' Furnishing Goods**  
**AT PRICES THAT DEFY COMPETITION.**  
Our Stock of Clothing Consists of  
**ALL THE LATEST STYLES**  
BOTH OF MATERIAL AND FINISH.  
A Large Assortment of  
**Trunks, Valises, Carpet Bags, Blankets, Etc.,**  
AT EXTREMELY LOW PRICES.  
**J. R. MEAD & CO.,**  
Cor. of Washington and Sansome streets.  
8v10

**BLASTING POWDER.**  
**PRICE, \$3.00 PER KEG.**

—ALSO—  
**SPORTING, CANNON AND MUSKET POWDER,**  
Of superior quality.  
**FUSE AND SHOT,**  
Always on hand and for sale at the office of the  
**CALIFORNIA POWDER WORKS,**  
No. 318 California Street.

**JOHN F. LOHSE, Secretary.**  
25v14qr  
**PACIFIC POWDER MILL COMPANY'S**  
**BLASTING POWDER!**  
MANUFACTURED  
**IN MARIN COUNTY,**  
CALIFORNIA.  
FOR SALE BY

**HAYWARD & COLEMAN,**  
**AGENTS,**  
414 Front Street, San Francisco.  
3v14-1m

**California Steam Navigation COMPANY.**  
Steamer CAPITAL.....CAPT. E. A. POOLE  
" CHRYSOPOLIS.....CAPT. A. FOSTER.  
" YOSEMITE.....  
" CORNELIA.....CAPT. W. BROMLEY  
" JULIA.....CAPT. E. CONCKLIN.  
One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.  
Office of the Company, northeast corner of Front and Jackson streets.  
**JOHN HENSLEY,**  
President.  
13v12



**THE PACIFIC IRON WORKS,**  
First & Fremont Sts., between Mission & Howard, San Francisco.  
The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern; Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated, Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated  
**Bryant Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.**  
**GODDARD & COMPANY.**

A. S. CHURCH, S. B. CLARK.  
**CHURCH & CLARK,**  
IMPORTERS AND DEALERS IN  
**Mediterranean and California**  
**FRUITS, NUTS, CONFECTIONERY, Etc.,**  
AND MANUFACTURERS OF  
**FIRE WORKS**  
Of every description, at No. 407 Front St., San Francisco.  
13v14-6m1p

**NEW YORK PRICES.**  
WATCH REPAIRING AT NEW YORK PRICES.  
**C. E. COLLINS,**  
No. 803 Montgomery street, San Francisco.  
**EXCLUSIVE AGENT**  
—FOR THE—  
**AMERICAN WATCH FACTORY.**  
A large assortment of these  
**Superior Watches,**  
In Gold and Silver Cases,  
Constantly on hand, and sold at Factory prices. Also,  
**ENGLISH AND SWISS WATCHES,**  
Imported directly from the Manufacturers.  
The American Company are now making  
**VERY FINE WATCHES FOR LADIES.**  
A large assortment of Gold Chains and Jewelry  
25v14-6m

**HAYWARD & COLEMAN,**  
IMPORTERS AND REFINERS  
—OF—  
**Illuminating, Lubricating,**  
—AND—  
**PAINT OILS!**  
CONSISTING OF  
KEROSENE, LARD, SPERM, ELEPHANT, POLAR,  
TANNERS', NEATFOOT, BOILED AND RAW  
LINSEED, CASTOR AND CHINA NUT.  
—ALSO—  
**SPIRITS OF TURPENTINE & ALCOHOL**  
Note.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil.  
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.  
**Lamps and Lamp Stock!**  
An elegant and complete assortment on hand.  
19v13-3m 414 Front street, San Francisco.  
Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.  
DEWEY & CO.  
Patent Agents, Publishers and Job Printers, 505 Clay St.

**MEUSSDORFFER,**  
Nos. 635 and 637 Commercial Street,  
WILL INTRODUCE  
**On Saturday, February 9, 1867,**  
An Entirely New Style of  
**Cloth Cashmere Hat**  
"YACHT HENRIETTA."  
Which are the most dresy Hat ever introduced on the Pacific Coast.  
8v14  
Call and see them.

**ITALIAN MANUFACTORY**  
OF  
**MACCARONI, VERMICELLI,**  
—PASTE & FARINA.—  
(706 SANSOME ST. 706)  
SAN FRANCISCO.  
**BRIGNARDELLO, MACCHIAVELLO & CO.**  
12v14-6m

**International Hotel,**  
**JACKSON STREET,**  
BETWEEN MONTGOMERY AND KEARNY STS.,  
**SAN FRANCISCO, CAL.**  
THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.  
Prices varying from \$1.50 to \$2 per day for Board and Room.  
FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.  
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21v12  
F. E. WEYGANT, Proprietor.  
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12v13-1y

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Shots and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.  
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13v14-qr

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25v14-6m

**Piles! Piles! Piles!**  
NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of  
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It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles; you will not be deceived in it.  
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24v14-3m

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**ASSAYERS' MATERIALS,**  
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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior  
**ASSAY AND BULLION BALANCES,**  
And from France and Germany, as well as the Eastern States, FURNACERS, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.  
A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' Sundries, Acids and Chemicals, constantly on hand.  
San Francisco March 6, 1865.  
11v10-1f



An English nobleman has suspended a musical bell on the necks of all his cows, each bell tuned to a different note of the scale, and the whole ringing through several octaves.

The wonderful French cannon, the invention of Napoleon, the construction of which is supposed to be a profound secret, can be fired forty or fifty times a minute.

The railroads of this country employ two hundred thousand men, and at least a million of men, women and children depend for their support upon the railroad interest.

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DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets

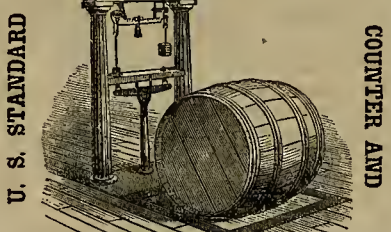
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July 10th—SACRAMENTO, Capt. J. M. Cary, Connecting with HENRY CHAUNCEY, Capt. Gray.

July 19th—CONSTITUTION, Capt. E. S. Farquhar, Connecting with ARIZONA, Capt. Maury.

July 30th—GOLDEN CITY, Capt. W. F. Lapidge, Connecting with OCEAN QUEEN, Capt. Conner.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

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SALT is now being manufactured in Alameda county on a larger scale than ever. Seventeen companies are now engaged in the business, employing about eighty persons. It is expected that 15,000 tons will be produced this season, for which a ready market is found in this city, at remunerative prices.

SECOND.—Chladni found that the velocity of sound was from ten to sixteen times as great in wood as in air. In metals the velocity is between four and sixteen times that of air.

BULLION FROM BELMONT.—The Reese River Reville, of July 6th, notices the arrival at Austin of two bars of bullion from the Belmont Mining Company.

The wheat harvest has fairly begun in Illinois and Indiana, with a prospect of the largest crop ever gathered.

SEVERAL cases of a new disease, bearing some resemblance to hydrophobia, have occurred among the cattle, hogs and dogs in the vicinity of New Market, Va.

New Mining Advertisements.

Chilpanena Mining Company--District of Ores, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 313 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN F. LOHSE, Secretary. Office, 313 California street, up-stairs, San Francisco. jy13

De Soto Gold and Silver Mining Company.—Location of Works: Star District, Humboldt County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the corner of Washington and Montgomery streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN M. BURNETT, Secretary. Office, No. 59 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California. jy13

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of July, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the corner of Washington and Montgomery streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BUFFINOTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansone streets. jy13

Neagle & Co. Silver Mining Company.—Location of Works: Storey County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary of the Company.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the second day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. A. F. GREENE, Secretary. Office, Room No. 11, 833 Montgomery street, San Francisco, California. jy13

Nuestra Señora de Guadalupe Silver Mining Company. Location of Works: Tayollita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1867, an assessment (No. 23) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at his office, No. 210 Post street, or to the Treasurer, A. Hummelmann, at his office, No. 577 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the third day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. E. J. PFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. jy13

Nuestra Señora de Guadalupe Silver Mining Company.—Location of Works: Tayollita, San Dimas District, Durango, Mexico. The following certificates of stock of said Company—No. 35, 10 shares, and No. 44, 20 shares, issued to H. Hellermann; No. 121, 49 shares, issued to Mrs. Elizabeth Nolting; No. 145, 5 shares, issued to H. Schumacher, and No. 83 and No. 145, each 5 shares, issued to J. H. Schluter—have been sold July 10th, 1867, for delinquent assessments, and will not be transferred on the books of said Company. San Francisco, July 12th, 1867. jy13-lw E. J. PFEIFFER, Secretary.

Senton Mining Company.—Location of Works: Drytown, Amador County, California. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like Peter Ashburner, Wm H Burnett, J Crane, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets, San Francisco. jy13

Sophon Consolidated Gold and Silver Mining Company, Sonora, Tuolumne County, California. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of June, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like Engert, A F O, Welles, Samuel.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of June, A. D. 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 401 Montgomery street, San Francisco, Cal., on Friday, the twenty-sixth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. DAVID E. JOSEPHI, Secretary. Office, 641 Washington street, San Francisco. jy13

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. Verdinal, office, 22 Court Block, 636 Clay street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirty-first (31st) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco. jy13

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Pans, etc. FOR SALE. The mine has three main veins, and more than \$24,000 have been spent in opening them and completing the mill. Good prospects all the way. Apply to BELOD FRERES, Bankers, 23 1/2-6m 635 Clay street, San Francisco.

Mining Notices--Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like E F Baulwin, E F Baulwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at No. 418 and 420 Clay street, San Francisco, Cal., on Monday, the fifteenth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. jy29

POSTPONEMENT.—The above sale is hereby postponed until Monday, the twenty-ninth day of July, 1867, at the same hour and place. By order of the Board of Trustees. A. C. TAYLOR, Secretary. jy13

Cleco Senores Gold and Silver Mining Company, Copallo, Sinaloa, Mexico. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the first day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like Haywood Judson, J O Beldeman, etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 523 Clay street, San Francisco, Cal., on Saturday, the twenty-seventh day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. EDWARD C. LOVELL, Secretary. Office, No. 523 Clay street, San Francisco. jy6

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like F F Fargo, Guillermo Clarke, G T Wheeler, etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 523 Clay street, San Francisco, Cal., on Saturday, the twenty-seventh day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. EDWARD C. LOVELL, Secretary. Office, No. 523 Clay street, San Francisco. jy6

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the nineteenth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the third day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BURNETT, Secretary. Office, No. 5 Government House, corner Washington and Sansone streets, San Francisco, California. jy22

Omargo Gold and Silver Mining Company, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-eighth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco. jy29

POSTPONEMENT.—At a meeting of the Board of Trustees, held June 21st, 1867, the order levying assessment (No. 6) made February 14th, 1867, was rescinded. N. C. FASSETT, Secretary. jy29

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada. Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twentieth (20th) day of July, 1867, at 3 1/2 o'clock, P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it. E. WEGENER, Secretary. jy15-5w\*

Gold Quarry Company. Location of Works: Placer County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of June, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 705 Montgomery street, (Room No. 4, 2d floor) San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. T. W. COLBURN, Secretary. Office 705 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. jy29

Gold Quarry Company. Location of Works: Placer County, California. Notice is hereby given, that a meeting of the Stockholders of the Gold Quarry Company will be held in San Francisco, at the office of the Company, No. 705 Montgomery street, Room No. 4, second floor, on MONDAY, the twenty-ninth day of July, at 12 o'clock noon, of that day, for the purpose of taking into consideration the increase of the Capital Stock of said Company, from the sum of six hundred thousand dollars, divided into six hundred shares of \$1,000 each, to the sum of two millions four hundred thousand dollars (\$2,400,000), divided into twenty-four hundred (2,400) shares of one thousand dollars (\$1,000) each. G. D. ROBERTS, A. C. PEACHTY, M. MAYNARD, I. FREEBORN, E. WERTHEMAN, Trustees of the Gold Quarry Company. T. W. COLBURN, Secretary. San Francisco, June 24th, 1867. jy29

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of June, 1867, an assessment (No. 15) of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 523 Clay street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. DAVID WILDER, Secretary. Office, No. 523 Clay street, San Francisco, Cal. jy29

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of June, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, in the store of J. G. Lodge & Co., 418 and 420 Clay street, San Francisco, Cal., or to John O. Slavin, at Silver Mountain.

Any stock upon which said assessment shall remain unpaid on the nineteenth (19th) day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. FRANK H. HAMILTON, Jr., Secretary. Office, 418 and 420 Clay street, San Francisco. jy22

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. B. P. WILKINS, Secretary pro tem. Office, 643 Market street, San Francisco, Cal. jy22

Mount Davidson Gold and Silver Mining Company, Storey County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Includes names like Burk, Martin, Burke, Thomas, Gibbons, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-second day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., No. 405 Montgomery street, San Francisco, on the fifteenth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. O. PARLOW, Secretary. Office, 121 Sutter street, San Francisco, Cal. jy29

St. Louis Silver Mining Company, Cortez District, Lander County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Shares, Amount. Includes names like Baldwin, John E, Berry, Henry, Cassell, John P, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the store of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the second day of July, 1867, at the hour of 12 o'clock noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. jy15

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 29th day of July, 1867, at the same hour and place. By order of the Board of Trustees. R. N. VAN BRUNT, Secretary. jy29

Whitcomb Gold and Silver Mining Company, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of fifteen dollars (\$15) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

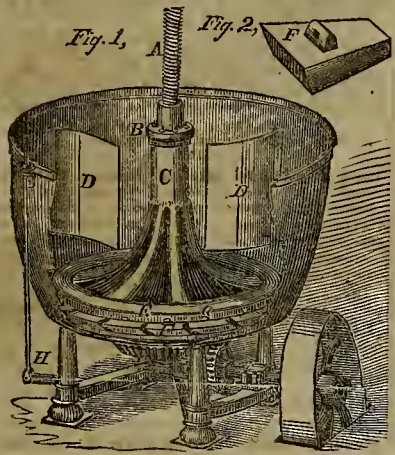
Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco. jy29

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.



Machinery.

STEWART'S CELEBRATED HINGED Grinder and Amalgamator.



Is the Cheapest and Quickest Pan Now used. It is flat-bottomed, loses far less power in throwing the pulp, and circulates the same under the muller to better advantage than any other Pan in use...

VARNEY'S PATENT AMALGAMATOR. These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been or will be, spared to have them constructed in the most perfect manner...

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others...

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Mills, Flour Mills, Saw Mills, and Manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools...

SAN FRANCISCO BRUSH FACTORY, No. 211 California st., manufacturers to order all kinds of BRUSHES.

At lower prices than cost of Eastern Importation. Brushes for all classes of machinery. A superior Scrubbing Brush from Soap Root Herb, also Sluice Brushes from the same material. The Patent Bristle, Street, Stable, Flue and Plume Brush, for which they have the exclusive right for the Pacific Coast.

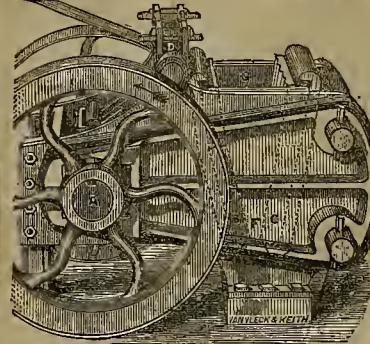
ROOT'S PATENT FORCE BLAST BLOWER.

Adapted for Smelting, Foundry, Mining and Steamships. Requires 50 per cent. less power than any Blower now in use. For further particulars, address KEPP, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco.

To the Mining Community.

THE UNOBSERVED, WHO HAS HAD FIFTY YEARS constant practice in superintending mines, is now prepared to inspect and report on Mines and Mining Properties, and advise as to the management of the same. Office, 851 Harrison street, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Shelling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction...

The arrow on the fly-wheel shows the direction to drive the eccentric, which in combination with the link, D, gives the movable jaw, E, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

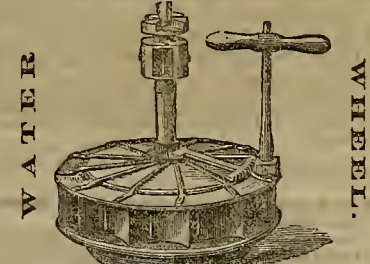
The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the Rawhide Ranch Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866. JAMES BAODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations...

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the Mining and Scientific Press, of September 29th, 1866.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED in the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Bore Mills, and Manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools...

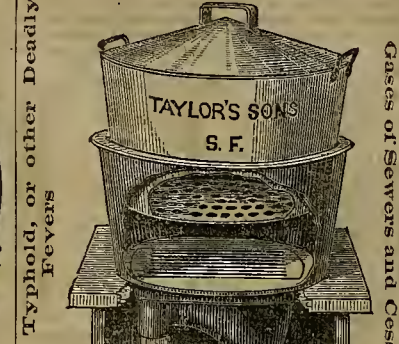
\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent. better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be seen in operation at Both & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit.

FOR \$50. HUNTER'S BUREKA AMALGAMATOR.

For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the tools for the machine, without the iron-box, is about \$100. The box will answer of wood. By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

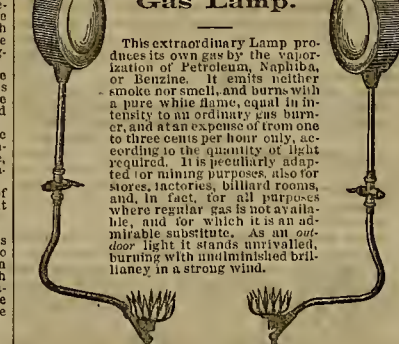
HEALTH! HEALTH!



Taylor's Stench Traps and Garbage Baskets.

To prevent this, purchase one of Taylor's Stench Traps and Garbage Baskets. And promote the health, comfort and cleanliness of your family. (For description see Mining and Scientific Press, April 6, 1867.) Sold wholesale and retail by TAYLOR & SONS, at No. 429 Pacific street, San Francisco. 15v14tr

THE CELEBRATED Self Generating Portable Gas Lamp.



Directions for Use. Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 15v14-5p

MECHANICS' INSTITUTE. Resources of California.

THE MECHANICS' INSTITUTE of San Francisco, hereby offer a PREMIUM OF ONE THOUSAND (\$1,000) DOLLARS for the best Essay on the "RESOURCES OF CALIFORNIA, AND BEST METHOD OF DEVELOPING THE SAME," under the following conditions: One-half of the premium in cash on the certified award of the Committee of Judges, and the balance from the first proceeds of sales of the successful work, which is to belong to, and will be published by, the Institute.

The Essays are to be handed in to the Librarian of the Institute on or before the FIRST DAY OF JUNE, 1868, and the award will be made by the Judges at the opening of the Industrial Exhibition, which is to be held in August or September following. The Essay should be divided into three great heads, viz.: Mineral, Agricultural and Industrial Resources, with proper subdivisions of each subject. It should be sufficient in quantity to form a duodecimo (12mo) volume of from 250 to 300 pages long primer type, solid.

Writers will sign their articles in cypher, and send their names and address in sealed envelopes, which will be kept in a secure place by the Institute, and only be opened when the award is made. The manuscripts of unsuccessful writers will be returned to them without publicity. The Committee of Judges have the right to reject all Essays in case they do not consider them worthy of publication or the premium. No further instructions than are contained in this advertisement will be given to this Committee, nor will they be subjected to any advice from the officers or members of the Institute in regard to their proposed action. All manuscript submitted must be in clear legible writing, so as to admit of easy reading.

GUN COTTON IN THE MINES.—The Territorial Enterprise speaks as follows of an experiment with gun cotton in the Gould & Curry mine:

The hole was twenty-eight inches in depth and about an inch and a quarter in diameter, and was charged with six inches of gun cotton. The report of the blast was not so loud or jarring as would have been that of even a less quantity of gunpowder; but the amount of rock displaced was quite as great as though gunpowder had been used. Now, however, we come to the great advantages to be derived from the use of the gun cotton in blasting in the lower levels and long and badly ventilated drifts of our mines. The instant after we heard the sound of the explosion we were able to return into the drift and note the execution done, not suffering the slightest inconvenience from smoke; whereas, had the hole been charged with gunpowder, we could not have gone in until after the lapse of at least fifteen minutes, and then would have found the back part of the drift so filled with smoke that we could hardly have distinguished the body of a man at a distance of six feet. The explosion of gun cotton produced much less heat than is produced by the same or much less quantity of gunpowder. This is a fact worthy of consideration to those mining in the hot and badly ventilated chambers of the lower levels of our mines.

Two other blasts were tried in another drift, which did not succeed, on account of the gases finding an exit through the seams of the rock—the tamping, even, not being blown out; such cases, however, often occur with powder. Gun cotton is to be thoroughly tested in this mine, and we will have more to say of it ere long. It is being successfully used, and is much liked, in the Belcher mine at Gold Hill. Gun cotton is now compressed, so as to occupy much less space than that ordinarily used—thereby effecting a great saving in drilling, by making a smaller hole do as much execution as a larger one. We presume that in the above experiments the ordinary gun cotton was employed.

RAILWAY MANAGEMENT IN INDIA.—A correspondent of an American paper, writing from Calcutta, and speaking of the Delhi railroad line, says that during last year seven or eight corpses were taken from the cars, victims of over-crowding. Men and women, it says, are so crushed and crammed into the third-class carriages as to be forced to remain standing for the whole length of a journey, reaching sometimes 400 or 500 miles, in the hottest season of the year. A more rude and barbarous system of railroad management could scarcely be conceived than the English practice of locked cars, without any means of communication between the passengers and engineer or conductor during the transit from one station to another.

ELECTRICITY IN IRON SMELTING.—The American Artisan, in alluding to the recent application of electricity to iron smelting in England, which was also noticed in the Press of June 29th, says:

This may be a novelty in England, but the records of the United States Patent Office will show that more than one American inventor has proposed substantially similar applications of electro-magnetism in the manufacture of iron and steel. We have in mind particularly the application made several years ago for a patent by Prof. A. L. Fleury. As, however, nothing has resulted from any of these American inventions, we caution our iron manufacturers against attaching too much importance to the above statement.

A MOHAMMEDAN LAWYER.—Budrooden Tyaree, a Mohammedan, has been admitted to practice at the English bar. He was sworn on the Koran. He intends to practice at the bar at Bombay, and will be the first member of the bar in India who is a disciple of the Prophet.

A CORRESPONDENT of an agricultural paper writes as follows: "If any of your readers that cannot raise radishes on account of worms, or unsuitable soil, will strew common wheat bran, one inch thick, on any good soil, and hoe it in, and then plant their seed, they may eat as good radishes as anybody can raise."



**GETTING READY FOR THE ATTACK.**—Two of the big 20-inch guns from the Fort Pitt Foundry have been cast to the order of the Chilean Government. Four 15-inch guns, and others of less caliber, from the same foundry, have already been shipped for Chile. It is more than probable that the Spanish fleet will receive a still warmer reception than at the time of their last attack when they next open their batteries upon the spunky South American Republics.

**PROFITABLE MINING.**—The Levant Mine, Cornwall, commenced working in 1820, since which time copper and tin ores to the amount of over \$5,000,000 have been returned; dividends to the extent of somewhere about \$1,000,000 have been declared. The largest amount of profit made at any one time was \$21,800, divided in two months. Two of the levels extend beneath the Atlantic ocean, about three-quarters of a mile. The engine-shaft is now about 1,700 feet deep from the surface.

**A SECTION WELL,** something on the principle of driving hollow iron tubes into the ground, as practiced somewhat extensively in this country, has been patented in France. A well is dug and closed in air-tight. On exhausting the air, the water currents flow in from their remote connections with considerable force, by means of which the flow of water is considerably increased.

**NEW WAY TO MAKE POTASH.**—A process, hitherto confined to the laboratory, has been introduced, on a practical scale, by M. Tessié de Mothay, advantageously replacing sulphuric by fluosilicic acid in the manufacture of potash. The acid is obtained from carbon, silic, clay, and fluoride of lime, melted in a blast furnace.

**UNDERGROUND TRAVELING** in London increases at an astonishing rate. The number of passengers carried for the first half of the present year by the Metropolitan underground railway was 16,503,395, against 5,823,437 in 1863 and 7,462,283 in 1865.

**THE first woolen factory** in Minnesota was established by a woman whose husband had left her seven children and not a dollar, to go and seek his fortune in California. When he returned, penniless, her factory was running and she was proprietor of a small town.

**Quartz Mill Construction and Superintendence**

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in sawing sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address P. M. SIAW, San Francisco, care Mining and Scientific Press. 26v143m

**CUT NAILS.**

2,000 KEGS ASSORTED SIZES,

For sale in any quantity, to close invoice, at the very lowest rates, by

**THOS. H. SELBY & CO.,**

116 and 118 California Street, SAN FRANCISCO. 19v14 3m

**Notice to Miners, Well-Borers and Water Companies.**

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi stoves, or the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13 1v Stove Store, No. 125 Clay street, below Davis.

**Pratt's Abolition Oil.**

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Eriptheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 554 Sacramento street, opposite What Cheer House, San Francisco. 10v14 1y

**GOVERNMENT HOUSE,**

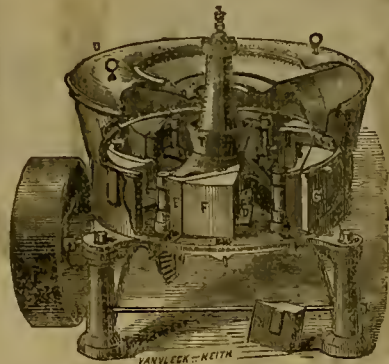
Corner of Sansome and Washington sts. SAN FRANCISCO, CAL. THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes. The rooms of the House are well furnished, large and airy, are let by the month, week or day, and for ladies and families, where persons can board for one-half they are required to pay at hotels. 7v13-6m SANBORN & CO

**GLASGOW IRON & METAL IMPORTING COMPANY,**

Nos. 25 and 27 Fremont street, near Market, SAN FRANCISCO. Bar and Sheet Iron; Boiler Plates and Tubes; Gas and Water Pipes, Gas Fittings, Anvils, Cast Steel, etc. 19v14 2m

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

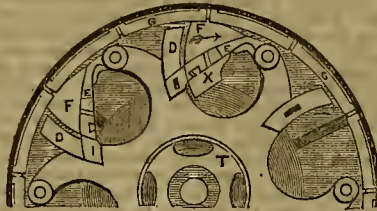
Patent dated April 16th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular millers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 30 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old millers end plates is as thorough and perfect as with new ones. The pulp enters readily between the millers and side dies, the pressure being light in front and heaviest at the heel of the miller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each miller separately, without interfering with or affecting the other millers, each of which is independent, or can rest upon the bottom below the millers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each miller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the millers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The millers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 5 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, miller-hanger; F, miller plate or shoe; O, side die; H, supporting lip; B, bearing surface; P, feeder; X, weight to counter-balance wear of miller plates, or shoes; U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

These dies are easily removed at any time, or when worn out, and an extra set of millers is furnished with each pan sold. It is also adapted for grinding cement, sulphuric, roasted ores, &c. We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or miller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six millers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 500 lbs. of ore, also with extra set of millers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$500, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco. 25v14 1f

**Portable Steam Engines!**

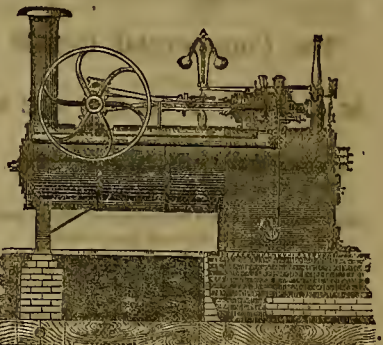
"Hoadley's" and "Hittinger's" Make.



HOADLEY'S.

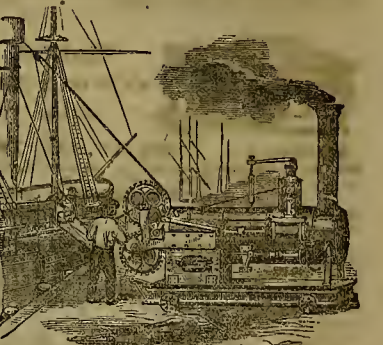
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

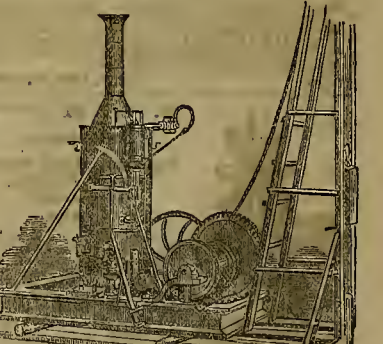
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

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COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price. These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world. All sizes on hand from 3 to 30 horse power, with and without carriages. Also, Portable Saw and Mill Mills. For sale by TREADWELL & CO., 9v14-6m15p Corner of Front and Market streets.

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The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

The Letter Sheet Market Review, Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

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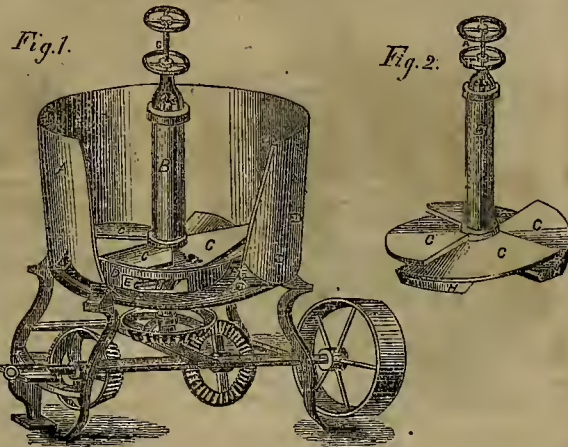
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Gaston's Screw Grinder and Amalgamator

The Best Yet Invented.



For rapidity and thor- oughness of work, the ma- chine above illustrated is unequalled by any. It wastes no appreciable quantity of quicksilver, and is of itself a perfect settler. Fig. 1 represents the pan with part of its side removed, and fig. 2 the screw muller, and its shoes. The letters c show the threads of the screw; H, its shoes, and D a low cylinder within which the screw rotates; E, repre- sents open spaces through the base of the cylinder, and F, inclosed partitions filling (at those points) the spaces between the cylin- der and the shell of the pan. These inclined parti- tions are to intercept the current of pulp around the pan, as it issues from under the muller, and turn it toward the cotter again, over the screw. The dies are not shown in the figure—there are eight. Mercury is not ground, nor floored in this pan. The pulp is ground to a slum, with great rapidity; the muller is raised a little and the quicksilver is poured in en masse, forming a layer upon the bottom of the pan. The revolution of the screw then forces the pulp down into contact with the quicksilver, into which it is effectually rubbed by the shoes, while the screw, being constantly fed by the pulp from above, it presses all under the muller outward—still in contact with the quicksilver, through the spaces, E, and thence over toward the center of the pan, when it is again seized by the screw and forced down into the quicksilver, rubbed into and forced off in contact with it, which process is continued as long as desired. The pulp can thus be forced into contact with the mercury at the rate of 1,000 pounds in three minutes, or twenty times per hour, and none can escape contact with the mercury, that contact being under the immense pressure of the perpetual screw, in addition to that of gravity, which (gravity) is the only available force to the other pans for bringing the pulp into contact with the quicksilver. "A word to the wise is sufficient." The Screw Amalgamator is the cheapest and most efficient pan manufactured. Millmeo! call and see one running at the Pacific Foundry. For particulars, address the inventor, H. A. GASTON, at Cosmopolitan Hotel, San Francisco; or R. L. THOMAS, Esq., Virginia City, Nevada. 1v14qr

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O. P. Truesdell, having this day become associated in the business of the MINING AND SCIENTIFIC PRESS JOB PRINTING OFFICE, the same will hereafter be conducted under the firm-name of "Truesdell, Dewey & Co." at the old place, No. 505 Clay street. With additional new ma- terial and the best of workmen employed, we can guar- antee entire satisfaction to all old and new customers. TRUEDELLE, DEWEY & CO. San Francisco, April 15, 1867.

Important Notice. Another New Doctor in the Field!

DR. H. A. BENTON, Has been performing many wonderful cures in this city the past two years, and, as his practice is fast increasing at the office, he finds it difficult to attend all the outside calls, and has concluded to invite R. H. OLMSTEAD, M.D., to join him. Dr. Olmstead, of Napa City, has been eighteen years successfully treating obstinate cases with water, electricity, and the magnetic forces. Remedies of the Eclectic School, of which he is a graduate, can be resorted to when needed. Being the seventh son of a celebrated physician, and at the same time having a powerful organization, his magnetic hands like magic dispel pain and disease. He is also a nat- ural bone-setter. Dr. Olmstead has this day associated with Dr. H. A. Benton, the Medical Electrician and Homeopathist, at his office, 314 Bush street, San Francisco, who, having all the necessary facilities, such as the patent Electric, Chemical, Sulphur, Vapor, Hot Air and Medicated Baths, which aid in curing all curable diseases, whether acute or chronic, and with the combined skill, together with an excellent lady assistant, gives an assurance of cure to many, benefit to all, and injury to none. N. B.—Terms for treatment within reach of all. Office hours: from 9 A. M. to 8 P. M.; Sundays, by appointment. Lodging rooms convenient for those who come from the country. June 1st, 1867. 22v14-eow4t

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticism of the trade. Jealousy attributes their success to the fineness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry. The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

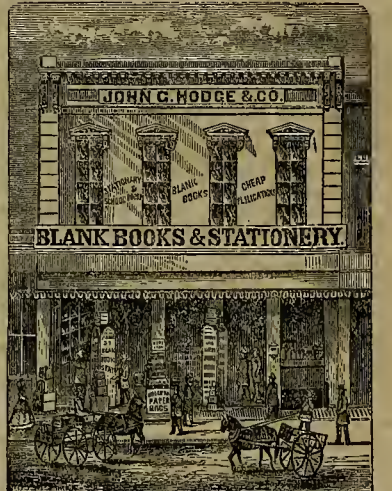
LACOUR'S SARSAPARIPHERE BITTERS. They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate costiveness, and remove regu- larly every impurity of the blood. They are unrivalled as a remedy for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them? The Old Man Takes them as a gentle stimulant and mild rejuvenator. The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overworked body. The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health, to give a sparkle to her eyes, and sweetness to her breath. The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family. The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness. Children Take them as a gentle, yet effective tonic. The Dashaway Takes them as a mild, pure stimulant, containing none of the deleterious, essential and tussiloid of forbidden drinks. The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimu- lant that does not madden or destroy. The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.

Everybody Takes Them! PRO BONO PUBLICO! 2v15-6m

Perry Davis' Vegetable Pain Killer. The universal remedy for internal and external complaints. At this period there are but few unacquainted with the merits of the Pain Killer; but while some extol it as a liniment, they know but little of its power in easing pain when taken internally, while others use it internally with great success, but are equally ignorant of its healing virtues when applied externally. We therefore wish to say to all that it is equally successful, whether used internally or ex- ternally, and its sale is universal and immense. The demand from India and other foreign countries is equal to the demand at home, and it has become known in those far-off places by its merits—the proprietors have never ad- vertised it or been to any expense in its introduction into foreign lands. Sold by all Medicine Dealers everywhere. 2v15-1m

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Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets. CAPITAL STOCK, - - - \$500,000

Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNING, THOS. BELL, CHAS. E. McLANE. H. P. WAKELEE.....MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muriatic Acids of superior quality, in quantities to suit. Orders will be received at the office on'y for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the ad- vantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14-3m

Foundry for Sale. A One-half Interest in the UNION IRON WORKS, SACRAMENTO, Owned by William R. Williams, is offered for sale on the most favorable terms. A Good Bargain May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establish- ment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets. Inquire at the office of the Foundry, or address WILLIAM R. WILLIAMS, Sacramento, Cal. 25v13trf-16p ELECTROTYPING CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, orna- ments, and other embellishments to suit the various branches of industry in this State.



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DEWEY & CO., PUBLISHERS,  
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, JULY 20, 1867.

VOLUME XV.  
Number 8.

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MECHANICAL MISCELLANY.—  
Russia Steel Front, Steel Balls; Cast Iron Improves with Age; Wetting Brick; The Hydraulic Propeller; Poling the Rails; Safety Can for Hydro Carbon Oils; Bronzing Tin Castings.  
SCIENTIFIC MISCELLANY.—  
The Meteorograph; Singular Scientific Fact: Precipitating Silver with Cadmium; A High Illuminating Gas; A Simple Ice Machine; Pure Acetic Acid; Miniature Volcano; An Ingenious and Beautiful Experiment; Gold Affecting the Growth of Trees; Tin Pile, etc.  
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reel is made stronger, as there is nearly double the number of spokes that are usually employed.

The pin upon which the fly-wheel runs is made fast to timbers that rise vertically and in a diagonal direction with the foundation timbers, which, by crossing and bracing each other, are made very strong and rigid. Upon the top of these diagonal pieces is placed a timber, held in position by screws passing through its end. From this timber is suspended a swing-pulley, which holds up the chain as it comes off the reel, and a joint at the end of the arm that supports the pulley enables it to accommodate itself to the different degrees of slackness which are occasioned by the chain passing around the reel on the different-sized wheels placed upon the fly-wheel. At the one end of the frame, bent downward and sustaining the aforesaid pulley, is a lever, which acts as a spring, and which is held by the foundation of the machine, and is connected to the arm of the pulley by a chain, and is thus kept at a degree of tension. For a less speed and a stronger power a larger wheel is placed upon the fly-wheel hub, and for a fast speed, and where a strong power is of secondary importance a smaller wheel is

## Telegraphic Communication with Mines.

It will be recollected that we made mention, some time since, of an ineffectual attempt to secure telegraphic communication between the interior of the Pewahic copper mines, at Lake Superior, and the superintendent's office, on the surface. For some unexplained reason, it was said the current could not be established, although various devices were used. The further extremity was inserted in moist ground and in a pool of water, the whole length carefully insulated; but all to no purpose. A single wire was used. A double wire would undoubtedly have succeeded; but the effort was made to solve the question whether a single wire, with a good ground connection, could be made to work as well between the interior of a mine and the surface as along the surface of the earth. Our correspondent, "F. A. H.," of Forbestown, suggested at the time that the difficulty might arise from a

considerably interfered with by the loss of time in communicating the required signals. Mr. W. H. Brain, the engineer, has introduced the electric telegraph, by which signals are at once transmitted to the engine house, and the words "go on" and "stop" are instantly brought into view. The instrument was made by Mr. Izant, of London. We are not advised as to whether a double or single wire is used by Mr. Brain.

## Gold and Grain.

The rapid growth of the agricultural interest of this State cannot but be gratifying, in the highest degree, to every true Californian. Important to ourselves and to the world as are our mining interests, the indications are that California, as a State, will eventually be more famous for her grain than for her gold. Gold will eventually be dethroned in California, and corn become our king; nor need we be despondent at such a foreshadowing. With improvements

in mining processes and constant discoveries of new mines, our gold products will more than hold their own; while our broad and fertile valleys will soon be taxed to their utmost to feed the countless numbers which will, ere long, look to us from Nevada, Arizona and Northern Mexico, to say nothing of islands of the Pacific and the western coast of continental Asia, for that "staff of life" which, since the world began, has ever sustained and nourished the toiling millions who make up the mighty mass of humanity. In the meantime, of our abundance we are feeding the inhabitants of the States and countries bordering upon the eastern and western shores of the Atlantic. High prices enable us, for the present, to take advantage of such distant markets.

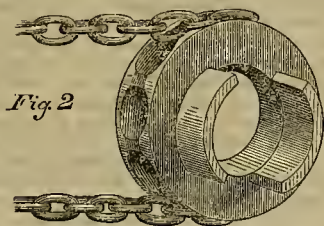
Ten millions of dollars, in round numbers, have been added to our wealth during the past year in the single article of wheat; and, from all accounts, the present season will be fully as productive, if not more so, than the past. Heretofore it required nearly the entire product of our mines to feed and clothe us; but now, by means of our increased agricultural yield, we have a surplus of gold for investment, whereby our material wealth is being rapidly increased. Agriculture, after all, is the real wealth of a people. It has been aptly termed the steward which spreads the daily table of mankind. And what a table is being presented to us of the Pacific coast! a demand to which the valleys of California must by-and-by respond. Let us plow wider and broader; let us multiply our granaries, and heap them to the brim; let the idle loiterers in our city streets lay hold of the plow and the reaper, and transform their feeble limbs and pale cheeks into stalwart arms and sunburnt faces; let them drop the yellow grain into the earth, and by-and-by they will reap a golden harvest, richer and more easily gained than the miner wrests his glittering grains from the flinty rocks of our mountain heights.

## Starr's Patent Horse-Power.

The increasing demand for, and great usefulness of small motive-powers, for various purposes, has of late called into exercise much inventive talent in the way of meeting this especial want. For general convenience and readiness, probably nothing is superior to the horse for supplying this want. His domestic nature, his great muscular strength, and general adaptability for various other useful purposes, render him a most fitting medium for the obtaining of small power, especially where that power, as often happens, is wanted at different localities and at infrequent intervals. Many devices have been invented by which the power of the horse can be most advantageously transferred to the movement of machinery, among the best of which we find the one herewith illustrated, and which was first described in the *American Artisan*. This invention was patented by Nicholas Starr, Jr., of Homer, N. Y., May 1, 1866. We copy the following description of the invention from the *Artisan* of Feb. 27, 1867:

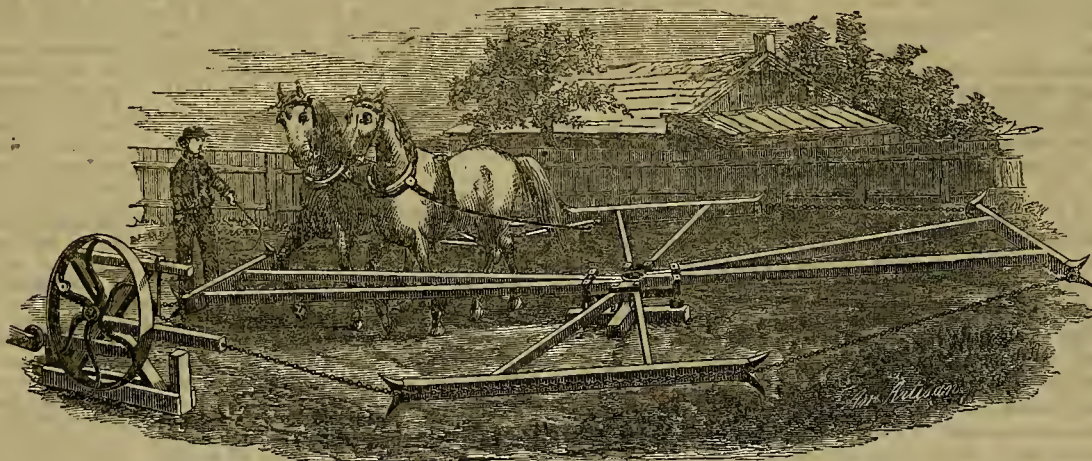
It is operated with a chain which extends around the reel as the means of communicating the necessary motion. Upon the foundation frame-work of the machine are placed friction-wheels or rolls, upon which the reel rotates. The reel is made by placing the spokes or beams in pairs near each other in a central hub, radiating outward, and each pair connected by cross-pieces projecting beyond the point of connection with such spokes, and putting upon the outer ends of each cross-piece a forked catch, in which the chain passes. These cross-pieces are equal in length to the space between the catches and the different cross-pieces, so that the catches shall be equidistant around the reel. To strengthen the reel, iron rods connect the different cross-pieces, one of the rods being formed with a swivel, by the turning of which the whole series of rods between each cross-piece is made very tight. In this arrangement space is obtained between the different pairs of spokes for the horses to travel, and the

used. The fly-wheel, with the attached small wheel, runs upon a section of a cone with its base outward; and this cone screws into the pin, so that if the fly-wheel or cone



wears, by turning the cone in the pin the point made by the cone and the fly-wheel is made as tight or close as is desired; the base of the cone being outward, it prevents the fly-wheel from running off. The chain which passes around the reel and is held in place by the catches at the ends of the arms of the reel, passes over the swing-pulley and then over the wheel upon the fly-wheel shaft; and by its peculiar form or sprocket-shape (see Fig. 2) the wheel is embraced by the chain, which thus gives the requisite motion to it and the fly-wheel, and from thence the motion is communicated by any customary means where it is required.

supposed difference in the electric tension between the surface and interior of the globe. His argument was, that as in a spherical body, the distribution of free electricity is superficial—every portion being electrified alike; so with the earth, which is only a larger sphere, the loss of the current at any considerable depth would seem to indicate that the free electricity of our globe is also confined at or near to the surface. The correctness of the philosophy of our correspondent is not at all improbable. Our object, however, in again referring to this subject is to note the fact, gleaned from an English journal, that the electric telegraph has been successfully introduced into mining operations in England, by means of which a serious impediment has been overcome. The shaft of the Trafalgar company, in the Forest of Dean, terminates on the vein of coal; from thence the coal has been worked on the "dip," leaving a formidable incline for the coal wagons to ascend, and increasing the cost of working. A steam engine was erected on "the bank," to reduce the expense of haulage and to increase the dispatch. Its usefulness was



STARR'S PATENT HORSE-POWER.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

## The Reese River Country and its Mines.

BY A. J. HOWK.

[Continued from Page 18.]

## A REVIEW.

Since my last letters were written, I have revisited a part of the country previously noticed. At Ophir Cañon I found the Murphy mill in full blast, while from the mine the richest ore was being raised; very beautiful specimens of the most intense blood-red ruby ore were shown from the lower levels. Powerful steam hoisting works have just been put in motion to raise the ore and the increasing volume of water from the mine; considerable hoisting is in progress and the town every way gives evidence of the highest state of prosperity.

Next, at Northumberland, I found Wm. N. Cummings, with a considerable force of men, at work on the Northumberland lode. This fine mine is likely to prove one of the richest in Central Nevada. It is much broken at and near the surface, owing to its situation, in close proximity to the base of a high mountain. A tunnel is being run, which is expected to reach the lode where it has not been disturbed. Several valuable mines have been discovered in this district since my former visit; among them the "Clara" and "Branch" lodes in the southwestern part, and the "Silver Bar," in the central part, are the most promising. At Belmont all is life and bustle; such preparation as can be made in advance of machinery and lumber on the works of the immense mills to be erected here this summer, are in progress. The town is growing rapidly; but like most new places, keeps somewhat overdone by those who rush thither in anticipation of its great future.

Eastward, through Alatoona Pass, our next camp was with Messrs Clark & Co., who are constructing the new toll road to the "Lower Country." The grades on this we found nearly completed, and remarkably easy for such mountains as the Danville Range appear, when viewed from the valley. This direct and central route has been greatly needed for the travel eastward from Belmont to Hot Creek, Empire, Reveille, Pabranagat, and the lumber region in the White Pine range, which lies about forty miles east of the Hot Creek or Diamond range. In Hot Creek Cañon, the owners of the immense lode, called the "Indian Jim," are exploring it by a vertical shaft and drifts from the bottom. Three miles south—but at least five miles from the trail—situated in the limestone belt which lies immediately west of the great quartzite upheaval of this range, we find the "Gazelle" mine. This is located on an accessible slope of the mountain, midway between Old Dominion and Rattlesnake cañons, well up towards their heads. Here we were hospitably entertained by Mr. Irvin, the superintendent and part owner. The mine presented, on the day of our visit, the richest sight in the mineral line that we have thus far seen in this wonderful region. The lime cap had just been removed from the lode, showing a body of astonishingly rich ore twelve feet wide; that portion next the foot-wall being of copper-silver glance, more or less massive through a width of ten feet, while eighteen inches or two feet, next the hanging wall, was of chloride ore.

The Gazelle has its duplicates, by the score, all through these mountains, from Mammoth on the west to Pabranagat on the east—mines that are scarcely ever heard of outside the district where they are located, and not set forth by the high-colored, glowing reports of paid experts (so-called) who have well nigh ruined the country and retarded its progress quite five years. How-

ever, it is gratifying to see that the day of the latter is past, and that plain, sensible, practical men are sent out, or employed here by companies organized at the East. One really interested in the permanent welfare and prosperity of Nevada, can but deplore the great injury wrought to the country, and the ruin to so many Eastern companies by unscrupulous agents, or rather rascally middle-men. All the mining companies organized at the East could, and can yet secure mines for a title of their value, that will place their success beyond a doubt or possibility of failure. Again, the limited knowledge that reaches the public through the press of California and Nevada, in relation to the fabulously rich and vast silver region of Central and Eastern Nevada, is deplorable.

While the reports of the Surveyor-General, State Mineralogist, etc., are filled with the details of the mining operations in the western part of the State, which is already over-crowded and its mines in the hands of wealthy companies, few words of cheer are given the struggling and empty-handed pioneers of the interior, who are laying the foundation of the most powerful State of the nation. This is no idle talk; the dullness, if he thinks at all, must see the wealth and inert power slumbering in the depths of Nevada's mountains. It is high time the press of the State should rise a step above local exaltation.

[Concluded next week.]

[Written for the Mining and Scientific Press.]  
American Steel.

## A VISIT TO THE PHILADELPHIA STEEL WORKS.

It is an indisputable fact that with good tools even a poor mechanic can do good work, whereas, with poor tools, a good workman will usually do an inferior quality of work; and to insure good tools, there is probably no one thing so requisite as first-rate steel.

It has heretofore been said, and many have made the assertion from their own experience, that a first-class article of steel, to answer all the most difficult purposes to which steel is applied, could not be made in the United States. This, however, has been proved by experience and observation of the writer, as well as others, to be incorrect. A visit to the extensive establishment of Baldwin, Baner & Co., of the Philadelphia Steel Works, will convince the most skeptical of this fact. Being in Philadelphia, and hearing, in all the large manufactories that we visited, the virtues of their steel enumerated, and wishing to inspect the process by which it was made, the writer paid them a visit, which has enabled him to describe the improvement in the steel which they have aptly named the "Nonpareil."

The works comprise an area of four acres, and are pleasantly situated on the banks of the Frankford creek, about five miles from the center of business in Philadelphia. The situation was selected with great care, by one of the firm, and experience has proved the correctness of his judgment. The creek is navigable all the way up, and it is no unusual sight to see boats delivering coal and iron, while others are taking on steel, to be shipped to distant parts of the country.

The iron is imported, expressly for the firm, direct from Sweden and Norway, in bars one inch wide and one-half inch thick. It then goes through a process by which it is freed from such chemical elements as do not enter beneficially into the manufacture of steel, and which process is known only to the proprietors. The bars are then cut into pieces about two inches long, and are placed in a black lead crucible, holding fifty pounds, along with a small proportion of finely-ground charcoal and some black oxide of manganese. The crucibles are then placed in a large furnace, known as the "melting furnace," and exposed to an intense heat for three or four hours, or until the "melter" decides that the mass has become thoroughly incorporated. They are then withdrawn by a man known as the "puller-out," and passed by him to the "melter," who pours the metal into the iron molds, where it is allowed to cool, after which these pieces are known as ingots.

From here it is taken to a steam hammer, weighing about 1,800 pounds, and "hroke down"—that is, it is reduced to nearly the size that the bars are intended to be when finished. After this, it is taken to the finishing hammer, where it is finished to the proper size, unless the size be very small, when it has to go to still another hammer, much lighter. The ends of the bars are then cut off, to make a double and triple-refined cast steel; and, after being reheated, the steel is ready for market. This is the steel that has given such satisfaction where it has been introduced, and which has, to a great extent, displaced the English steel in the Eastern and Middle States; but we were assured that their improvement, the "Nonpareil," was as much superior to this steel for turning and planing tools, and all other tools requiring a keen cutting edge, as their other steel was to wrought iron.

The peculiarity of the manufacture by which they obtain this superiority consists in a novel process which the steel goes through during the refining, and which expels all the impurities in a much better manner than it has heretofore been possible to do, and which has been introduced by the firm and is known only to them; and so reliable is their process, that they can depend on having a uniformity in the texture of their large and small bars that is not obtained by any other steel works, either in this or any other country. The experiments by which this knowledge was obtained were conducted before they introduced any of their steel into the market, the proprietors being determined not to sell an article that they were not certain could be depended on, and they regulated their standard by the best English steel.

The "Nonpareil," I was assured, and shown numerous certificates to the same effect, would do at least twice the work of the best English steel for saw gummets, turning and planing tools, and also for all other purposes which require a tough and hard quality of steel.

Although comparatively a new establishment, having only been in existence about three years, and the "Nonpareil" less than one year, they are together creating a sensation in the East that bids fair, before long, to build for them the largest reputation as steel manufacturers in the world. The proprietors informed us that they intended to send an agent to the Pacific coast, to bring it more directly to the notice of the engineers, machinists, railroad companies and miners, than it would be possible to do in any other way.

W. H. D.

## Facts About Patent Matters.

NUMBER SIX.

## THE EXAMINATION, APPEAL, ETC.—CONTINUED.

It frequently happens, that a caveat is on file covering the same invention. In that case, the Caveator, is notified to complete his application within ninety days; and if it is then found to be the same as that of the applicant, an interference is declared, and each party notified of the time set for bearing and deciding the same, each in the meantime being permitted to furnish such proof as he can as to the time when he first completed his invention—the opposite party, in all cases, to be notified of the time and place of taking the depositions, and the names of the witnesses. Each party also files an argument, if he so desires. Two or more inventors may also make application for the same thing at once, when, of course, there will be an interference. A remarkable case of this kind occurred in 1849, when seven different parties, from various parts of the country, made application for the same invention—a hollow churn dasher, having a valve in it, for the purpose of pumping air into the cream while churning. So, too, an applicant may ask and have an interference with a patent already issued. In all cases of interference, the patent is awarded to the party proving himself to be the *prior* inventor, except in those cases where, by his own neglect to apply in time, he is held to have abandoned his invention, as heretofore explained. In case of an interference between an applicant and a patent, where priority of invention is awarded to the applicant, the office has no power to annul the patent already issued, but can simply issue one to the applicant, thus placing him on an equal footing with the patentee, and leaving the parties to appeal to the courts to define and protect their rights.

This is an anomalous state of affairs, which ought not to exist, as it is clearly productive of harm, both to the real inventor and to innocent members of the community. All legislative bodies have the power to repeal or annul any law passed by fraud or mistake. So, too, a court can revoke or annul an order made erroneously.

The Land Office stops the location of a warrant obtained by fraud, and so, too, the Treasury Department stops the payment of a warrant or draft obtained by fraud, or issued by mistake; and it would seem that the Patent Office ought to have the power to cancel or withdraw a patent wrongfully issued. By so doing, it would save the real inventor (and who alone is entitled to a patent) the expense and trouble of going to law to secure what the office has already decided is clearly his. It would also protect innocent purchasers from being defrauded by purchasing rights from the holder of the invalid patent. It would certainly seem that the law ought to be amended in this respect. In all cases of interference, parties have the same right of appeal as in cases of rejection.

When the case is finally decided, it is returned to the Examiner, who endorses it, enters it upon his record, and then sends it to his draughtsman's room, where certain entries are made in his books, after which it is sent to still another room, where the papers are given out to women to copy. They are then engrossed upon parchment, with the thin drawing attached, and signed by the Commissioner of Patents and Secretary of the Interior, after which the seal of the Patent Office is affixed, when the patent is ready for delivery—the applicant in the meantime having paid in his final fee of \$20, he having been notified to do so by the office as soon as the case was passed for issue by the Examiner. By the law of 1863, if a party neglects for six months to pay the final fee above mentioned, he will be considered as forfeiting his right, and a patent will issue to another applicant for the same invention, if one should come. Formerly the whole fee had to be paid in advance; but in consequence of the law of 1861, requiring only \$15 down, the business of the office was seriously impeded by the neglect of parties to pay their second fee and take their patent—nearly a thousand having thus been left upon its hands during one year; hence the provision of law above referred to.

The reader will now have a tolerably clear idea of how patents are obtained, and of the *modus operandi* of preparing and issuing them. It will readily occur to all who have read these articles attentively that the position of an Examiner of Patents is a very important one indeed. It requires a high degree of intelligence, a practical as well as theoretical knowledge of mechanism, and a fair knowledge of law, with strong analyzing and reasoning powers. He should be firm, but free from prejudice, as he has to act in the capacity of a judge—being careful not to deprive the inventor of the smallest even of his rights, and at the same time being careful to give to no one a monopoly of anything which belongs by right to the community, or which is not his invention. To do this, uninfluenced by the personal appeals of applicants and the blandishments of skillful and experienced agents, without giving offence, requires a degree of integrity, firmness and fairness not often found combined in one character. In fact, a hundred times more depends upon the Examiners for the intelligence and integrity with which the business of the office is conducted than upon the Commissioner, who seldom knows anything of the details of the office. The worst feature of all is, that he has the appointment and removal of them at will, and that political influence—not fitness for the position—is what determines their appointment or dismissal; and so, too, of the Commissioner himself; and hence it is you will find a pill doctor examining mills, while a practical mill builder is set to examine tobacco pipes. A lawyer, that probably never drove a nail in his life, has architecture and bridges, while a practical builder of bridges and public edifices is set to examine cook stoves and hoop skirts. And what renders the matter still worse is the fact that by the time they become fairly acquainted with their class and its peculiar duties, they are removed by a change of administration, or to gain favor with some Senator or Member, whose influence the Commissioner desires for some object of his own, and persons entirely ignorant of the business substituted. This is the fault, mainly, of the system, and will never be remedied until the people, and especially inventors, insist upon a change.—W. C. Dodge, in *Prairie Farmer*.

NOVEL ENTERPRISE.—Colonel Robertson, of St. Paul, is importing fruit trees from Russia and Northern China, for the purpose of obtaining varieties that can be grown in Minnesota. Efforts are being made to the same end for this State.

LONDON.—The population of this great city is estimated at 3,080,000.



## Mechanical.

## Russia Sheet Iron.

Few persons are aware of the enormous expense and difficulty attendant upon the importation of Russia sheet iron into the United States, or of the quantity of this material which enters into the various forms of its consumption. The imitations of this iron, which have been from time to time attempted in this country, have hitherto been quite unsuccessful. Although these imitations are often sold for the genuine Russia iron, so near to the genuine are they in external appearance, yet the art of making it stand actual wear, on exposure, is still—unless quite recently discovered—a hidden art to American mechanics.

The indestructibility of Russia iron is most remarkable. Stoves made from it will, with ordinary care, last as long or longer than cast iron stoves, and retain their luster until they are destroyed by an almost imperceptible wearing away, or reduction in thickness of the material.

Some fourteen or fifteen years ago, there was an effort made to get an act of Congress for the issue of a patent for the manufacture of this iron, without spreading the secret of the process on the records of the Patent Office; but, so far as we have learned, nothing ever came of it. Of late it is said that the Perkins Sheet Iron Company, of Providence, have been making Russia iron of a quality equal to the imported article. It is also said that there is a company in Cleveland, Ohio, and another in Portsmouth, in the same State, making about the same quality of iron. The latter is said to be in possession of the true secret of the manufacture, as conducted in Russia, and the only parties possessing it. The secret, it is said, was sent to this country clandestinely, through the agency of a citizen of Youngtown, Ohio, who had a relative in the works in Russia. It is generally understood that Russia has heretofore kept a close monopoly on this superior iron, and that she has thus been able to extort from us, as well as from other nations, a heavy revenue therefrom.

On the contrary, it is said by at least one party, that there is no secret whatever in the Russian process, and that travelers have free access to the works, and are allowed to witness every part of the operation; and that any peculiarity or superiority in the iron lies in the quality of the ore from which it made! William Atkinson, in his "Oriental and Western Siberia," says:

Verne Issetzkor Zavod, about three versts from Ekaterinburg, belongs to the Yakovliff family. These iron works have long been celebrated for the quality of sheet iron, which stands unrivalled. The sheet iron made in this Zavod, and some other works belonging to it, surpass all other productions of the kind, either in the Oural or elsewhere. It is rolled for various purposes—for covering the roofs of houses, for sheet iron stoves, and for a great variety of utensils. The metal is of such excellent quality that I have seen it rolled as thin as post paper, without crack or blemish, and with a jet black polish. An enormous quantity of the various sorts of this manufacture is sent to America. In the South Oural is Zavod of Kaslinsk; these iron works are famed throughout the Oural for the superior quality of castings they produce. I was astonished by the sharpness and beauty of the different articles manufactured, consisting of tables perforated by tracery and foliage, most delicately executed; chairs of a similar pattern, small boxes, baskets, and dishes for cards, in beautiful open work; animals, paper weights, etc., cast equal to anything produced in Berlin. The metal used possesses much fluidity.

**STEEL RAILS.**—On the London and North-Western Railway, at Chalk Farm station, is a rail, made of Bessémer steel, which has outlasted twenty-five iron rails successively placed next to it on the same line. The economy of the steel rail is so apparent that several prominent roads in this country have commenced substituting them instead of the ordinary iron rail.

**CAST IRON IMPROVES WITH AGE.**—It is well known that cast iron, by repeated fusion up to a certain number of times, is greatly increased in strength; and that guns cast hollow are stronger than those cast solid and bored out. But it is not so generally known that old castings are much stronger than new ones; yet such is the fact, as has been proven in various ways, but perhaps in none more fully than in experimenting with cannon. It has been found that eight-inch guns, proved thirty days after being cast, stand but about 72 charges; thirty-four days, 80 charges; one hundred days, 730 charges; six years, 2,582 charges. This phenomena of increased tenacity with increased age is accounted for on the supposition that the particles of iron, strained in the process of cooling, re-adjust themselves, in the lapse of time, to their proper position, and become perfectly free, or nearly so. These are important facts not generally known, even to many who claim to be engineers in the science of mechanics, and fully accounts for the terrible loss of life, on both sides, during the late war, from the bursting of cannon—nearly all the cannon employed being, from the necessity of the case, of but recent manufacture, and not having had time to become properly "seasoned," if such an expression may be allowable. This fact may also account for certain breakages in machinery which has been set to work very soon after coming from the foundry. If the facts are as stated, they are well worth the attention of mechanics; if not, they should be disproven.

**WETTING BRICK.**—It is important that every one engaged in laying brick, whether as master workmen or ordinary laborers, should be well informed with regard to the philosophy of "wetting" this universal material for building; hence we publish the following from an exchange:

Very few people, even builders, are aware of the advantage of wetting bricks before laying them, or if aware of it, they too often neglect to practice it. A wall twelve inches thick, built of good mortar and bricks well soaked, is stronger than one sixteen inches thick built dry. The reason of this is, that if the bricks are well saturated with water, they will not abstract from the mortar the moisture necessary to its crystallization; and, on the contrary, they will unite chemically, and become solid as a rock. On the other hand, if the bricks are put up dry, they immediately take up all the moisture from the mortar, leaving it to dry and harden, and the consequence is, that when a building of this description is taken down, or tumbles down of its own accord, the mortar from it is like so much sand.

**THE HYDRAULIC PROPELLER.**—Admiral Elliott, in a paper read before the Institution of Naval Architects, has come out very strongly in favor of the "Water Witch" principle as the future motive power for ships of war. He was as strongly sustained in the ensuing discussion by Sir Edward Belcher, and warmly encouraged by Mr. Scott Russell, while Mr. Reed, Chief Constructor of the Navy, and others, opposed. Mr. Russell predicted that, with time and perseverance, the plan would certainly succeed in the end, and supersede the screw for the purposes of warfare.

**POINTING THE RAILS.**—It has been found that trains of ordinary express speed, have jumped depressions of two feet in length on the rail. If an engine, going sixty miles an hour, could be run up an angle of 45° for its own length, and then allowed to jump off, it would jump 60 feet high, and 240 feet forward. The distance jumped would be as the square of the speed.

**SAFETY CAN FOR HYDRO-CARBON OILS.**—Two American inventors—Messrs. Perkins and House—have patented a can that will protect benzine or any other hydro-carbon fluid from danger of explosion. The principle on which it operates is similar to that embodied by Sir Humphrey Davy in his safety-lamp.

**BRONZING TIN CASTINGS.**—When clean, wash them with a mixture of one part each sulphate of iron and sulphate of copper, in twenty parts of water; dry, and again wash with distilled vinegar, eleven parts, verdigris, four parts. When dry, polish with colcochar.

## Scientific Miscellany.

**THE METEOROGRAPH.**—Among the scientific instruments on exhibition at the Paris Exposition, none attracts more attention than the "meteorograph," an invention of the celebrated Italian astronomer, Father Secchi. This wonderful instrument records, automatically, the time of day, the changes in the temperature, pressure, moisture and motion of the atmosphere, etc. The distinguished inventor is in Paris, and spends the most of his time at the Exhibition, carefully noticing and studying everything new and valuable. The instrument of which he is the inventor moves by clock-work, and marks down upon a long strip of paper, which is unrolled at one end and rolled up at the other, the time of day, the changes in temperature, the direction and intensity of the wind, the height of the barometer, the hygrometric state of the atmosphere, and the quantity of rain which may have fallen within a given time. All this is effected by a pencil for each separate work, kept constantly in motion, and moved by nicely-adjusted machinery, which performs its task with unerring certainty and fidelity. The diagrama made by this instrument, as well as the instrument itself, are objects of great interest among the scientific as well as curious portion of the visitors.

**SINGULAR SCIENTIFIC FACT.**—If the large bell of Notre Dame, in Paris, which is placed in a chamber at the base of one of the towers, be struck with the closed hand, a large volume of sound will be produced, and will be audible at a considerable distance all round; but it is said to have been discovered that it will be perfectly inaudible if the person places himself within the center of the bell, the sound diminishing as he proceeds from the circumference.

**PRECIPITATING SILVER WITH CADMIUM.**—According to M. Classen, silver is wholly precipitated by cadmium; when dealing with a nitric solution of silver, evaporate to dryness in the presence of sulphuric acid, dissolve the sulphate of silver in boiling water, plunge it into a plate of cadmium, and the reduction of the silver takes place at once. The silver is deposited in a compact mass, easily washed with water; as it may contain a little cadmium, boil it in the acid liquid until no hydrogen escapes; wash it until the water contains no sulphuric acid; then dry and calcine. The silver, at first a black grey, takes the metallic luster. It may then be weighed; the results are very exact.

**A HIGH ILLUMINATING GAS.**—A raw compound of creosote and soda may be employed for the manufacture of gas of a high illuminating power, by burning carbonate of soda in a close furnace. In the first step of the proceeding the water is driven from the material; the creosote and soda compound is then decomposed, a porous coke with which the soda is mixed being left. One result of the decomposition is the formation of a quantity of carbonic acid, the greater part of which unites with the caustic soda employed to produce the carbonate. The carbonate of soda is easily extracted from the coke, and may be used again and again.

**A SIMPLE ICE MACHINE.**—A machine has been contrived which freezes water by its own evaporation. It is simply an air-pump fitted to a bottle. The bottle is half filled with water, and the pump is set to work. Air is first pumped out, and then the water rapidly evaporates. To complete the vacuum and increase the evaporation, the air and aqueous vapor pumped out is made to traverse a hollow cylinder containing sulphuric acid, which, of course, instantly absorbs the moisture. The evaporation is so rapid that the remaining water is immediately frozen. Four minutes' pumping produce two pints of ice.

**PURE ACETIC ACID.**—Fictor, of Berlin, uses baryta, in preference to soda or lime, in the manufacture of pure acetic acid from crude wood vinegar. The acetate of baryta withstands the roasting necessary to get rid of the empyreumatic matters better than the acetates of lime or soda, in consequence of which there is less loss of acetic acid.

**MINIATURE VOLCANO.**—Among the numerous experiments which may be made with Ruhmkroff's machine, there is a remarkable one, which may be described as follows: A quantity of flour of sulphur is mixed with a small proportion of iron filings, or, better still, with iron reduced by hydrogen, in which case it is in quite an impalpable state; zinc and copper filings may also be added in small quantities. The mixture, which must be as complete as possible, is then thrown on a pane of glass, or on a dry brick, so as to form a heap two or three centimetres high, and much longer than it is broad. If the ends of the wires of Ruhmkroff's machine be now inserted into the heap, so as to be two or three centimetres distance from each other, and the current made to pass through, a violent explosion of the mass takes place, a sort of crater is formed, whence magnificent showers of fire will be seen to issue, much resembling the bouquet of fireworks, and like it displaying different colors. It is in reality a miniature volcano, with subterranean noises and ejection of boiling lava.

**INGENIOUS AND BEAUTIFUL EXPERIMENT.** Place on a sheet of white paper, in the sunshine, a circular piece of blue silk about four inches in diameter; cover the center of this with a piece of yellow silk three inches in diameter; then one of pink, two inches across; a green one, one inch across, and one of indigo, half an inch in diameter, and in the center of this make a black dot with a pen. Then look steadily for a minute at the central spot, closing your hands about an inch distant before them, and you will see the most beautiful circle of colors that the imagination can conceive, which are not the colors of the silk alone, but will be perpetually changing in the most pleasing manner.

**COLD AFFECTING THE REGULAR GROWTH OF TREES.**—At the late Botanical Congress, Prof. Caspary, of Königsberg, gave the results of some elaborate observations on the effect of low temperatures in altering the direction of the branches of trees. He stated that different species were acted on in divers ways; some species move, during a frost, directly upward, while others move downward, but in nearly all there was a lateral movement toward the left.

**TIN FOIL.**—Nearly all tin foil now used is adulterated by lead. Dr. J. H. Baldock found by chemical analysis that common tin foil contained 86.92 per cent. of lead; embossed foil, 76.57 per cent.; tea foil, 88.66 per cent., and the so-called pure tin foil, 32.62 per cent. of lead. The adulterated article is made by placing an ingot of lead between two ingots of tin, and rolling them into sheets which have a coating of tin on both sides.

The alloys of steel with platinum, when both are in a state of fusion, are very perfect in every proportion that has been tried. Equal parts by weight form a beautiful alloy, which takes a fine polish, and does not tarnish; the other is the finest imaginable for a mirror. The specific gravity of this beautiful compound is 9.862.

**NEW SILICUM COMPOUND.**—Friedel and Ladenburg have prepared a body containing one atom of hydrogen, one of silicon, and three atoms of chlorine. It boils between 34° and 37° 5 C., the vapor of which, mixed with air, explodes on contact with an ignited body. The gas is not spontaneously inflammable at ordinary temperature.

**IMPROVEMENT OF STARCH.**—A small quantity of epsom salts (sulphate of magnesia) added to starch increases considerably its stiffening powers, and renders the article on which it is used, to a certain degree, fire-proof.

**METEORIC.**—M. Leverrier, the celebrated French astronomer, predicts that we shall have a shower of meteors in August, altogether surpassing in brilliancy and extent the display a year ago.

The curvature of the earth amounts to seven inches per mile. A man six feet high cannot be seen from a distance of ten miles.

The presence of copper in the white and yolk of eggs, has been determined by M. Blasius.

Solid carbonic acid sinks the thermometer to 162 degrees (Fah.) below zero in two minutes.

Water, heated in a strong closed vessel, has melted lead in 612 degrees.



New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues, which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

DISNEY'S AUTOMATIC CAR-COUPLER.—This is a new and ingenious device of Mr. M. Disney, of this city, whereby cars may be made self-coupling at all times, while they may be uncoupled at any time by the mere moving of a lever, which immediately adjusts itself as soon as the cars uncouple. Another most important advantage derivable from this invention is the fact that the instant the advance car moves, or is thrown from the track, it instantly uncouples. It is impossible for this coupling to drag a car off from the track; neither is there any possibility of its becoming disengaged while the cars are in direct motion, except by design or breakage of the link. The device is simple and cheap—not more costly than the ordinary couplings—while its economy, convenience and safety advantages are not excelled by any device in use for such purposes. By the time this is in print it will have had a practical trial on the San José Railroad. The invention can scarcely fail to come speedily into general use. We shall probably give an illustrated description of this invention within a week or two. A patent has been applied for.

MCDUGAL'S IMPROVED GOLD AND AMALGAM SAVER.—The particular object of this invention is to save the "float gold," which usually passes off on the surface of the water. It has heretofore been found almost impracticable to bring this light gold in contact with the copper surfaces usually employed for saving it. This, however, is pretty effectually done by Mr. McDougal's invention. The water, in passing through his boxes, is thrown into a series of eddies, which may be continued for any distance required, and by which the surface and any matter floating upon it is repeatedly thrown against copper surfaces, in precisely the manner best calculated to secure any amalgam which may thus be passing off. We are not at liberty to more fully describe the device at this time; but shall do so as soon as the patent, which has been applied for, shall have been granted. The invention appears to possess unquestionable merit as a gold saver.

PRESSURE APPARATUS FOR SODA WATER. This device is the invention of Mr. Benjamin Sweetland, of Sacramento. The object of the invention is to effect a proper mixture of soda water with the acids by hydraulic force, instead of by a force-pump, as is usually done. To do this, the fountain is placed at a proper elevation above the counter, as in a room overhead; a pipe connection is so made with the fountain as to bring the water up through the table in the ordinary manner by its own head, instead of by a force-pump. It is much simpler, and more convenient, than a pump, and equally as effective. Patent applied for.

A TINNER'S PRESS.—In the manufacture of tinware, it has heretofore been the custom to have the covers of pails, pots, cans, etc., pressed into shape with dies made to drop with a heavy weight, which are not only expensive, but cumbersome. A machine has recently been invented which is destined to revolutionize this kind of work. It is called a "tinner's press." The tin is cut to the requisite size and placed in an iron frame; a die is then pressed against the tin, and the frame made to revolve for a few seconds, when the cover is taken out ready for use. The machine is simple and easily worked.

A MOTOR FOR THE SEWING MACHINE.—M. Faivre, of Nantes, exhibits at the Paris Exposition a water motor for the sewing machine, which is pronounced eminently practical, and so cheap that every seamstress can afford to purchase one and attach it to her sewing machine. The injurious influence of the use of the treadle upon the health of females is becoming an alarming evil, and that attachment will soon have to be dispensed with, even, if it be necessary, at the sacrifice of this useful machine itself.

NITRO-GLYCERINE is cutting the Pacific Railroad through the summit of the Sierra Nevada at the rate of fifty feet per week, and by midsummer fifty miles of road will be added to the ninety-four already in operation at the California end.

Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board. SAN FRANCISCO, SATURDAY MORNING, July 20, 1887.

City Stocks.

Under the unusual excitement which pervaded the mining share market since Saturday last, making serious inroads on the prices which had prevailed for weeks previous, city stocks have been quite inactive, and the offerings few. North Beach and Mission R. R. sold at \$52 @50 1/2 share; San Francisco Gas at \$63 60, buyer 30, and \$63 25; Cal. Steam Nav. Co. at 69 1/2 @ 70 1/2 ct.; Spring Valley Water at \$67; and National Insurance Co. \$69 60.

The receipts of the local insurance companies during the first six months of 1887, according to the returns made to the Internal Revenue Department, have been as follows:

Table with 4 columns: Company, June, Previously this year, Total. Includes Pacific, Union, National, Fireman's Fund, Builders', California, Merchants' Mutual Marine, Occidental, Home Mutual, San Francisco.

These returns were made upon a Legal Tender basis, the rate being fixed every month by the Collector of the District, as follows: In January, 74 1/2%; February, 73 1/2%; March, 76%; April, 76%; May, 74%; and June, 73%.

The above named companies disbursed the following dividends for the six months ending June 30th:

Table with 4 columns: Company, Per cent, Capital, Amount. Includes Pacific, Union, National, Fireman's Fund, California, Occidental.

The Home Mutual Insurance Company was organized under the special law passed in 1851, which, in effect, requires all the surplus earnings to be carried forward until such time as the accumulations amount to as large a sum as the original capital paid in. Thus, this company has a surplus of \$100,000 over and above its capital of \$226,000, and will, therefore, require an additional sum of \$126,000 before any distribution in the shape of dividends can be made to the stockholders.

The Merchants' Mutual Marine Insurance Company was organized April 24, 1863, under the Act of 1851, for the incorporation of mutual insurance companies. Fifty per cent. of its capital has been called in, which, with the accumulations of the company, enabled them to declare their stock fully paid up on April 1, 1887, amounting to \$500,000.

From the fourth annual statement of the Pacific Insurance Company, for the fiscal year ending June 30th, 1887, we obtain the following: Capital stock, \$1,000,000, excess of capital available to pay losses and dividends, \$238,054 91, showing the assets to be \$1,238,054 91. The income has been \$677,106 04, and the disbursements amounted to \$578,789 17, including \$193,000 in dividends and \$249,945 69 in fire and marine losses.

Net amount fire risks written during the year... \$26,011,093. Net amount marine risks written during the year... \$5,579,600. Amount fire risks in force June 30, 1887... 20,838,521. Amount marine risks in force June 30, 1887... 2,387,918.

Most of the above dividends were made payable on the 15th inst. The California Insurance Company will carry over a surplus of \$100,000 after paying its usual semi-annual dividend.

The receipts of the city railroads for the month of June and previously this year have been as follows:

Table with 4 columns: Railroad, June, Previously this year, Total. Includes Omnibus, North Beach & Mission, Central, Front St., Mission & Ocean, Market Street.

The usual dividends paid by the majority of the above companies during the present year have been 1/2 per cent. per month on their capital stock. The increase of travel on all the lines indicates a healthy prospect for the future. There is little room to doubt that, with the increase of population in the city, the receipts of all its railroads will be augmented, and the stocks improve in value.

Mining Share Market.

During the period under review the mining stock market has undergone a very marked change, a panic having occurred which affected nearly every stock on the list and carried some of them down to more than half the price obtained within less than two weeks previously. The decline has been so unprecedented that a large number of speculators have been cornered and will doubtless, in many cases, meet with severe losses, while others are improving the opportunity to obtain stocks at a rate which it is positive will not prevail for any length of time. Even capitalists in the East have been availing themselves, to some extent, of this serious decline, and within the past few days a considerable amount of capital has been transferred by telegraph for investment in this class of securities. Some persist in holding to the opinion that the mines are giving out, that the exhaustive process has been pursued to its utmost limit. We cannot coincide with those views, but, on the contrary, believe that the favorable developments heretofore reported will increase rather than fall off. The productive condition of the mines on the Comstock Lode was not disputed two weeks since, and we have no reason to think that they have shown any signs of "petering out" within that brief period. At the close a reaction had taken place in most shares, and the future looked brighter.

SAVAGE—Declined from \$4,500 to \$4,000, rallied to \$4,400, and at the close sold at \$4,400. The ore extracted during the week ending July 13th amounted to 2,039 tons, showing an approximate value of \$77,047, or an average of \$38 98 per ton. The previous week compares as follows with these returns—extracted, 1629 tons; approximate value \$66,440, equal to \$40.78 per ton. The various portions of this mine yielded the following amount of ore

during the week under review.—Old works 36 tons; North mine, on 7th level, 1,143; middle mine, same level, 654; south mine, same level, 263; 3d station drift north, 64, and the same station drift south, 45 tons. The following statement from the annual report of this company, for the fiscal year ending July 10th, has been kindly furnished us by the Secretary:

Table with 2 columns: Receipts, Disbursements. Receipts include Cash on hand July 10, 1886, Bullion, Premium on Drs., Ore sold, Other receipts. Disbursements include Labor account, Reduction of ores and expenses at Company's mills, Reduction of ores at outside mills, Mining supplies, Wood and coal, Legal expense, Other expenses.

Number of tons mined during the year, 72,295; reduced, 69,376 1/2; sold, 63; on hand, 2,855 1/2. Cost of production, \$7 91; reduction, \$14 04—total cost per ton, \$21 95. Average yield per ton, \$41 94. HALE & NORRIS—In quotable, at the close, at \$3,200 asked. From the 1st to 14th instant, 1,412 1/2 tons of ore were reduced, the 65 1/2 cent assay value of which shows a yield of \$58,000, equal to \$41 per ton. The shaft, on the 14th instant, was 534 feet in depth.

CROWN POINT—Rapidly receded from \$1,430 to \$890, rallied to \$1,300 and closed yesterday at \$1,210. From the Superintendent's statement for the week ending July 12th, we learn that 742 1/2 tons of ore were shipped to custom mills, and in the same time 829 tons were extracted from the mine, the 65 cent assay value of which showing a yield of \$24,770 in bullion, equal to \$29.88 per ton. The ore obtained from east drift averaged about \$75 per ton, but that taken from the west workings reduced it to the above general average. The west drift on the 500-foot level has been carried forward 172 feet, and the East lode on the same level, has been opened, north and south, 107 feet. The cross-cut from the lode is in 12 feet, and the east drift from the 500-foot station has attained a distance of 68 feet. It is reported that there is some improvement in the north end of the east lode on the 500-foot level, but that the south end remains about the same. The 65 1/2 cent, average assays of ore mined within a few days past show a yield of \$39 and \$42 to the ton.

YELLOW JACKET—Showed a further decrease in price since our last reference, having declined from \$940 to \$700, recovered to \$900 and closed at \$875. The ore at the north has been decreasing for some time past, and the general appearance of the mine is not so flattering, yet there is no real cause for the sudden decline in the stock.

GOULD & CURRY—Has been quite active, opening at \$700 @740, receding to \$630, improving to \$776, and closing at \$725. In the south drift, 5th station, a body of quartz has been cut this week, being the first found in the vicinity—true, there was no ore found, but this quartz may be regarded as the advance guard of a probable ledge. The mill will be running in August, and a sufficient quantity of ore has accumulated, and will be mined, to insure it steady work for at least nine months, and in no event need an assessment be expected during that space of time. This company is making alterations in its mill by which it is thought a great saving of expense will be effected.

KENTUCK—Opened at \$400, fell to \$300, advanced to \$410, and closed at \$415. The receipts of bullion for the current month to the 15th amounted to \$41,632 83; in June, from 1st to 17th, the returns sum up \$46,900. The receipts and expenses, it is thought, will not vary much from last month.

CHOLLAS POTOMI—Declined from \$430, seller 30 to \$320, gradually advanced to \$425, and closed at \$450. No important change to note in the mine since our last issue. Amount of ore sent to custom mills from July 5th to 11th, 2,186 1/2 tons.

OVERMAN—Since date of last review, fell from \$220 to \$110, and at the close sold at \$170. We learn of nothing discouraging from this claim. They are now extracting about 50 tons of ore per day, and since our last issue nearly \$6,000 worth of bullion has been received; at the office in this city.

IMPERIAL—Rallied from \$213 to \$182 50, and sold on 17th at \$200. This company has received about \$19,000 in bullion from the first to the 16th inst., being within a fraction the same amount as returned in a like period in the previous month.

OPHI—Opened at \$300, dropped to \$200, improved to \$267, and closed at \$230. There is some talk about sinking a new shaft on G Street. We have nothing of importance regarding recent developments in the mine.

BELCHER—Declined from \$360 to \$210, advanced to \$350, then sold at \$285 @310, and closed yesterday at \$315. EMPIRE ruled uniformly at \$180. Confidence sold at \$55 @60. BULLION opened at \$36, dropped to \$20, improved to \$34, and at the close sold at \$32 50.

SEORAGATED BELCHER—Sold within a range of \$12 @8, and closed at \$11. The foreman of the mine, in a letter dated the 12th instant, states that he is taking out ore that will pay \$40 to the ton. SIERRA NEVADA opened at \$16, receded to \$13 60, advanced to \$17, and closed yesterday at \$16. The opinion prevails that the pumps will be in working condition by the 15th of next month.

JUSTICE AND INDEPENDENT—Have been less active, selling at \$16 @15. An assessment of \$5 per share was levied on this stock on the 12th inst. WHITE ANN MURPHY, a claim not in market at present, levied an assessment of \$6 75 per share, or \$27 per foot, on the 3d instant.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,431,913.

SILVER ORE FROM BRITISH COLUMBIA.—

The Cherry Creek Silver Mining Company, Shuswap District, British Columbia, are taking out very rich ore, containing a large amount of black sulphurets, portions of which assay as high as \$2,000 to the ton. The company intend sending two tons of their ore to this city for reduction. Silver ore from British Columbia will be a new thing. We have a sample of the ore in our cabinet; also another sample of silver ore from the Kamloop Lake District. Should these developments prove extensive, as they promise to do, mining for silver may yet become an important business in British Columbia.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

U. S. GRANT M. Co.—Excelsior District, Nevada county, Cal. July 13th. Capital stock, \$320,000; 3,200 shares, \$100 each. Trustees: Alpheus Bull, John G. Bray, L. A. Booth, T. L. Barker and J. E. Squires.

BAY VIEW WATER Co.—San Francisco. July 13th. Capital stock, \$100,000; 10,000 shares, \$100 each. Trustees: A. W. Von Schmidt, Thomas Hardy and W. H. Patterson.

CONSOLIDATED GOLD HILL M. Co.—Gold Hill, Nevada. July 12th. Capital stock, \$300,000; 600 shares, \$500 each. Trustees: A. K. Grim, A. Hirschman, Thomas Sunderland, John Sime and Lewis Gerstle.

SAN FRANCISCO C. M. Co.—San Luis Obispo county, Cal. July 13th. Capital stock, \$240,000; 2,400 shares, \$100 each. Trustees: John Knox, S. H. Dwinelle, Geo. F. Sharp, Geo. Treat and F. A. Benjamin.

THE LUMBER STEVEDORES ASSOCIATION.—San Francisco. July 12th. Trustees: W. Ekenberg, Isaac Cassin, Valentine McIntosh, Michael Ford, John Brennan and Peter Quinn.

CENTRAL PARK HOMESTEAD ASSOCIATION. San Francisco. July 18th. Capital stock, \$37,500; 150 shares, \$250 each. Directors: Edward Bosqui, John S. Day, William H. Souther, Howard Chapman, Timothy Sargent, Jos. P. Corcoran and Jos. M. Souther.

Rates of Postage on Printed Matter to Europe and Asia.

The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter. It is a singular fact, unknown probably to most persons who have not occasion to learn it by unpleasant experience, that there was a considerable region in the civilized world where an American traveler might not receive a newspaper directly from home.

Under the arrangement now completed, postpaid postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in this delivery by way of Hamburg and Bremen:

Rates of postage on newspapers and other printed matter (periodicals, etc.) sent from the United States to countries in Europe and Asia, by Bremen or Hamburg mail—prepayment compulsory: NEWSPAPERS—MARKED AS FOLLOWS:

- Bremen, by Bremen mail—2 cents each. Hamburg, by Hamburg mail—2 cents each. Prussia, Austria and German States, by Bremen and Hamburg mail—3 cents each. Lunenburg, by Bremen mail—3 cents each. Lunenburg, by Hamburg mail—3 cents each and 1 cent per 1/2 ounce. Schleswig-Holstein and Denmark, by Bremen or Hamburg mail—3 cents each and 1 cent per 1/2 ounce. Sweden, by Bremen or Hamburg—3 cents each, and 1 1/2 cent per 1/2 ounce. Norway, by Brsmee or Hamburg—3 cents each, and 3/4 cents per 1/2 ounce. Holland, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce. Russia, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce. Switzerland, by Bremen or Hamburg—4 cents each. Italy, by Bremen or Hamburg—5 cents each. Turkey, by Bremen or Hamburg—3 cents each, and 6 1/2 cents per 1/2 ounce. Greece, by Bremen or Hamburg—3 cents each, and 6 1/2 cents per 1/2 ounce. Gibraltar, Spain and Portugal, by Bremen or Hamburg—3 cents each, and 1/2 cent per 1/2 ounce. Austria, India and China, by Bremen or Hamburg mail via Marseilles—3 cents each, and 9 cents per 1/2 ounce. Austria, India and China, by Bremen and Hamburg mails, via Trieste—3 cents each, and 2 cents per 1/2 ounce.

- BREMEN AND HAMBURG, ETC. Bremen, by Bremen mail—1 cent per ounce. Hamburg, by Hamburg mail—1 cent per ounce. Prussia, Austria and German States, by Bremen or Hamburg—1 1/2 cent per ounce. Lunenburg, by Bremen mail—1 1/2 cent per ounce. Lunenburg, by Hamburg mail—1 1/2 cent per ounce, and 1 1/2 cent per 1/2 ounce. Schleswig-Holstein and Denmark, by Bremen or Hamburg—1 1/2 cent per ounce and 1 1/2 cent per 1/2 ounce. Sweden, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/2 ounce. Norway, by Bremen or Hamburg—1 1/2 cent per ounce, and 4 cents per 1/2 ounce. Holland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/2 ounce. Russia, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/2 ounce. Switzerland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 cent per 1/2 ounce. Italy, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/2 ounce. Turkey, by Bremen or Hamburg—1 1/2 cent per ounce, and 6 1/2 cents per 1/2 ounce. Greece, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/2 ounce. Gibraltar, Spain and Portugal, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 1/2 cents per 1/2 ounce. Austria, India and China, by Bremen or Hamburg mail, by way of Marseilles—1 1/2 cent per ounce, and 9 cents per 1/2 ounce. Austria, India and China, by Bremen or Hamburg mail, by way of Trieste—1 1/2 cent per ounce, and 2 cents per 1/2 ounce. These charges are in each case in full to destination, combining rates between the United States and Bremen or Hamburg, and the rate beyond Bremen and Hamburg to points of delivery.

FACTS FOR THE PEOPLE.—Every family should have a bottle of Healy's Curative Oil in the house, prepared to alleviate pain. It is the best remedy in the world for Rheumatism and Gout, Neuralgia or Headache, Toothache, Cramps in the Limbs, Dizziness, Sprains, Bruises, Burns and Cuts; Scalds, bite of poisonous insects, Frozen Feet, etc. Be your own physician, and get the best, for the best is the cheapest. The Curative is composed of eleven ingredients, active and penetrating in their nature, and of purely vegetable extraction; is free from all minerals and acids deleterious to the human system; is warranted to give immediate relief from pain, and the cure is permanent. Sold by all druggists. Principal Depot, No. 5 Montgomery street. 22v14-1amtr



SALES OF THE WEEK

BY THE S. F. STOCK & EXCHANGE BOARD
Monday, July 15.
AFTERNOON SESSION.
123 sbs Ophir at 250 per foot.

Tuesday, July 16.
144 sbs Ophir at 200 per foot.
253 sbs Ophir at 212 1/2 per foot.
5 sbs Confidence at 55 per share.

Wednesday July 17.
70 sbs N. B. & Mission R. R. at 62 pr sb.
4 sbs Gould & Curry at 660 per foot.

Thursday July 18.
463 sbs Ophir at 215 to 225 per foot.
24 sbs Ophir at 225 per foot, s 30.
24 sbs Ophir at 225 per foot, b 30.

4 sbs Crown Point at 1200 per ft s 10.
24 sbs Crown Point at 1250 to 1350 per ft b 30.
32 sbs Crown Point at 1300 to 1300 per ft b 30.

Friday, July 19.
\$5,000 Legal Tender Notes at 72 1/2 c.
20 sbs Sierra Nevada at 15 per share.
40 sbs Daney at 5 per foot.

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MINING SHAREHOLDERS' DIRECTORY.

Table with columns: NAME, LOCATION, AMOUNT, DAY, RELINQUISHING OF SALES. Lists various mining companies and their share details.

Latest Stock Prices Bid and Asked.

Table with columns: MISCELLANEOUS STOCKS, Bids, Asked. Lists various stocks and their current market prices.

San Francisco Market Rates.

Table with columns: Wholesale Prices, Friday, July 19, 1867. Lists various commodities and their market rates.

Table with columns: Retail Prices. Lists various goods and their retail prices.

San Francisco Metal Market.

Table with columns: PRICES FOR INVOICES. Lists various metals and their prices for invoices.

ELECTION OF OFFICERS.—SAVAGE M. Co.

July 18th. Trustees: Alpheus Bull, Thos. Bell, M. Mayblum, A. H. Rose and A. Hayward.



MECHANICS' INSTITUTE.

Resources of California. THE MECHANICS' INSTITUTE of San Francisco, hereby offer a PREMIUM OF ONE THOUSAND (\$1,000) DOLLARS for the best Essay on the "RESOURCES OF CALIFORNIA, AND BEST METHOD OF DEVELOPING THE SAME."



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, July 13th: Work in and about the Tarshish mine is being prosecuted in a vigorous and permanent manner. A new furnace for furnishing the mine with pure air has been completed. A carpenter shop is in course of erection, where the timbers for the protection of the mine will be framed. The north drift is now in a distance of 35 ft., all in pay ore; the south drift about 20 ft., part pay ore and part poor in quality. Cross cuts will be made every 50 ft. to determine the quality and quantity of ore to be depended on for purposes of erecting reduction works.

In Silver Mountain Dist, the I. X. L., Mountain and Pennsylvania companies are working away with renewed vigor, the first in quartz both in the upper and lower tunnel.

A. E. Kennedy, Supt. of the Mexican M. Co., in his report to the Board of Trustees of the Morning Star G. & S. M. Co., Morning Star lode, says: "The indications for a large body of ore in this mine are equal to any I have seen—the Comstock not excepted. When a greater depth is obtained, you will find the ore almost entirely free from base metals, and I have no doubt can be worked by common mill process at the mine."

## Calaveras County.

*San Andreas Register*, July 13th: Thorn & Co's mine is giving out the gold merrily. In sinking their shaft to its present depth, 50 ft., the Co. have picked out over \$2,000 in nuggets of different sizes, from a pin's head to a hen's egg. All the dirt and rock from the shaft is to be handled and worked yet, and it is confidently expected that argosies of wealth will be found therein. Since the above was written, over \$300 was picked up in one day, by the workmen, in boulders of rich shining ore.

## Inyo County.

*Virginia Trespass*, July 10th: Mr. Jacques, just from Cerro Gordo, reports the weather very hot and water scarce. Some new ledges, reported to be immensely rich, have been located further south and east. A number of prospectors are on their way hither.

## Kern County.

*Havilah Courier*, July 6th: Recently, J. B. Malin and Geo. Millican, of Telachapi, the principal owners of the Ophir, Laurel and Millican ledges, believing in the richness of Kern county, resolved to give the district another trial, and went to work on the Millican ledge. The ledge is 12 ft. wide at the surface. A shaft has been sunk 180 ft., and from the bottom a drift started to cut the ledge. They have already struck two stratas, from 2 to 4 ft. in width, the last containing some very rich ore. The rock from the surface, worked on two trials in a mill, yielded \$65 and \$70 per ton, and assays as high as \$1,600 have been obtained. The character of the ore strongly resembles that of Blind Springs and Montgomery districts in Mono county.

## Los Angeles County.

*Wilmington Journal*, July 13th: The editor has seen some very rich argentiferous galena specimens from Catalina Island, taken from the Small Hill Mine 150 ft. below the surface and 500 ft. above the level of the sea. Arrangements are being made to work these mines more extensively than heretofore. It is in contemplation to erect a smelting furnace on the Island.

## Mariposa County.

*Gazette*, July 13th: Very flattering prospects are being struck on Big creek, in the vicinity of the Big Trees and Clark's ranch. Three bit prospects are reported from various points on the creek.

## Nevada County.

*Transcript*, July 13th: The Scandinavian ledge, which was located a month or two ago, has been opened to a considerable depth, and a ledge 20 in. in thickness has been found. The editor has seen a prospect from two pans of the rock, which is richer than anything seen for a long time, free gold being found in large quantities.

At Eureka, business is as lively as a '49 mining camp. Several excellent quartz ledges are being worked, and a large amount of prospecting is being done. Besides these interests, much is being done to open good gravel claims.

July 14th: The quartz ledge recently discovered and located by L. W. Hadcock, between Moore's and Orleans Flats, is being rapidly developed. Enough is ascertained to know that it surpasses the most sanguine expectations. It contains a large amount of sulphurets, besides free gold often seen

with the naked eye. The tunnel has been driven 90 ft. into the bill, the ledge being taken out all the way, which shows a uniform thickness of 18 in., mostly decomposed quartz. At a depth of 37 ft., attained through an incline from the center of the tunnel, the ledge is found to be increased in thickness, and equal in quality, if not superior, to that above. It is the opinion of some that the rock, properly and systematically worked, would readily yield \$100-per ton. It is the intention of the owner to ship a quantity of the rock either to Nevada or Grass Valley, to have a test made.

Reasoner and others have located a ledge at Eureka, a mill test of which, made by Kidd & Co., showed the rock to be very rich. The ledge is 6 ft. wide, 2 ft. of which is sulphuret rock, and the remainder contains free gold. Separate tests were made, and the sulphuret rock was found to be worth \$133.20 per ton, and the rock containing free gold averaging \$23.31.

*Gazette*, July 12th: The Banner Co. have made arrangements to add 10 additional stamps to their mill. The mortars, stamps and other iron work will be manufactured at the Nevada Foundry. For some time the mine has been supplying rock for 20 stamps; but these being found insufficient to reduce all the ore afforded by the mine, the company have determined to enlarge the crushing facilities of their own mill.

**EXCELSIOR.**—*Enterprise*, July 11th: The mill of the Mohawk and Montreal Co. which started up on the morning of the 4th, have on hand a large lot of excellent ore, and the process used by them is that most approved in the mills of Grass Valley and Nevada City. The Excelsior mill has started up eight stamps, and the Meadow Lake reduction works will start in a few days. The Golden Eagle has cleaned up a run of 10 tons, the ore paying \$28 per ton. The Green Emigrant Co. has taken out a large lot of exceedingly rich ore, which will shortly be crushed at the reduction works, and the Enterprise Co. are about to furnish a large lot of rock to the same works; they have now on their dump nearly 3,000 tons of ore.

*Meadow Lake Sun*, July 13th: The Enterprise Co. have advertised for proposals, for sinking 50 additional feet on their shaft, and running 24 ft. from the bottom of the shaft, and timbering the whole.

The California mill is being cleaned up after running through 50 tons of Green Emigrant rock. The mill will start in a few days on rock from the Knickerbocker ledge.

The Excelsior and Mohawk mills are reported as working.

The editor has had placed upon his table the richest piece of ore yet seen in the district. It was from the Green Emigrant, and consisted of pure white quartz, completely speckled with particles of free gold. Twelve lbs. of amalgam, the product of 50 tons of Green Emigrant ore, was brought to town last night.

## San Bernardino County.

*Guardian*, July 13th: The machinery for Hueston's mill is now on the ground, on the top of the mountain. The boiler and other heavy portions were transported over the precipitous mountains all right.

The placer mines at Holcomb are turning out very well. There is not much doing in quartz mining. The Green lead is in operation, crushing by arrastras, the rock which is piled upon the claim.

## Sierra County.

*Downville Messenger*, July 13th: In the claims of Mr. Sol. Woods, at Monte Cristo, a few days since, there was found lying on the sluice boxes a piece of lava containing about 6% in gold. The piece had evidently got into the diggings from the surface, and had no appearance of having been washed.

## Tulare County.

*Visalia Delta*, July 10th: The Silver Sprout and Kearsarge Cos. are actively engaged in working their mines, with every prospect of rich returns. The Alabama Dist. is alive with miners, and along the base of the hills east of the river, some 300 Spaniards are at work with furnaces, arrastras, etc., getting out the precious metal.

## Tahoe County.

*Columbia Citizen*, July 13th: Mining interests in this section have thus far this year yielded a larger per cent. than they did last year. But it is not to be concealed that the placer mining interest has very much decreased, on account of the large number of claims that have been worked out and abandoned; but the quartz diggings are still being developed and wrought with success.

## ARIZONA.

*Miner*, June 29th: Work has been suspended on the Williams Fork—cause, the unusually low price of copper. At Big Bug, Anderson & Beutel recently took out \$27 in two days. Lynx Creek continues to pay

fairly. Crump and others have been doing well on the upper Hassayampa.

*Salina Herald*, June 12th: The American Gila River Mining Co., are organizing and fitting out, at Salina, their second expedition to the gold and silver mines near Pinos Altos, New Mexico. The party have commenced to rendezvous there, and will start across the plains about the first of July.

July 13th: New diggings have been struck on Pleasant Creek. The gold is found in an old channel, and have paid well, yielding \$10 and \$12 to the man per day. The gold is coarse and heavy, and worth \$16.50 per ounce.

Marvelous tales are told about a rich quartz lode which has recently been struck on Foot's Creek.

## COLORADO.

*Times*, June 25th: On the 14th inst., one-half of the Mexican lode sold for \$20,000, and on the 16th, the east end of the Nuckoll's sold for the same amount.

Prof. Hill has purchased a mill site below Black Hawk, and will erect a furnace and works for separating ore. The old Idaho mill is being enlarged. The Wycoff process will soon be in operation there.

A hutton of pure silver has been turned out by the Georgetown Silver Smelting Works, from Pewabic ore, weighing 60 lbs. avoirdupois, worth in greenbacks, \$1,332.92. The previous week's run was 50 lbs., that of the week before, 73½ lbs., being the sum of \$41,000 from the first three weeks run of this furnace.

J. A. Conlee, on the Gunnell lode, on Clear Creek, last week realized 117 ozs. of retort.

Mr. Beach is working ore from the Briggs lode, in the Briggs mill, and is doing splendidly. During the past week he took out 85 ozs.

The Black Quartz mine in Quartz Valley, is being worked by the Belden & Terrell Co. The shaft is in about 70 ft. There is a pile of pyrites outside quite various in its nature, blue pyrites of iron predominating.

Work has been commenced on the Burroughs mine. Jas. E. Lyon & Co. shipped a gold bar yesterday, weighing 183 ozs. From 700 lbs. of Adeline ore, and 500 lbs. blanket tailings worked at the Holman mill, there were 31 pwts. of pure gold per ton, valued at \$55.

A new mill has been erected on the Pewabic lode.

*Georgetown Miner*, June 24th: A company has been formed in Louisville, Ky., upon property in Iowa Dist., under the title of the Crescent Mining Co. Prof. Martine's reduction works are rapidly approaching completion.

The editor saw a piece of bullion weighing 6¼ ozs., the product of five lbs. of Nuckoll's ore.

The total amount of bullion taken out in Clear Creek county this week, is \$2,564.20.

*Denver News*, June 26th: Col. Fry and Mr. Cobb in a gulch on James' Creek, are making from 12½ to 20 cts. to the pan. Col. Fry thinks it will pay one oz. to the hand per day.

## IDAHO.

*World*, July 10th: A short time ago a miner bought a claim on Noble's Gulch at a low price, because the owner believed it to be nearly worked out. The present owner thought differently, and in proof of the correctness of his judgment he has found the claim to be exceedingly rich and has taken out a large aggregate of gold. The claim still yields richly, and he believes that it will last in the same way for another season.

## MONTANA.

*Post*, June 29th: Scott's Bar, in Boulder Valley, turns out exceedingly favorable.

The St. Louis and Montana Cos. at Flint Creek, have commenced work in good earnest. The ground is cleared for the foundation of their works. The Camanche shows a vein of 20 ft. in width. Near the upper part of the vein is a strata one foot in width which assays from \$200 to \$2,000 per ton. The Camanche extension which lies north-east some 3,000 ft., presents a splendid opportunity for extracting quartz. On the Great Republic lode, masses of detached quartz, weighing 20 tons, appear on the outcrop. The lowest of three assays, from pieces chipped at random, returns \$15 per ton. On the Poor Man's Joy, a perpendicular opening has been made, and the material above and below a portion of the vein has been removed, showing the quartz to be four ft. thick, solid as a piece of glass, of a beautiful dark color. The ore assays from \$200 to \$1,000 per ton.

The Champion ledge is six ft. wide, four of which yield from \$150 to \$600 per ton. The shaft is 12 ft. deep, and the crevice is beautifully defined. Two men in the employ of J. W. Whitcomb, a few days ago, discovered a rich vein of silver.

Oscar Totten lately sluiced out \$21 in a few hours, from dirt drifted out of the flat north of Broad street.

In Hereford Gulch quite an excitement was started lately, by some parties sinking a shaft in the gulch, panning out from 30 to 50 cts. to the pan. Ten tons of furnace lead from the Argenta works has been sold, for filling the rollers in the Chilean mill, at Summit.

On Mansfield's claim, drifts recently run have yielded as high as \$8 to the pan, and a claim just opened in the main gulch has prospected \$4 to the pan.

A new lead has been discovered near the head of Dry Gulch. The ledge is seven ft. wide.

*Helena Gazette*, June 20th: On Tuesday last, a gold bar containing over \$10,000 was run by Bohm & Molitor, for Rhine & Ridlick. The firm of Bohm & Molitor received, at their assay office, from the 17th to the 21st of this month, 4,477 ozs. of gold to be run into bars, making in round figures the nice little sum of \$80,586.

Messrs. Tutt & Donnell, last week, had a bar of gold run at the assay office of Bohm & Molitor, from dust taken from Henderson Gulch, which is valued at \$6,673. The same firm had another bar of \$1,600 cast last week.

## NEVADA.

## Esmeralda.

Belmont correspondent of the *Bulletin*, of this city, June 22d: An Eastern company are now putting up a 10-stamp mill at Hiko. The Crescent Co. are also building a 5-stamp mill. Others will be put up during the season.

## Humboldt.

*Unionville Register*, July 13th: The Rochester Co. are running a new drift, rather than timber the old one. The drift has been run 57 ft. They are hourly expecting to tap the vein.

The Essex Co. is rushing things generally in opening its mine and erecting its mill.

The De Soto Co. is again at work on its mine in Star Dist. It is the intention to take out the ore in sight, and if it proves as good as appearances indicate, the Sheba mill will be put in operation on it.

J. Ginea has purchased and shipped a 10-stamp mill to be erected near Winnemucca, on the French Ditch.

Mr. Pease, now in the East, will soon be on his way back to Humboldt, with ample means for the development and working of his mines near Winnemucca. He will erect a mill.

The Mountain King Co. have commenced work on their mine in Echo Dist.

## Pahranaagat.

*Georgetown Miner*, June 27th: Mr. Nichols of Pahranaagat, one of the owners of the North American lode, recently laid upon our table some specimens from the lode named. Two assays made from it recently gave return respectively of \$1,600 and \$2,000 per ton.

## Reese River.

*Reveille*, July 8th: The conditional sale made some two months ago of some of the best locations in Morey Dist., for \$24,000, to the agent of a St. Louis company, has gone by default of the parties not coming to time. Several of the ledges have been opened to the water line showing a fair quantity of milling ore.

Work is progressing on the Northumberland ledge which is now the most fully developed ledge in Northumberland District. Some 30 tons of ore have been extracted. Two tons of ore of the average product of the ledge have been worked at the Parrott mill, with satisfactory results. After paying the cost of mining \$10 per ton; of transportation, \$20 per ton; of milling, \$45 per ton; and the loss of 20 per cent. in reduction, a balance of \$8 per ton was left for the owners.

The mill of the Mount Tenaho Co., in Cortez Dist., will be put in motion this week, with repaired and improved machinery and 300 tons of good milling ore on hand. The old Wheeler pans have been replaced by the Varney pan or tub, of which there are six, and two settlers, and the mill has been put in an efficient condition. A force of 30 men are employed upon the Cortez Giant, the principal mine of the company, which is so fully opened that there will be no difficulty in keeping the mill supplied. The district presents a lively appearance, which is likely to increase before the fall.

The new and powerful works at the Florida mine have been completed, and were fired up in the presence of a number of persons yesterday.

July 9th: The new engine at the Florida mine is from the foundry of T. & J. Loche, of Oroville, California. It is a remarkably simple, horizontal engine of the capacity of 50-horse power. Taken as a whole, the new machinery on the Florida mine is the most simple, yet the most complete in the dis-



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[Written for the Mining and Scientific Press.]  
**From Sierra and Nevada Counties.**

BY A TRAVELER.

**EDITORS PRESS:**—I am traveling too rapidly to be of much service as a correspondent. However, the following item may be of some service.

Throughout the mines of Sierra and Nevada counties there is a general complaint of dull times. In order to account for this, it is not necessary to suppose that the mines are failures, but that business is assuming a legitimate basis.

The gravel mines at Howland Flat are being very extensively worked. The Union mine, owned by Stroh & Moyle, employs about seventy-five men. In this mine, from the foot of an incline 360 feet in length, a main tunnel, provided with a double track, is run directly into the Table Rock hill 3,000 feet. The pay dirt lies upon the bed rock, and varies from about two and one-half feet to seven or eight feet in depth. Work has only been done on the lower side of the main tunnel; but there the pay dirt is still being extensively breasted out. About 400 car loads of dirt are taken out each day, which pay, on an average, a dollar a load. The cost of removing and washing is estimated at sixty cents per load. Water power (Fredenburr's hydraulic wheel) is used to raise the cars up the incline. Ventilation is provided for by means of an air shaft and gallery. At first, a fire was built at the bottom of the shaft, in order to create a current of air; but this being ineffectual on certain occasions, other experiments were tried. An inch of water falling down the shaft has at last obviated all difficulties. This is an old mine, and will pay well for years to come. Other claims are being extensively worked, and a new tunnel is being made in the Hawkeye.

On the Sierra Buttes, a new quartz ledge has been discovered, and is claimed by Beard & Martinez. Specimens taken from the surface are remarkably rich.

In Sierra Valley, notwithstanding the attacks of a great swarm of crickets, the hay and grain crops look finely. Last year about 30,000 bushels of grain were raised. This amount will probably be reached this year. The crickets are leaving the valley towards the southwest.

The winter at Meadow Lake has been so severe that work in the mines and mills has been much delayed. Experiments are being made in the endeavor to find a practical method of extracting the gold from the sulphurets, in which the ledges here are very rich; but as yet no means have been discovered. There is yet some snow on the trails leading from the place, but none in the streets. The ice on the lake has broken up, and is fast disappearing.

The travel between Nevada and the mining camps east of that place is very large, and the just inference is that prosperity reigns in that direction.  
Yours,  
C. A. W.

**HELPING ONE ANOTHER.—AN INCIDENT FOR THE TIMES.**—Chickering & Sons, piano forte makers, employ some 300 mechanics, and many laborers, and, as a matter of course, their weekly disbursements are large. On a certain pay day, some two or three years ago, in consequence of the non-arrival of funds due at a distance, they were obliged to expend the funds in hand in the redemption of matured paper, and consequently had to forego the pleasure of paying their hands their accustomed weekly allowance. What did the men do then? Did they strike? No! but like rational mechanics, they met, consulted together, passed resolutions expressing sympathy with and confidence in their employers, and tendering them a loan of \$6,000 or \$8,000, the proceeds of their own savings.

**MISSISSIPPI IN THE WAR.**—It is said that Mississippi sent 75,000 men into the Rebel army during the war; 5,000 more than her entire vote. She lost of these 27,500. The black population is now 50,000 larger than the white. In some of the counties, the negroes are two to one, in some three, and in others four, five, eight, nine and ten to one.

white, liney looking deposit brought up from the bowels of the earth by the boiling waters of Steamboat Springs, which they mix with equal quantities of a peculiar species of fire-proof clay, discovered near Washoe Lake. They expect these bricks will stand anything in the shape of heat, short of that of the infernal regions. They have already smelted out considerable quantities of pure metal, which contains \$250 per ton, silver.

Within the limits of the city, below the Central mills, nearly 3,000 ft. of sluces have been put up during the past month.

July 11th: The mill of the New York Ore has just cleaned up a run on Veni Vidi ore that yielded \$80 per ton.

July 13th: Wells, Fargo & Co. have shipped from their office during the last week, 7,068 lbs. of bullion, valued at \$220,976.44.

July 16th: The Gould & Curry mill is at present undergoing a thorough overhauling. By the changes about to be made a saving of 10 cords of wood per day will be made.

**OREGON.**

Dalles Mountaineer, June 29th: The new mill ordered at the Oregon Foundry, by Mr. Porter for Canyon City, will be of eight stamps, and capable of crushing eight tons of rock per day. The L. X. L. lead at Prairie Diggings, is attracting much attention.

The lawsuit between the surface or placer miners, and the quartz locators has been amicably settled, the quartz company buying on all interest of the placer mines for \$3,300. A prospecting party is talked of, to visit the Crooked River country, so that before fall we may expect to hear of the place being found, where the emigrants of '45 hammered out the gold on their wagon tires.

The hydraulic diggings discovered last fall, near Otter Bar, are reported to be paying well and are quite extensive.

Sentinel, June 15th: Crandall, Childs and Crane, of Josephine Co., expected to make their first run on Monday last. The ore will be reduced to "regulus," and transported to Crescent City for shipment to the East. Some of the ore is said to assay \$18 gold per ton.

The Wickenburg correspondent of the San Bernardino Guardian, writing June 20th says: The Vulture 20-stamp mill continues to run with the greatest success, crushing 36 tons of quartz daily, the rock yielding \$70 per ton. Hitherto the most simple apparatus has been used, but concentrators and a desulphurizing furnace are in course of erection, which will make the yield considerably more. The quartz is hauled 15 miles, to the mill on the Hassayampa, for \$10 a ton, and fuel is furnished at \$8 per cord. Their ledge is 15 ft. in width at the depth of 150 ft., and equally as rich as that taken from the surface. On the surface it is opened up to Smith's, the adjoining west claim, and found, if anything, improving on his line. Some 60 men, Americans and Mexicans, are employed on it.

**UTAH.**

Salt Lake Vedette, July 6th: A party started on the 3d, in the wake of Lewis Robinson and company, to the Green River country, to find out all they can about the gold prospects of that country.

The editor has been presented by A. A. Hurst with a chunk of argentiferous galena, weighing 100 lbs. It is from the North Star lode, and contains \$34.57 silver. [We hope the attack is not chronic.—Ed.]

**WASHINGTON.**

Dalles Mountaineer, June 29th: Last Thursday a party of five Freuchenmen left our city for the Wenatche mines over in Washington Territory. They went well prepared with all the necessary implements for going to work, and provisions to last several months.

**SMALL POX.—IS IT A FACT.**—It was stated during the prevalence of the small-pox in St. John, New Brunswick, two or three years ago, that not a single case of that leathsome disease occurred in any house in that city that made use of gas for illuminating purposes. It is well known that gas is a powerful disinfectant, and hence it is but reasonable that it might exert an important influence in warding off infectious disease. It was stated, on the authority of a distinguished physician in that city, at the time alluded to, that a person might contract the disease abroad, and take it to his home where gas was freely used, without danger of communicating it to any member of his family. May not this statement be worth inquiring into at a time when this disease is so liable to be inflicted upon the inhabitants of this city, from the presence and constant arrivals of persons of filthy and loathsome habits.

tract. The smaller apparatus, formerly employed on the Florida mine, has been transferred to the Sherman shaft, until more powerful machinery is ready to take its place.

July 11th: The mines in Danville Dist. develop fairly as they are opened. The Young America ledge, which belongs to a St. Louis company, has been cut through the overlying limestone and down into the granite and porphyry formation, in which the vein matter is better defined and the ore of a richer quality. Work is going ahead upon a number of ledges with very fair promise of success. At Hot Creek matters are brightening up in a decided manner. The machinery of the Union mill from Austin has arrived at Hot Creek. It is the design of the owners to have it running in 90 days.

July 13th: The ore of the St. Louis mine is being hauled to the Keystone mill for reduction. A contract has been let to responsible parties for the delivery at the mill of a large lot of ore monthly.

Silver Bend Reporter, July 13th: A splendid 20-stamp mill will soon be erected at Hot Creek, by J. Miller, agent of the Boston & Reading Co. The greater portion of the machinery is new upon the ground. Heretofore considerable quantities of ore have been hauled through Hot Creek Dist. to Austin at great cost—not less than an average of \$80 per ton—for transportation alone. Three splendid mines have already been developed in the district and show large quantities of ore that good judges estimate will yield from \$100 to \$150 per ton. The predominating ores are kerargyrite, stetefeldite, and black sulphurets of silver. There are several other mines that indicate great value upon which a vigorous system of development is now prosecuted by substantial companies. Messrs. Gager & Selover, of the Providential Co. at Austin, are developing the Het Creek and Gazelle ledges with the most flattering prospects. J. C. Johnson's Silver Light has been sunk upon to the depth of 35 ft., with splendid results.

Work is being vigorously pushed forward on the Transylvania ledge, which was recently bought by an Eastern company. First class reduction works will be immediately erected at a site heretofore occupied by Olds & Crowell for a sawmill. The engine is of 60-horse power, with two large boilers, and is capable of driving a 20-stamp battery and its necessary machinery. Roasters will not be built until it is determined that the ore cannot be profitably treated by the ordinary wet crushing process.

Work has been suspended at the La Plata reduction works in obedience to orders received from the East, the headquarters of the company. The mines of the company are the Twin Ophirs and the Fairmount, and are unsurpassed by any in Central Nevada.

The Belmont correspondent of the Bulletin of this city, under date of June 22d, says: The Cortez Co. in Cortez Dist., employ about 50 hands. The Cortez ore, so far worked, has yielded at the rate of \$140 per ton. The mines will afford large quantities of \$100 ore.

The ore now being crushed from the Murphy mine, in Twin River Dist., yields between \$90 and \$100 per ton. By careful assorting, \$300 ore could be obtained from the mine. The rock is dry crushed. The mill has a capacity of reducing 18 tons per day, giving a daily yield of \$2,000. The ledge has widened from 16 ft. at the surface, to a width of 20 ft. in the lowest level.

A new 40-stamp mill will be erected this summer in Silver Peak Dist. The mill will be propelled by two 100-horse power engines. Each engine will have two boilers weighing 10,000 lbs. each.

The Combination Co. have 3,000 tons of ore, all of high grade, lying on their dump. Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, July 10th: Dall's mill in Washoe Valley, which was lately destroyed by fire, is now nearly rebuilt, occupying the same site, as formerly. The southern portion, intended for wet crushing, is furnished with a battery of 35 stamps, 12 Wheeler and 10 Varney pans, together with all other appliances usually found in a first class mill. The northern portion will be devoted to dry crushing and the Freiberg process, and will contain 25 stamps and 15 Freiberg barrels. The motive power will be water, in its season. A mountain stream furnishing a sufficient power for a portion of the season. During the remaining portion, steam will be used.

The Galena Smelting Works, who have had great difficulty in obtaining fire brick for their furnaces to stand the intense heat, think that they have discovered the grand desideratum, and are making brick from the



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W. B. EWER, SENIOR EDITOR.

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## San Francisco:

Saturday Morning, July 20, 1867.

## Notices to Correspondents.

## AN ANATOMIST.—A REMARKABLE PROPHECY

FULFILLED.—Our correspondent thinks a brief notice of some circumstances connected with the life of Professor Lawrence, who, by late advices by the cable, was struck by paralysis at the College of Surgeons, London, on taking his seat, and immediately preceding the examination of candidates for diplomas, in the eighty-fourth year of his age. Precisely half a century previous, in 1817, in the same hall, in his inaugural address, he concluded with the following remarks, which we quote, word for word. They occur in making brief mention of the modern history of comparative anatomy. Hitherto, however, science has not partaken of the triumph of legitimacy. "Le Seuer has gone, with many others, to the New World. If we cannot repress a sigh when we see men of peaceful pursuits thus torn from their native soil and driven into foreign climes, let us rejoice, not only for them, but for all mankind, that such an asylum for the victims of power and oppression exists; that there is not a spot, but a vast region of the earth, lavishly endowed with nature's fairest gifts, and exhibiting, at the same time, the grand and animating spectacle of a country sacred to civil liberty, where man may walk erect in the conscious dignity of independence, that

'That lord of the lion's heart and eagle eye,'

And enjoy full freedom of word and action, without the permission of those combinations or conspiracies of the mighty, which threaten to convert Europe into one great state prison. The numerous people whose happiness and tranquility are so effectually secured by the simple forms of a free government, are the growth of yesterday. At the same rate of progress, they may reach, in our lives, as gigantic a superiority over the worn-out despotisms of the Old World as the physical features of America—her colossal mountains, her mighty rivers, her forests and her lakes, exhibit in comparison with those of Europe." The prediction marked in italics the orator and scientist has lived to see fulfilled. Of how few prophets can the same be said?

\*Alluding to the expulsion of Napoleon and the return of the Bourbons to the throne of France, in consequence of which Le Seuer was expropriated and came to reside in the United States. This episode gave rise to the magnificent peroration inserted above.

CAXTON wishes to know if any printing establishment solely conducted by females ever existed previous to the formation of *The Victoria Press* (London) Society, which was formed at the suggestion and mainly by the efforts of Miss Farnworth—patronized, however, by Queen Victoria. Perhaps it will surprise our correspondent to be informed that not only amongst the earliest patrons of printing were females, especially those connected with the Dominican Sisters, founded A. D. 1292, at Florence, but further, that in 1476 under the spiritual directors of the convent, they established a printing press within its walls, the nuns acting the part of compositors. Many works of considerable value issued from this press between 1476 and 1484, some of which are highly prized by bibliopoles.

## Triumphs of American Genius.

American locomotives, since the late award at Paris, can take their place with American reapers, American water craft, American firearms (large and small), American fire engines, American pianos, etc., against all the world. The late triumph at Paris is not the first time that the American "iron horse" has distanced the track against all competitors; as the Russians have always given our locomotives the preference, while on the Great Western Grand Trunk and other railways in Canada, if we are not misinformed, the Yankee locomotives have invariably been found superior, for their particular work, to those of English manufacture—the locomotives of both countries being employed on those roads.

Again, some six or eight years ago, when the Great Southern Railway in Chili was about to go into operation, the directors determined to give the locomotive builders of the United States and Great Britain a chance to enter into competition for the equipment of that road. Four locomotives were ordered—two from this country and two from Great Britain. Previous to their arrival, quite an excitement was gotten up with regard to the probable merits of the rival machines. In due time all four of them arrived, were put up and got ready for work. Of course the interest in the result increased with the near approach of the trial. The English operatives indulged in deprecatory remarks with regard to the bright and elegant appearance of the Yankee machines; and our people were no doubt equally ready in poking fun at the ponderous, Titanic looking engines of Johnny Bull. The trial at length came off, and to the decided advantage of the American machines.

It was found that the English locomotives were not equal to their promise. The problem submitted was to furnish a locomotive that could do a certain kind of work—it was heavy work, up steep grades with sharp curves, such as are usually encountered in a mountainous country. The English freight machine was completely exhausted by a load which the American machine carried with ease. After several trials, the former performed in eighty-eight minutes the work which the latter accomplished in less than half that time.

The defeat of the English passenger engine was even more signal. The American locomotive made sixty miles an hour, with a 200-ton train, over gradients of fifty-six feet to the mile. The English locomotive averaged but thirty miles with the same train over the same track.

The trials were made under the direction of the superintendent of the road, who was himself an Englishman, but who yet cheerfully awarded the superiority to the American machines. It will be recollected that it was mainly due to the firmness and thorough engineering knowledge of an Englishman, that the late award at Paris was made to an American locomotive. The English mechanic seems to fail in his lack of adaptability. He works by rule, and that rule is established by his immediate surroundings. The English locomotive, for an English road, can hardly be improved; but it will not answer for any other locality.

The locomotive is an English invention, but on its introduction into this country it was completely re-cast and immensely improved. The perfected "iron horse" is essentially American, and especially indigenous is that noisy embodiment of democratic huzzas—the "steam whistle." When the locomotive was fairly perfected "Young America" was just beginning to go ahead. Since that time his strides in practical inventions and discoveries have been enormous. What he has accomplished, for war and for peace, is known to all the world. No other country can show such a chronicle of the triumph of invention and industry. The records of the Patent Office at Wash-

ington are a perfect maze of wonderment in their exhibition of mechanical progress and ingenuity. The sewing machine is of itself a monument for all coming time for our inventors. Agriculture has been completely revolutionized by our thrashing machines, our reapers, our cultivators, etc., etc. Our machine shops are filled with unnumbered devices for decreasing manual labor, and for perfecting the accomplishment of work. The "sun picture" was invented in New York simultaneously with the discovery of Daguerre. It was in America where the invention was really first made of practical utility. So of the telegraph. While the European savans had been for years telling the world that the electric spark would one day become the vehicle for the transmission of thought from one part of the continent to another, it took an American to accomplish the feat, and actually put their ideas into practice; and when the first transmission of thought was made through the telegraphic wires embodied in the expressive message, "What hath God wrought?" Young America stood forth before the world, high upon the summit of six thousand years, and for the first time began to talk in a language and with a tongue which betokened that his was a people destined to renovate the race, and make an impress on the world of matter and mind which shall be as unfaceable as time itself!

THE FOG TRUMPET.—Some interesting experiments will be made with the fog trumpet at Fort Point on the occasion of the departure of the scientific expedition, which leaves this city to-day, to take possession of the "Russian Possessions." As the cutter proceeds to sea, the trumpet will be sounded, in accordance with preconcerted arrangements, while observations upon the sound, its variations, the distance at which it can be heard, greater or less, its distinctness with the use of different reeds, etc., will be carefully noted, worked up, and sent back from Victoria upon the arrival of the expedition at that point.

This trumpet was for a long time looked upon as a failure, and so considered in England until the inventor hit upon the happy device of adding machinery to it, by which it was made to revolve. Before this improvement was added, a vessel has been known to approach the trumpet from a direction opposite to that in which its mouth is directed to within a mile without hearing its sound; while approaching from the other direction, it might be heard from eight to ten miles. The trumpet, as it is now made and operated, is considered the best fog signal ever devised.

## THE WILCOX &amp; GIBBS SEWING MACHINE.

It is a well known fact that many things which appear plausible in theory are not available in practice. From the fact that the seam of the Wilcox & Gibbs sewing machine can be ripped by a certain process, when occasion requires, many may have come to the conclusion that on this account it was not only unavailable, but good for nothing. But the favor with which this machine has met during the past seven years has shown that the failure is in the theory, and not in the work. We are informed by the agent, Mr. Samuel Swift, at 203 Kearny street, that over 60,000 machines have been sold during this time, being the fourth machine in the market in point of numbers sold.

## THE IRON WORK OF THE NEW EXCHANGE.

The neat iron railings for the court and rear, and the railings and candelabras for the front steps, were furnished by John R. Sims. The heavy iron work of the building was done by Hinckley & Co., of the Falton Foundry.

PAPER BAGS.—A single factory in Treuton made one hundred and twelve millions three hundred and twenty thousand paper bags last year.

## An Important Expedition.

The Revenue Cutter Lincoln, now in this harbor, will probably sail to-day for the newly-purchased American territory, which will doubtless be hereafter known as Alaska. This vessel, as has already been announced, goes up to take formal possession of the purchase in the name of the United States Government, and to establish postal and revenue regulations, etc. The Lincoln has been especially fitted up for this trip, and sails under command of Capt. Wm. A. Howard, one of the veterans of the Revenue service, and a gentleman well and favorably known to most of our old citizens. A scientific party accompanies the expedition for the initiation of a geographical and geological reconnoissance. This party has been organized under the direction of Prof. Pierce, Superintendent of the U. S. Coast Survey, and is conducted by Mr. Geo. Davidson, Assistant, U. S. Coast Survey, as Chief. With him are associated A. T. Mosman, as Astronomer; George Farquhar, as Hydrographer, with whom is associated I. Forney as aid; — Hamel, Engineer; Dr. Albert Kellogg, Botanist; W. G. W. Harford, Conchologist; T. A. Blake, Geologist, and John Leeds, Tidal Observer. All but the four last named are connected with the U. S. Coast Survey.

This expedition is one of no ordinary importance, and its results will be looked forward to with much interest, in both a scientific and commercial point of view. It is the first regularly organized scientific expedition which has ever been sent in that direction; but the season is so far advanced that but little time will be allowed for reconnoissance. It will, no doubt, be followed by a fuller and more complete expedition another year. The fitting out of such a party so soon after the completion of the negotiations by which that territory became a part of the United States, is characteristic of the energy of the American people, and is but an earnest of the enterprise which will speedily develop and build up a commerce and trade with that distant region, which, by its contrast with that of British Columbia, will add still more to the already growing desire on the part of the inhabitants of that Province to link their fortunes with those of the United States, and thus carry the stars and stripes, without a break or interval, from the Colorado to the North Pole.

## PETROLEUM FUEL.—The results of the

experiments at the East to test the value of petroleum for steam fuel, reach us very slowly, and in a form which renders them of very little account as data upon which to found any definite opinion as to the real merits of the new fuel. The opinions expressed by engineers and others who, from their presence at such trials, ought to be able to form a very correct judgment, are very enthusiastic in favor of petroleum, but their figures are stated in a very indefinite manner. The impression is given out that any specified amount expended in petroleum will do fully as much or more work than the same amount expended in coals, giving, as the advantage of petroleum, all the gain derivable from the saving of freight room, cost of handling, etc. As soon as we can lay our hands upon anything definite in the way of figures, we shall place all the facts before our readers. In the meantime it may be proper that we should remark that there is a greater difference between the relative values of coal and petroleum in California than in the Atlantic States. While petroleum can be delivered in San Francisco quite as cheap as it can be laid down in New York, the price of coal here is nearly double the price of the same article in New York. Hence California will be immensely more benefited by the anticipated change of fuel than the Eastern States.

THE MINES OF CHILI.—There are now in operation in Chili ten gold, twelve silver, and about one hundred copper mines.



**THE SANDWICH ISLANDS.**—The telegraph informs us that a treaty of reciprocity is in progress of negotiation, by which the productions of the Sandwich Islands will be admitted into this country, duty free, and *vice versa*; and the opinion is expressed that this is merely a preliminary step to an actual cession of the islands to the United States. The former is an undoubted fact—the latter may be true or it may be false. If not true, it ought to be. These islands are the half-way house between this port and China and Japan, with which countries we shall soon have established a most lucrative and extensive commerce. They are of no use to the natives, and of but little use to any other country than this. At the present rate of decrease of the native population, the time will come within the life of the present generation, when there will be scarcely a sufficient number of natives to hold the government offices there. The annual decrease of native population in these islands is most astonishing, and there appears to be no help for it. Within fifteen years at farthest, they must, from sheer necessity, pass into the hands of foreign residents, who will naturally seek the assistance and protection of some of the great powers of the earth. Which will it be? Surely this government will not be so negligent of its own welfare as to allow any of the nationalities of the old world to get a fast hold there. It would be suicidal to do so. It would only suffer a wrong, which, sooner or later, would have to be righted at the cost of much treasure and blood. The fate of Maximilian has probably taught Europe a lesson which both that continent and our own government may profit from in the future. Let this government extend the Monroe Doctrine to these islands—let it be done definitely and authoritatively, as in the case of Mexico, and the fruit, when fully ripe, will naturally fall into our own hands, without injustice or harm to any human being.

**AMERICAN STEEL.**—It has long been thought by mechanics generally, that Americans could not produce a first-class steel, especially such as is required for cutlery or for turning tools for iron. Most of our tool manufacturers employ, for such purposes, English steel made from the best Swedish iron. By a perusal of the article on another page, giving some notice of the products of the Philadelphia Steel Works, it will be seen that we now have manufacturers in our own country who are able to compete successfully with the best English manufacture. This company manufacture a class of steel which they call the "Non-parallel," a small sample of which was recently brought to this city by Mr. William H. Daffin, and sold at the rate of fifty cents per pound, although the best English steel in the market can readily be bought for sevenpence. The fact that our mechanics are willing to pay nearly three times the price of English steel is pretty good evidence of its superiority. This high-priced steel is intended only for the purposes mentioned, and is manufactured with the greatest care, and by processes, a portion of which are a secret with the house which originated the brand. We understand that the sample lot, wherever sold in this city, has given the most unqualified satisfaction. Another lot will soon be received, and a supply kept constantly on hand sufficient to meet the wants of our machinists and manufacturers.

**PERSONAL.**—We had the pleasure of a call, the past week, from Father Cichi, late Professor of Chemistry and Natural Philosophy at the Santa Clara College. The Professor went East on the steamer of yesterday, to take a similar professorship in the College at Georgetown, District of Columbia.

**CONTINENTAL Life Insurance Company**  
302 Montgomery street, corner of Pine.

**BRANDY FROM COAL.**—We alluded, a week or two since, to the fact that Berthelot, some ten or twelve years ago, obtained brandy from coal. It may interest some of our readers to know the process by which the thing was accomplished. It is given in an English paper as follows: "Coal gas is first distilled in the ordinary way and conducted into a receiver. It then contains about eight per cent. of hydrogenous bi-carbon, in a gaseous state, which is now separated therefrom by a complicated process (not described), and introduced into a close vessel containing sulphuric acid. This vessel is then agitated until the acid absorbs all the gas. Water is then mixed with it, and the whole distilled for alcohol, which now comes over, the same as when obtained from the fluid extracts of potatoes and other vegetable sources." Our coal mines, transformed into brandy-producing districts, rivaling the best *vin cognac* of our grape-growing regions, may yet become one of the wonders of the nineteenth century. How will it sound, a few years hence, to hear the disciples of Bacchus calling for the best "Mount Diablo," or a glass of pure "Nanaimo," etc.? There is no impossibility, or even any very great improbability, that, a hundred years hence, our temperance friends may be denouncing the "villainous black mineral" with even more vehemence than they now do the proposed extension of grape culture, because of the consequent increased production of intoxicating beverages which must accompany that branch of industry.

**THE NEW MERCHANTS' EXCHANGE,** on California street, was formally opened, on Monday evening last, with interesting and appropriate ceremonies. Thomas H. Selby, President of the Board of Trustees, presented a brief statement of the progress of the enterprise from its inception to the present time. Addresses were made by R. G. Sneath, President of the Chamber of Commerce, Mr. Swrin, Mr. J. W. Stow, and others. A poem was also read on the occasion by the author, W. H. Rhodes. The building is a credit to the taste and energy of its founders and an ornament to the city. One of the novel and important features connected with the management of the new Exchange is the New York plan of writing out upon blackboards the telegraphic news from all quarters of the world, so that the observer finds the news of to-day from London, New York, Oregon, Nevada, etc., as well as from every part of California, spread out before him as soon as it arrives.

**ABOUT GUNS.**—One of the Fort Pitt Foundry big guns was shipped from New York, on the 6th of June, for this port. Sweden has adopted an American breech-loader for the use of her armies. Austria, France, and other great powers, have rejected the American patterns on account of their cost and the length of time required to adapt machinery for their construction, although their general superiority is freely acknowledged. It is said that the Chassepot rifle, after firing ten rounds quickly, becomes too hot to hold; but the Sneider arm, it is claimed, has over and over again been fired so rapidly and continuously that water thrown upon the barrel passes off in steam, and that the stock has been actually charred, without any inconvenience to the firer, and without interfering in any way with the efficiency of the arm or ammunition.

The attempted assassination of the Emperor of Russia at Paris, it appears, was a very serious affair. The ball struck the head of a horse upon which an attendant was riding, passed into the carriage, and between the Emperor of Russia and the Emperor Napoleon, wounding a lady opposite. The blood from the wounded horse spirted into the carriage and upon the uniforms of the Imperial party.

**Contributed for Our Cabinet.**

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

175.—Mr. Geo. Deitz sends us a very fine specimen of silver ore from the Cherry Creek silver mine (elsewhere noticed), in the Shuswap District, British Columbia. The specimen is a black sulphuret, very rich, and almost identical with the richer sulphurets from the Ophir mine of Nevada.

176.—Is another silver specimen, sent by the same party, and taken from Kamloop Lake, Kamloop District, British Columbia. About fifty per cent. of the bulk of this specimen consists of silica. The silver is contained in a light, arsenical sulphuret, containing both antimony and lead.

**DELICATE MACHINERY.**—The friends and patrons of Mr. Theodore Kallenberg, machinist and model maker, will find, by reference to his card, that he has removed from his old stand on Market street, to No. 10 Stevenson street, near First, where he has fitted up anew with increased facilities for unishing everything in his line.

**THE LARGEST WATER-WHEEL.**—We believe the largest diameter of water-wheel ever constructed is now running in Green Valley, Solano county, in this State. It was built by Mr. George Dingley, and is sixty-five feet in diameter. If anybody knows of a larger one, we should be pleased to hear of it.

**ASSAYER AND CHEMIST.**—A gentleman who has had considerable experience as an assayer and chemist, in this city and elsewhere, desires employment, here or at the mines. Good references given. See advertisement.

**NORTH AMERICA Life Insurance Company.**

Usual Restrictions on Occupation and Travel **ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World  
**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery st.  
20v14nr5p SAN FRANCISCO.

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTT, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**OLNEY & Co.,** Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. ncl0

**JACOB SEW,** Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tr

Persons desirous of obtaining the finest Wood Engravings, can procure them only by having the picture photographed on the block, by **D. H. WOODS,** No. 28 Third street. 19v14trnr

**Gold Bars,** of whatever size, if well cast, assayed for two dollars, at A. P. MOLLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14-3m

**Perry Davis' Vegetable Pain Killer.**  
The universal remedy for internal and external complaints. At this period there are but few unacquainted with the merits of the Pain Killer; but while some extol it as a liniment, they know but little of its power in easing pain when taken internally, while others use it internally with great success, but are equally ignorant of its healing virtues when applied externally. We therefore wish to say to all that it is equally successful, whether used internally or externally, and its use is universal and immense. The demand from India and other foreign countries is equal to the demand at home, and it has become known in those far-off places by its merits—the proprietors have never advertised it or been to any expense in its introduction into foreign lands. Sold by all Medicine Dealers everywhere. 2v15-1m

**Balders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 10v14Spqr

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with **ROSE GOLD**—thus restoring them to their original usefulness and beauty.  
Call and examine the work. Finest quality of artificial work also manufactured. 15v14-tr

**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler-repairs alone. One in operation at the San Francisco Foundry, Fremont street, where rights can be procured, or all needed information, on application, in person or by letter, to **6v14-ty AUSTIN A. WELLS, Agent.**

**Assayer and Chemist.**  
A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given. Inquire at this office. 4v15tr

**THEODORE KALLENBERG,**  
Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc.  
No. 10 Stevenson street, near First, San Francisco.  
Repairing promptly attended to. 3v15tr

**LINSEED OIL.**  
**The Pacific Linseed Oil & Lead Works**  
Are now prepared to furnish dealers and consumers **Pure Linseed Oil,** Raw or Balled, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market. Orders from the country will have prompt attention.  
Address, **Pacific Linseed Oil and Lead Works,** Care of L. B. BENCHLEY & CO., 19v14-3m5p San Francisco.

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Embracing ALL SIZES of Steamboat Shafts, Cranks, Pistons and Connecting Rods, Car and Locomotive Axles and Frames.  
—ALSO—**HAMMERED IRON**  
Of every description and size.  
Orders addressed to **PACIFIC ROLLING MILL and FORGE CO.,** Post Office, San Francisco, Cal., will receive prompt attention.  
The highest price paid for Scrap Iron. 9v143m5p

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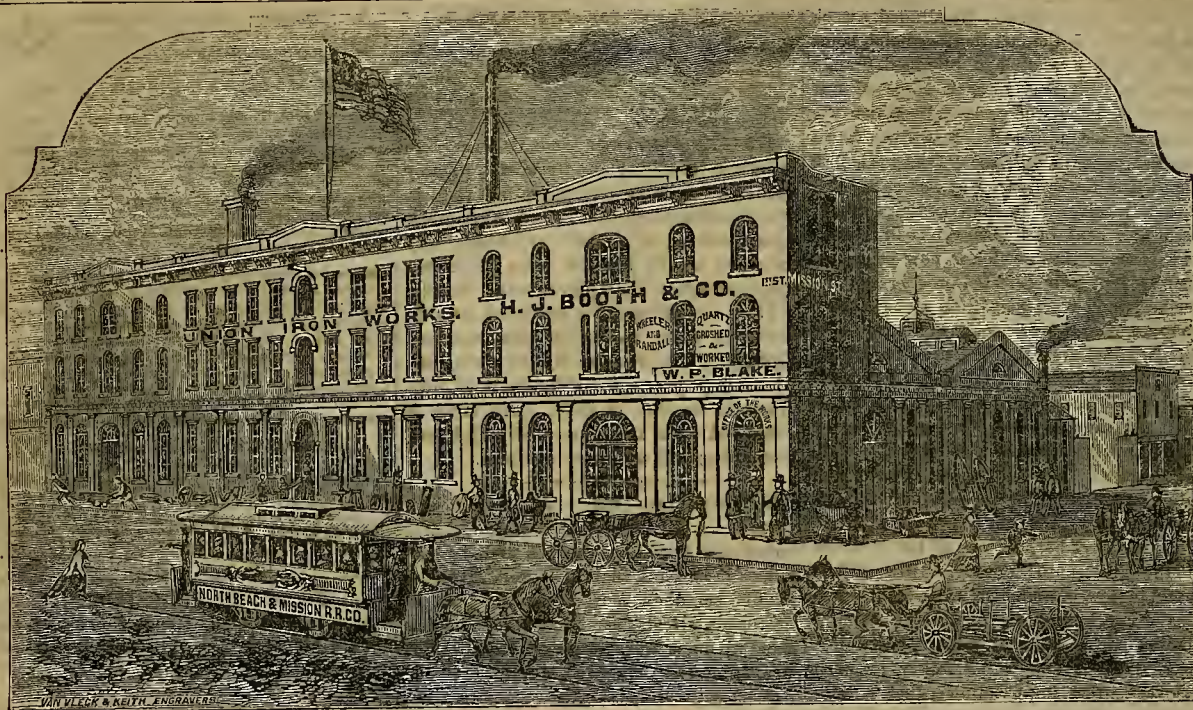
**JACOB C. BEIDEMAN, deceased.**  
—BY—  
**JOHN W. BRUMAGIN, Administrator,**

With the Will annexed, will commence, on **Wednesday, the 24th day of July,**  
At 12 o'clock M.,

And continue from day to day, until the whole is sold, at the auction room of **MAURICE DORE & CO.,**  
327 Montgomery Street.

**TERMS, IN UNITED STATES GOLD COIN.**  
1-4 Cash;  
1-4 in One Year,  
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Deferred payments to bear interest at eight per cent. per annum, payable quarterly, and secured by mortgage on the property.  
Catalogues of the property can be obtained of **H. F. WILLIAMS & CO.,** Clay street, or at the office of **MAURICE DORE & CO.,** 327 Montgomery street. 1v15-3w  
Subscribers who do not receive the *Mining and Scientific Press* in due time, are requested to inform the publishers.





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**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

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**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curvo Pan, Zenus Wheeler's improved flat bottom pan, Belin's pan, Vench's tubs, Prater's concentrators, Walker's pans, Boers' pan, Cornish Barrels, Arastra Centring, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Bars and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

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Russia Iron Screws, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

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**STEAM ENGINES AND QUARTZ MILLS**

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**Self-Adjusting Piston Packing,**

Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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**NEW GRINDER AND AMALGAMATOR**

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**AMALGAMATOR AND SEPARATOR,**

**Knox's Amalgamators,**

WITH PALMER'S PATENT STEAM CHEST,

Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.

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Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

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**Steam Engines, Boilers,**

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**WILLIAMS, ROOT & NEILSON,**

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**CROSS' PATENT BOILER FEEDER,**

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**PACKING**, for new and old cylinders, manufactured to order.

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**MANUFACTORY.**

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Is re-cut and warranted as good as new, or no charge. The only establishment in the State. We also manufacture Reaper and Mower Sections.

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**MACHINE WORKS,**

Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.

**STEAM ENGINE, FLOUR AND SAW MILL**

**And Quartz Machinery, Printing Presses,**

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**MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.**

Special attention paid to Repairing.

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**Wine, Cider, Cotton and Tobacco Presses**

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**STEAM ENGINES AND BOILERS,**

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.

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**Packing**, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

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The best of the kind now in use in this State or anywhere else

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Which only needs examination to be appreciated.

**Tyler's Improved Water Wheel,**

Giving greater power at lower cost, than any wheel in use

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All Wheels warranted to give the power as set forth, or the money will be refunded.

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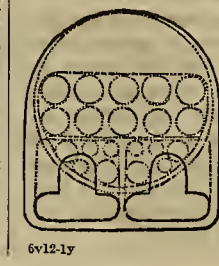
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9v146m

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**STEAM ENGINES OF EVERY DESCRIPTION BUILT**

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**HOISTING AND PUMPING ENGINES,**

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The attention of the parties engaged in shipping or inland navigation is called to the

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25v12-3m



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**SPORTING, CANNON AND MUSKET POWDER,**  
Of superior quality.  
**FUSE AND SHOT,**  
Always on hand and for sale at the office of the  
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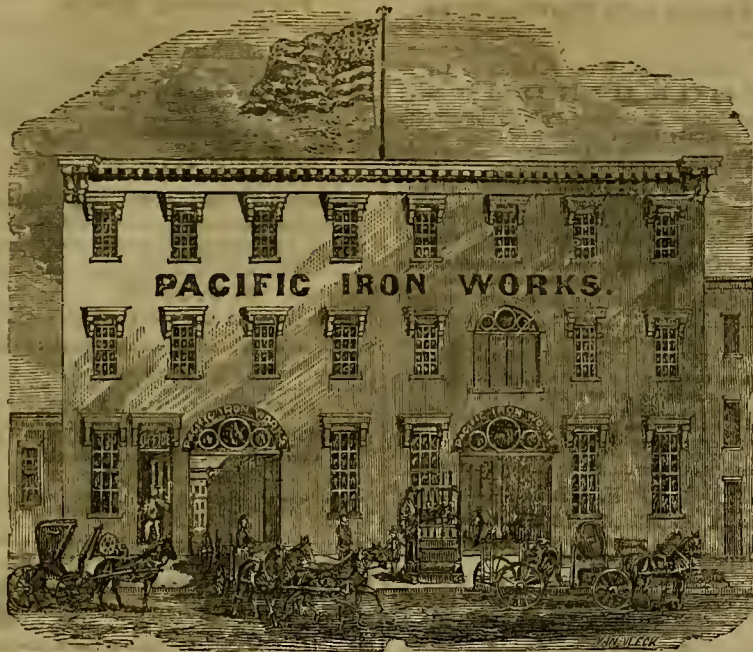
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MANUFACTURED  
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ENGLISH AND SWISS WATCHES,  
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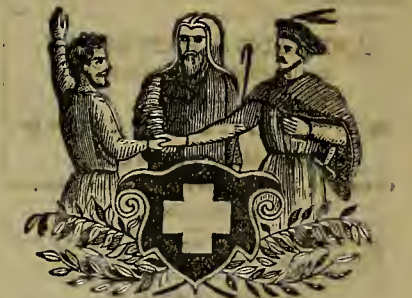


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J. N. ECKEL, M. D., Homeopathic Physician 226 Post Street, San Francisco. 24v14-1r

DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets [OVER SAN FRANCISCO BATHS] SAN FRANCISCO. 20v10-4q

J. W. WINTER, DENTIST. Office, 647 Clay street..... San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$20 to \$35. Teeth extracted without pain by local application. 18v14-1f

RADICAL CURE OF RUPTURE! DR. A. FOLLEAU Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 24v14-11pf

DR. A. FOLLEAU Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK.

On the 10th, 15th and 30th of each month that has 31 days

On the 10th, 19th and 30th of each month that has 30 days

When the 10th, 19th and 30th fall on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.

Departures of 15th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America.

The following Steamships will be dispatched on dates as given below:

July 30th—GOLDEN CITY..... Capt. W. F. Lapidge, Connecting with OCEAN QUEEN, Capt. Conner

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.

An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers requested to have their baggage on board before 10 o'clock.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBRO & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIEMANN, MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, —AND— CENTRAL CITY, COLORADO. 19v12-1y

EUROPEAN METALLURGICAL WORKS, —AND— Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the (so-called) "reluctant ores," are having special attention paid to their successful treatment, assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL. The Proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business. S. P. KIMBALL, J. R. MURPHY. 10v10

J. A. BAUER, Chemical Laboratory, AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO.

Careful Analyses made of Ores, Minerals, Waters, Oils, Lignors, Wines, Products of Art, etc.

Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Oology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Cold Chloride, Platina Chloride, Sodium Amalgam, Sulphate of Copper, etc., for sale. 12v14-6m

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the fineness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry.

The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

LACOUR'S SARSAPARIPHERE BITTERS.

They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate constiveness, and remove regularly every impurity of the blood. They are unrivaled as a remedy for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them?

The Old Man Takes them as a gentle stimulant and mild rejuvenator. The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overworked body. The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health, to give a sparkle to her eyes, and sweetness to her breath. The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family. The Wife Takes them to invigorate and strengthen her system, and as an aid to aature in regulating her periodical sickness.

Children Take them as a gentle, yet effective tonic. The Dashaury Takes them as a mild, pure stimulant, containing none of the deleterious, essential and tussil oils of forbidden drinks. The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does notadden or destroy. The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.

Everybody Takes Them! PRO BONO PUBLICO: 2v15-6m



New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents. San Francisco, May 1st, 1866.

Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

New Mining Advertisements.

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Ayer, Isaac; Haffron, Jas.; Hedges, Mary C., etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at the office of the Company, 413 and 420 Clay street, San Francisco, Cal., on the fifth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

FRANK H. HAMILTON, J.A., Secretary. Office, 413 and 420 Clay street, San Francisco, jy20

Lady Franklin Gold and Silver Mining Company.—Silver Mountain Mining District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John Barsley; John Barsley; John Barsley, etc.

And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at 305 Montgomery street, San Francisco, on Tuesday, the sixth day of August, 1867, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary. Office, 305 Montgomery street, Rooms 5 and 6, San Francisco, California. jy20

Neuge & Corcoran Silver Mining Company.—Location: Storey County, Nevada.

The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 338 Montgomery street, on MONDAY, the 19th day of August, 1867, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc.

A. P. ORENE, Secretary. jy20

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Pans, etc. FOR SALE. The mine has three main veins, and more than \$20,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to BELLO & FERRER, Bankers, 533 Clay street, San Francisco.

Mining Notices—Continued.

Adelin Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twentieth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like E. F. Baudwin; E. F. Baudwin; E. F. Baudwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at No. 413 Montgomery street, San Francisco, Cal., on Monday, the fifteenth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. jy29

Postponement.—The above sale is hereby postponed until Monday, the twenty-ninth day of July, 1867, at the same hour and place. By order of the Board of Trustees, A. C. TAYLOR, Secretary. jy15

Cinco Senores Gold and Silver Mining Company, Copala, Sinaloa, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the first day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Haywood Judson; J. C. Beldman; R. C. Beldman, etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at the office of the Company, 413 and 420 Clay street, San Francisco, Cal., on the fifth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

FRANK H. HAMILTON, J.A., Secretary. Office, 413 and 420 Clay street, San Francisco, jy20

Lady Franklin Gold and Silver Mining Company, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John Barsley; John Barsley; John Barsley, etc.

And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at 305 Montgomery street, San Francisco, on Tuesday, the sixth day of August, 1867, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary. Office, 305 Montgomery street, Rooms 5 and 6, San Francisco, California. jy20

Neuge & Corcoran Silver Mining Company.—Location: Storey County, Nevada.

The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 338 Montgomery street, on MONDAY, the 19th day of August, 1867, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc.

A. P. ORENE, Secretary. jy20

De Soto Gold and Silver Mining Company.—Location of Works: Star District, Humboldt County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 63 Exchange Building, northwest corner Washington and Montgomery streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, on Monday, the thirtieth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, JOHN M. BURNETT, Secretary. Office, No. 63 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California. jy15

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 415 Montgomery street, San Francisco, Cal., on SATURDAY, the twentieth (20th) day of July, 1867, at 3 1/2 o'clock, P. M., for the purpose of electing Trustees to serve for the ensuing year, and such other business as may properly come before it.

R. WEGENER, Secretary. San Francisco, June 15, 1867. jy15-9w\*

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of July, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office of the Company, No. 706 Montgomery street, (Room No. 4, 2d floor) San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, A. W. COLBURN, Secretary. Office 706 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. jy29

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that a meeting of the Stockholders of the Gold Quarry Company will be held in San Francisco, at the office of the Company, No. 706 Montgomery street, Room No. 4, second floor, on MONDAY, the twenty-ninth day of July, at 12 o'clock, noon, of that day, for the purpose of taking into consideration the increase of the Capital Stock of said Company, from the sum of six hundred thousand dollars, divided into six hundred shares of \$1,000 each, to the sum of two millions four hundred thousand dollars (\$2,400,000), divided into twenty-four hundred (2,400) shares of one thousand dollars (\$1,000) each.

G. D. ROBERTS, A. C. PEACHY, L. MAYNARD, I. FREEBORN, E. WERTHEMAN, Trustees of the Gold Quarry Company. T. W. COLEMAN, Secretary. San Francisco, June 24th, 1867. jy29

Hope Gravel Mining Company.—Location of Works and Property: Orass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of June, 1867, an assessment (No. 16) of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 629 Clay street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, DAVID WILDER, Secretary. Office, No. 629 Clay street, San Francisco, Cal. jy29

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of July, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 5 Government House, corner of Sansome and Washington streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the fifth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, J. M. BUFFINGTON, Secretary. Office, No. 6 Government House, corner of Washington and Sansome streets. jy15

Neuge & Corcoran Silver Mining Company.—Location of Works: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 63 Exchange Building, northwest corner Washington and Montgomery streets, San Francisco, California.

J. M. BUFFINGTON, Secretary. Office, No. 6 Government House, corner of Washington and Sansome streets. jy15

Seaton Mining Company.—Location of Works: Drytown, Amador County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Wm Ashburner; Peter H Burnett; E J Crane, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets San Francisco. jy15

Sophia Consolidated Gold and Silver Mining Company, Sonora, Tuolumne County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eleventh day of June, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like E. W. F. C.; Welles, Samuel, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of June, A. D. 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by J. Middleton & Son, 404 Montgomery street, San Francisco, Cal., on Friday, the twenty-sixth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

DAVID E. JOSEPH, Secretary. Office, 641 Washington street, San Francisco. jy15

St. Louis Silver Mining Company, Cortez District, Lander County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fourth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Shares, Amount. Lists names like Baldwin, John E.; Berry, Henry; Cassel, John F., etc.

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Manrice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the second day of July, 1867, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. jy16

Postponement.—The above sale is hereby postponed until Monday, the 29th day of July, 1867, at the same hour and place. By order of the Board of Trustees, R. N. VAN BRUNT, Secretary. jy29

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. Verdenal, offices, 22 Court Block, 636 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirty-first day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco. jy15

Whittoreh Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of fifteen dollars (\$15) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. Verdenal, offices, 22 Court Block, 636 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees, N. O. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco. jy15

Postponement.—At a meeting of the Board of Trustees, held June 21st, 1867, the order was rescinded (No. 7) made February 14th, 1867, was rescinded. N. O. FASSETT, Secretary. jy29

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) complicated by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business to none but active and experienced collectors. The Mining and Scientific Press Patent Agency has strictly complied with the regulations of the Department, and properly filed all necessary papers as Claim Agents.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired. This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the amalgamated.

Sellers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed. Mill men are invited to examine these pans and setlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of fallings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR. For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer of wood. By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, proctored, some time since, a reissue of the Patent, bearing date January 9th, 1856.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

QUARTZ MINERS, MILLMEN,

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

First Class Mill,

In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps.

Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or J. B. HITCHCOCK, Millwright, Russ House.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 SAN FRANCISCO.

NELSON & DOBLE,

AGENTS FOR:

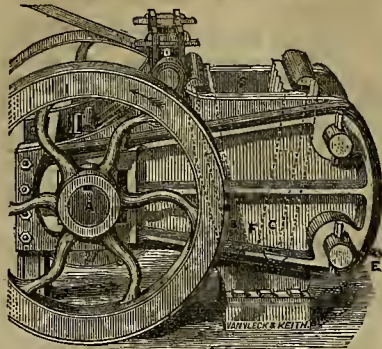
Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 321 Pine Street,

Between Montgomery and Sansone, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Shattering Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the operators are enabled to offer the best machines to the public at the following low terms: No. 1.—Or 10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600 No. 2.—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour. \$850 No. 3.—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour. \$1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the largest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: JAMES BRODIE, Esq., San Francisco.—My Dear Sir: I receive me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1856. For particulars will be afforded on application to the subscribers. Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1856, the penalty charged for using the same will be raised to the sum of \$100 per Barrel. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 25th, 1855.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR BRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations affixed on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1855. BRODIE & RADCLIFF, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine WATER WHEEL.

THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use, at this date in California and Oregon, doing all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.—E. Stockton, Folsom; O. Simpson, Oakland (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular to KNAPP & GRANT, 267 1/2 Washington street, San Francisco.

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets, and the treatment of rebellious ores is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address: F. M. SHAW, San Francisco, care Mining and Scientific Press. 267 1/2 3m

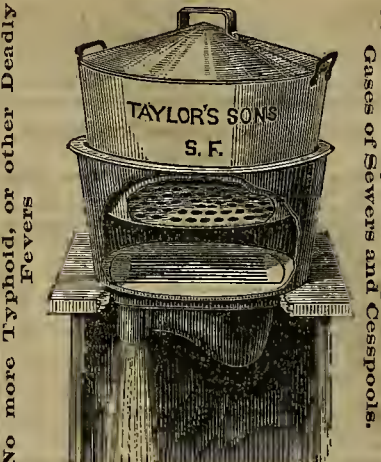
Notice to Miners, Well-Borers and Water Companies,

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest Improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-ly Stove Store, No. 125 Clay street, below Davis.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

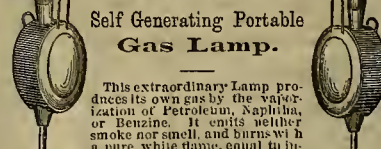
HEALTH! HEALTH!



Taylor's Stench Traps and Garbage Baskets,

To prevent this, purchase one of Taylor's Stench Traps and Garbage Baskets, and promote the health, comfort and cleanliness of your family. For description see Mining and Scientific Press, April 6, 1857. Sold wholesale and retail by TAYLOR & SONS, at No. 429 Pacific street, San Francisco. 15v14tf

THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for mining purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivalled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

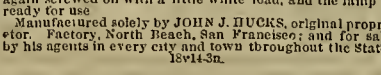
Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 15v14-2a.

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, or means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Table built to order. No. 28 Second St., and 108 and 110 Jessie St. Saa Francisco. 2v15qy

ROOT'S PATENT FORCE BLAST BLOWER.

Adapted for Smelting, Foundry, Mining and Steamships. Requires 50 per cent less power than any Blower now in use. For further particulars, address ROBERT BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 1v15 10ptf

National Mineral Land Law, Instructions, Blanks, Etc.

Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & Co., office Mining and Scientific Press, San Francisco.

The Fire Engines of Europe.

Nothing strikes an American with more surprise in a large European city than the backwardness manifested there in the introduction of appliances for the extinguishment of fires. Even in the British Islands, according to the Mechanics' Magazine, there are but two cities which have ordered a second steam fire engine. A Paris correspondent of the Alta, of this city, gives the following description of the Fire Department of Paris, as it appeared upon a recent public occasion:

They are dressed in the same manner as Lafayette Hook and Ladder Company used to be in your city before the Paid superseded the Volunteer Fire Department— brass helmets and all that sort of things—and are a fine, well-drilled body of men. Each company, attended by its band, marched in front of a pavilion for inspection, worked their engine, and then started off on a dead run from the field. The functionaries who perform the duties of those hearty young fellows who, when the engine is being whirled through the streets, shout with stentorian lungs, "Lively, now boys, lively!" "break her down, boys! break her down!" are furnished with trumpets, and keep up a very inspiring toot while the company is in motion. In point of melody, I must say it is an improvement upon our way of doing things. In relation, however, to the apparatus of these fire companies, I am not prepared to go into great ecstasies. It resembles more a bath tub on wheels than a fire engine. It is drawn by six or eight firemen easily. The balance of the company are furnished with buckets! When a fire breaks out, these latter station themselves in a line to the nearest supply of water, and pass bucket after bucket to the engine, where it is by hand labor forced into the hose. They have no idea of suction hose in France. They have been passing water in buckets to their engines for centuries, and they will stick to that way of doing things until the Emperor takes the matter in hand, and woe to the unfortunate youth who, returning late from a party with white vest and white kids, stumbles upon the fire line. To work he has to go, and that without cessation, until the fire is put out. As might naturally be expected under these circumstances, people in Paris, instead of running to a fire, run away from it with the utmost celerity. To the steam fire engine the people of Paris will, of course, have to come in the end, no matter how strongly they oppose innovation. So efficient is their mode of dealing with the "devouring element," that a company of "pompiers" (as they are called) is stationed in almost all the public buildings. The fire department of the Exposition is composed of more men than are considered necessary to insure the safety of the city of San Francisco. Several thousand men are now kept in Paris lounging about their quarters, with brass helmets on their heads, who might be engaged in some branch of productive industry, because there is an objection to keep up with the progress of the times, or, more properly speaking, a disinclination to accept new ideas, particularly if those new ideas are of foreign growth.

CORAL JEWELRY.—Coral jewelry has become so fashionable in Paris that it commands, even in the rough, a price equal to about twenty times its weight in gold.

The rose pink variety commands the highest price. In one of the show cases at the Paris Exhibition, there is a necklace, consisting entirely of coral, which is valued at \$2,300 in gold. The same show case contains a great variety of other coral ornaments, such as bracelets, ear-rings, cameos, etc. Their great cost is due to their exquisitely delicate and elaborate workmanship. Heretofore jewelry of this description has generally been conspicuous for its clumsiness and exceeding want of taste. Under certain conditions, coral is an excellent material for art. Its beautiful color, its solidity of texture, resistance to atmospheric action, etc., greatly recommend it. There are some fifteen varieties of coral known to commerce, but a small portion of which are fit for artistic finish. Natural coral of the most choice variety is worth twenty times its weight in gold, and has been for years. One of the finest specimens in this country is to be found in the cabinet of Yale College.



**WHITE COPPER.**—The London Mining Journal, some five or six years ago, gave the following erroneous statement about the alleged manufacture of "white copper" by the Chinese. The statement was vouched for by a correspondent, and was given as follows:

Tradition says that the Yun-Nán district formerly produced white copper, the ingots of which that are preserved being of a fine grain, and harder than that at present obtained. The copper when raised is red, and from the description given by the various workmen, the writer learned that the ore, when taken from the mine, was placed on a layer of wood, covered also with wood and kindled. At the Lon-Kon-Tehang mine this operation was repeated seven times, in others five, and in some only three times, experience being the only guide as to the number of times necessary for each description of ore. The ore thus heated was reduced to powder, or small grains, and 700 pounds taken therefrom was placed in a large furnace on a bed formed of a mixture of coal and oak charcoal, covered with some of the same mixture, and kindled; this operation was not repeated, but if the ore were of good quality, the result would be from 220 to 300 pounds of copper, in a roughly formed ingot. Four small furnaces were then brought into requisition in place of the larger one above mentioned; a fact that claimed particular attention, and a point upon which the workmen were unanimous, was, that neither coal nor oak charcoal ought to be employed in this part of the operation, but that it was absolutely necessary to use fir charcoal. From this rough ingot eighty pounds were taken, and twenty pounds placed in each of the furnaces, when, if the ingot were good, it gave about 12½ pounds for each furnace. Two of these pieces were taken and again submitted to the fire, with five pounds of the best red copper, a great heat was obtained, and about nine pounds of copper was usually the result. These preparatory operations being completed, three pounds of the double refined and three pounds of the triple refined, mixed with 2½ pounds of the best red copper, were fused, and when the molten iron began to show a white heat, one ounce of tin (kienne) was thrown in, and the copper almost instantaneously became white; the product, if the operation was well conducted, being about 4½ pounds.

**MONUMENTS TO GENIUS.**—There are to be monuments erected in the city of New York, for two of the greatest geniuses of the world, and claimed as the children of that city—Robert Fulton and Professor Morse—inventors of the steamboat and the telegraph.

**BELLS.**—It is said that bells will prevent the depredation of dogs among your sheep. A dog that knows enough to kill sheep also knows enough to be still and sly about it.

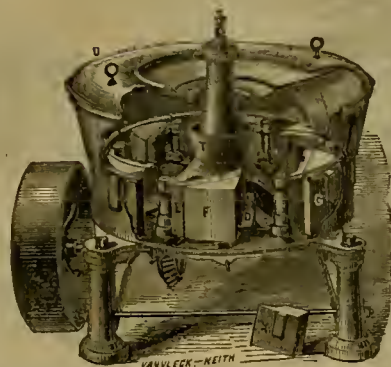
**The Commercial Herald**  
—AND—  
**MARKET REVIEW**  
Will be issued early on  
**EVERY STEAMER-DAY MORNING.**  
(TRI-MONTHLY).  
Office—Southwest corner Washington and Battery streets,  
Opposite Post Office and Custom House.  
The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.  
**The Letter Sheet Market Review,**  
Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the  
**Weekly Stock Circular.**  
Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**CUT NAILS.**  
2,000 KEGS ASSORTED SIZES.  
For sale in any quantity, to close invoice, at the very  
Lowest Rates, by  
**THOS. H. SELBY & CO.,**  
116 and 118 California Street,  
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**Our Patent Agency.**  
The PATENT AGENCY of the MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

**HINKLE & CAPP'S**  
**CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

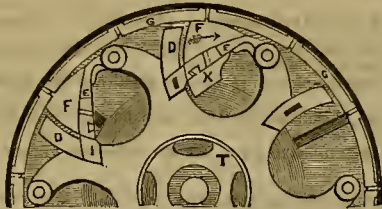
Patent dated April 16th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs each, doing its work rapidly, thoroughly and effectually.

This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pebbles or iron, accidentally introduced with the crushed ore, as these can readily pass each muller separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each muller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this unit is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 5 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, muller-halter; F, muller plate or shoe; G, side die; H, supporting lip; D, bearing surface; I, feeder; X, weight to counter-balance wear of muller plates, or shoes; L, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.  
We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or muller made for the same purposes, and adapted to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.  
For full description and illustration, see Mining and Scientific Press, June 15, 1867.

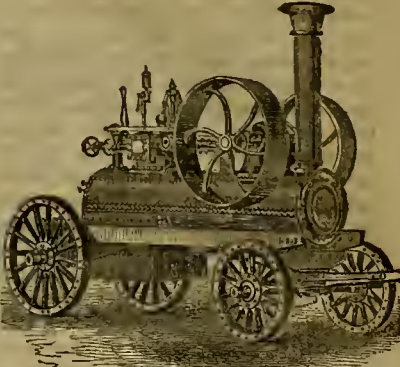
**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of mullers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$500, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMSALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folson, where they are manufactured.  
Send for Circulars.  
25v14-1f

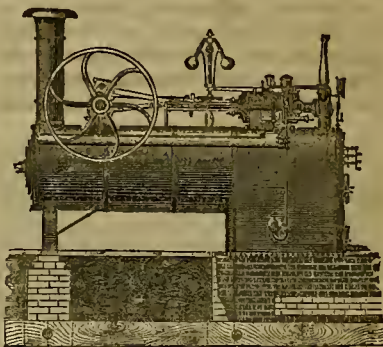
**Portable Steam Engines!**

"Hoadley's" and "Hittinger's" Make.



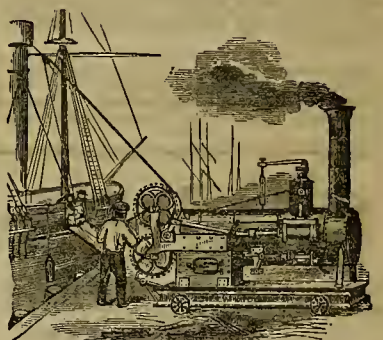
HOADLEY'S.

FOUR SIZES,  
8, 10, 12, and 15-Horse Power,



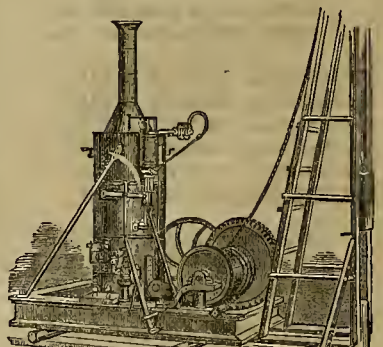
HOADLEY'S.

3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,  
5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,  
5 and 7-Horse Power,

**Stair Work of all Kinds,**  
MADE TO ORDER!  
And Shipped to all parts of the Coast.  
**N. P. LANGLAND,**  
**STAIR BUILDER,**  
No. 49 Beal street,  
Between Market and Mission,  
SAN FRANCISCO.  
10v14-1y

**THE CENTRAL PARK OF THE PACIFIC.**  
**Woodward's Gardens,**  
ART GALLERY,  
**MUSEUM, GYMNASIUM,**  
—AND—  
**ZOOLOGICAL GARDENS.**  
THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.  
The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Ple-Nie.  
To all departments new attractions are being constantly added.  
These Gardens are accessible by the Howard, Folson and Market Street Cars.  
Entrances on Mission and Valencia streets, between Thirtieth and Fourteenth. OPEN EVERY DAY.  
Admission to all parts, 25 CENTS. Children, under 12 years, half price. 24v14qr

**THE WILLCOX & GIBBS**  
IMPROVED NOISELESS  
**Family Sewing Machine**  
Challenges the world. It has beaten the Florence badly. Come and see it, or send for Report of the trial.  
**SAMUEL SWIFT, Agent.**  
13v14-6m  
203 Kearny street, near Sutter.

**Pratt's Abolition Oil.**  
FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Wound, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 322 Sacramento street, opposite What Cheer House, San Francisco. 10v14-1y

**GOVERNMENT HOUSE,**  
Corner of Sansome and Washington sts.  
SAN FRANCISCO, CAL.  
THE STREET CARS PASS THIS HOUSE IN every direction every ten minutes.  
The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels.  
Vv13-6m  
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**IRON & METAL IMPORTING COMPANY,**  
Nos. 25 and 27 Fremont street, near Market,  
SAN FRANCISCO.  
Bar and Sheet Iron; Boiler Plates and Tubes; Gas and Water Pipes, Gas Fittings, Anvils, Cast Steel, etc. 18v14-2m

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.  
These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes.  
Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and at the same expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.  
All sizes on hand from 3 to 30 horse power, with and without carriages.  
Also, Portable Saw and Grist Mill's.  
For sale by  
**TREADWELL & CO.,**  
9v14-6m15p  
Corner of Front and Market streets



THE PARIS EXHIBITION.—Bayard Taylor in a letter to the New York Tribune, under date of May 14th, says that the visions of overflowing hotels, of crowds of bewildered strangers looking for lodgings, of impositions, of unheard-of expenses, etc., have happily proven false. Comfort and moderate charges are the rule. Mr. Taylor, who has seen all the great International Exhibitions which have been held up to the present time, expresses the opinion that the present one, though it is not quite equal, in its general features, to the London Exhibition of 1851, is nevertheless fully entitled to be considered a success. In some respects it is short of what had been anticipated, yet in others it is far more than could have been expected. He thinks that these Exhibitions are held at too frequent intervals—that once in ten years is as often as the world requires such enormous undertakings.

DAUGHTERS.—Pulu mattresses left lying upon shed roofs and other places in the rear of dwellings are very liable to be set on fire by flying sparks, and thus kindle dangerous fires. Several accidents of this kind have recently occurred. Pulu takes fire from a spark almost as readily as tinder.

MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—*Tribune Union.*

THE MINING AND SCIENTIFIC PRESS, San Francisco, has entered on its sixteenth volume. The Press is worth its weight in gold to the artisan and the miner, and is always filled with original matter of deep interest to all classes.—*Amador Ledger, July 15th.*

BY MAIL.—The Mining and Scientific Press will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

METALLURGIST.—A practical metallurgist, experienced in all branches of his business, and particularly in the manufacture of TOUGH COPPER, wants employment. His address can be had the office of the Mining and Scientific Press. 25714-4w\*



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ORGANS,  
All kinds

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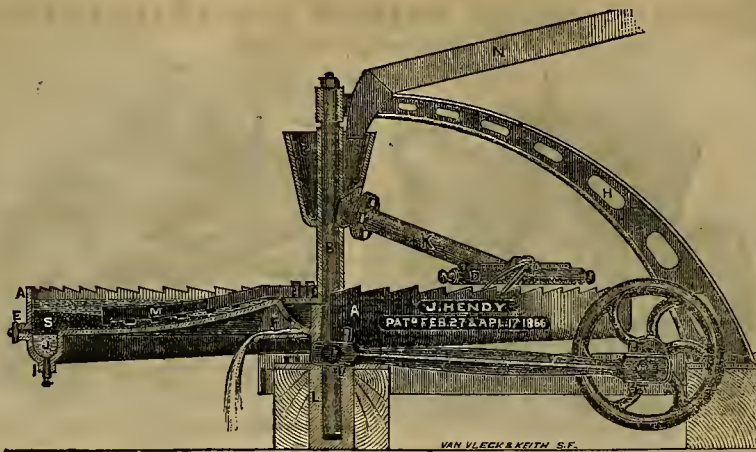
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O. P. Truesdell, having this day become associated in the business of the MINING AND SCIENTIFIC PRESS JOB PRINTING OFFICE, the same will hereafter be conducted under the firm-name of "Truesdell, Dewey & Co." at the old place, No. 505 Clay street. With additional new material and the best of workmen employed, we can guarantee entire satisfaction to all old and new customers.  
TRUESDELL, DEWEY & CO.  
San Francisco, April 15, 1867.

HENDY'S LATEST IMPROVED CONCENTRATORS,



FOR GOLD AND SILVER ORES,  
With Revolving Stirrers and Rotary Distributor.

Can be seen in Operation at the Union Foundry, First St., San Francisco.

Directions for Operating Hendy's Concentrators:

- The sulphurets are drawn off while the Concentrator is in motion, in the following manner:
- FIRST—Set the Pan, A, level, by its inner rim.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in future, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length. The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

References:

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:
- EMPIRE MILL.....Grass Valley, Nevada County.
  - ONEIDA MILL.....Jackson, Amador County.
  - SPRING HILL MILL.....Amador, Amador County.
  - GOLDEN GATE MILL.....Volcano, Amador County.
  - GOLDEN RULE MILL.....Stewart Flat, Placer County.
  - BENTON MILL.....Bear Valley, Mariposa County.
  - LOUISIANA MILL.....Coulterville, Mariposa County.
  - PEOPLE'S MILL.....Allegheny, Sierra County.
  - TYRON & CO'S MILL.....Prescott, Arizona.
  - WOOLSEY & CO'S MILL.....Prescott, Arizona.
  - NOYES & CO'S MILL.....Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.

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GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.  
VULTURE CO. (4 Concentrators).....Prescott, Arizona.  
MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.  
PLYMOUTH ROCK MILL CO. (2 Concentrators).....Mariposa County.  
B. F. BROWN (1 Concentrator).....Melbourne, Australia.  
MOREY & SPERRY (1 Concentrator).....New York.  
And in use in many other parts of this coast.

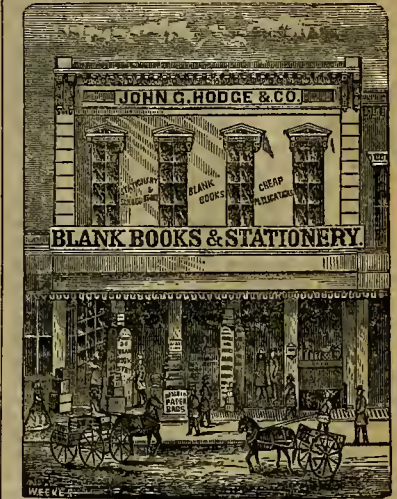
These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

CAUTION.

All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."  
Orders or letters of enquiry, address,  
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Union or Fulton Foundry, San Francisco.  
March, 1867.

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SAN FRANCISCO, SATURDAY, JULY 27, 1867.

VOLUME XV.  
Number 4.

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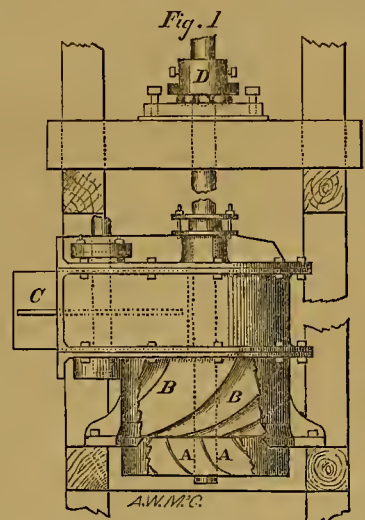
Eureka Mine, Grass Valley.  
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SCIENTIFIC MISCELLANY.—  
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### Lind's Improved Jonval Turbine.

We give annexed a side view and plan of Lind's improvement on the Jonval Turbine, which, through the agency connected with this office, was patented by Mr. A. Lind, of this city, in October last.

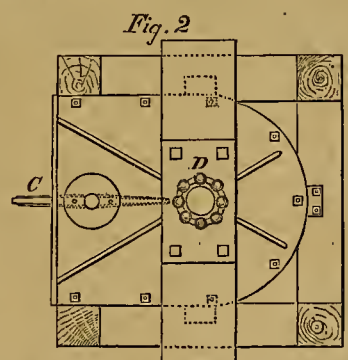
Fig. 1 is a vertical view of the wheel with a part of the stationary wheel removed, showing the guide buckets, B, B; also a part of the rim of the running wheel, removed for the purpose of showing the buckets, A, A.

Fig. 2 is a plan of the wheel, with the upper part of the friction hall bearing, D,



removed, for the purpose of showing the friction balls as well as the frame-work. A, A, in Fig. 1, represents the buckets in the movable wheel; B, B, the guide buckets in the stationary wheel; C, the gate; D, the friction hall gearing, which supports the shaft and wheels. C, in Fig. 2, represents the gate; D, the lower part of the friction hall bearing.

The especial advantage which this wheel possesses over the ordinary Jonval, consists



in the fact that the rim enclosing the buckets, A, A, is attached to the buckets, and revolves with them by means of the lip joint shown at the connection with the rim enclosing the guides, B, B. By thus making the rim to revolve with the buckets, the friction of the water against the inner side of the rim in the original Jonval is entirely removed; while the great danger of hend-

ing the buckets in the old wheel, by sticks or gravel passing through, is entirely avoided. In this present wheel, whenever any considerable quantity of debris finds its way into the wheel, it merely has a tendency to reduce the power by filling the water space, without damage to the wheel; which may at any time be stopped and cleaned out. The revolving rim also greatly reduces the leakage; in fact, it is impossible for any leak whatever to occur, except through the lip joint, which, when properly constructed, is almost water-tight.

There is an arrangement of stoppers attached, but not shown in the illustration, by which the apertures of the wheel may be readily closed or opened for the purpose of using more or less water, and by which the same percentages of power may be obtained from the water whether the flow be more or less. Parties who have used this wheel speak highly of its efficiency. For further particulars, address A. Lind, at the Pacific Foundry, in this city.

**THE RUSSO-AMERICAN TELEGRAPH.**—The managers of this enterprise, the extension of which across Behring's Straits has been abandoned, have proposed to complete and put it in working order as far as Sitka, provided the Government will grant an annual subsidy of \$20,000, for which the company will transmit all Government and all purely scientific messages free. It is to be hoped, for the interest of the Pacific coast and the future prosperity of our new northwestern possessions, that Government may be induced to consider this proposition favorably. The attainment of rapid and constant communication with that distant territory must be of great importance to both the Government and the trade which must soon spring up there under the new Anglo-Saxon rule. If that territory is worth purchasing at the price paid, it is certainly worth "hitching on" to the balance of the confederacy, especially when it can be effectually done at so slight a cost and with such a slender thread of communication. Let us, by all means, have a telegraph to Alaska.

**NEW CORN EXCHANGE.**—Owing to an unfortunate difficulty among the produce dealers as to the proper location for such an institution, the project of the establishment of a Corn Exchange for this city has hsen, for the present, postponed. One portion of those interested were desirous of holding the meetings in the public rotunda of the new Exchange; another portion was equally as desirous of selecting some locality nearer to the city front, somewhere in the vicinity of Clay and Davis streets, as more central and convenient for the majority of the produce dealers. It is greatly to be regretted that such a trifling matter should be allowed to prevent the establishment of an undertaking so essential to a rapidly-growing and most important branch of the commercial industry of this city. As it is, produce transactions generally, and especially in wheat—which latter alone, during the past year, have exceeded in amount ten millions of dollars in gold—are confined almost exclusively to the country, to the great detriment of dealers in this city.

**SUBMARINE MOUNTAINS OFF THE COAST OF CALIFORNIA.**—The *Bulletin* of Monday last gives some interesting facts with regard to the project of a submarine telegraph between this port and Japan and China, via the Sandwich Islands. It appears that a very extensive series of soundings was taken, with reference to such a project, some ten years ago, by Lieut. Brooks, of the U. S. Coast Survsy. In the course of these soundings the interesting fact was developed that about three hundred miles west of the Golden Gate, and parallel with the Coast Rangs and Sierra, there exists a range of submarins mountains, with an average depth on their summit of about two miles. This range is supposed to run parallel with the coast, and appears to be as distinctly defined as the two ranges upon the land. Beyond this submarine mountain the ocean presents a nearly level plateau to within a short distance of the Sandwich Islands. Lieut. Brooks says there would be less difficulty in laying a cable from San Francisco to the Islands than there was in laying one from Ireland to Newfoundland. The time will undoubtedly come when this project, which seems so chimerical now, will be an accomplished fact, demanded by the great commercial interest between the two continents, the future importance of which is already looming up with no insignificant proportions.

**PETROLEUM FUEL.**—In the process of burning petroleum for steam fuel, a small quantity of the surplus steam, after passing through a superheater, is introduced at the same time with the oil, and is found to add greatly to the intensity and volume of the flame. It is claimed that this steam is introduced in a semi-decomposed state—that is, with the affinity between the oxygen and hydrogen, of which it is composed, so weakened, that when introduced directly within the flame of the oil it burns rapidly, without any appreciable extraction of heat from that produced by the burning oil. In fact, when so presented, the re-union of the oxygen and hydrogen is so rapid that a great increase of heat is produced in the flame. The superheating is accomplished by waste heat, or heat which could not otherwise be brought to bear upon the water surfaces of the boiler. The problem of burning water, which has heretofore been pronounced an absurdity, so far as any practical advantage to be derived therefrom may be concerned, appears to be, by this device, pretty effectually and satisfactorily accomplished. At all events, there is an evident increase of steam production over and above that employed under the furnace by this use of steam. The fact appears to be patent, and scientists will evidently have to admit and explain it.

The aggregate production of gold in the world for eighteen years past, is \$3,341,500,000, of which the Pacific States and Territories yielded nearly one-third, while Australia and New Zealand produced nearly one-fourth.

**BELLES-LETTRES**, by Augustus Layres, Professor of various Languages, Rhetoric, and Sciences. San Francisco: A. Roman & Co.

This volume comprises the second of a series on composition, Belles Lettres and Oratory, which are now in process of preparation by Prof. Layres. The first of the series has already appeared, and been fully noticed in these columns. The present volume forms an "Introduction to the Study of Belles Lettres," the design of which is to facilitate the art, and abridge the study of composition. The method pursued is both synthetical and analytical; the former for teaching the rules, and the latter the practice of composition.

The work embraces some new and important features, and is the result of many years of study and practice, as a teacher. We have not yet had an opportunity to make a critical examination of the work, but shall endeavor to do so at an early day. In the meantime, we can safely recommend it on the well known reputation of the author, and hope to see it generally introduced into our schools and seminaries of learning.

**THE LONG ROOM** is the designation given to one of the rooms in the new Exchange Building, which will hereafter be occupied as an Open Board, under the direction of Mr. T. C. Sanborn, who will be assisted by Mr. Ralph C. Dorr, as Secretary. The room is pleasantly located, just to the right of the main entrance of the building, and was first opened for business on Thursday. It is neatly and appropriately furnished, and in every way convenient for the purpose designated. Nearly 300 persons have already enrolled their names as subscribers. The institution could not have been entrusted to better or more experienced hands. Any person can become a member by enrolling his name and paying \$10 per month.

**NITRO-GLYCERINE.**—It is said that a company has been formed for the manufacture of nitro-glycerine in this city.

**NEWSPAPERS.**—There are now about 4,000 newspapers published in the United States and Territories.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

## The Reese River Country and its Mines.

BY A. J. HOWK.

(Concluded from Page 34.)

## EMPIRE DISTRICT

Adjoins Hot Creek on the south. The first discoveries were made here by Joseph Saborn and party in July, 1866. The principal mines on which any considerable work has been done lie six miles south of the Gazelle mine, mentioned before. They are confined to one mountain, which is a continuation of the same belt of lime-capped slate and porphyry.

The Oakland and Liberty lodes are so far remarkable for the large quantity of rich ore, especially the former, which yields exceedingly rich pure ore (horn silver), much of it assaying \$1,000 per ton; however it must not be understood that such would be the working yield of the lode. These lodes, together with five or six others, comprising all the outcrops exposed in this belt, are the property of the discoverers, Messrs. Saborn, Sine & Co., who have been for many months vigorously engaged in their development. They have recently hauled a quantity of the ore to the mill at San Antonio, forty miles southwest of Empire. This district has a close resemblance in all features to Hot Creek District; the same vast quartzite dike, two or three hundred feet wide, running north and south with the range, separates the two mineral-producing belts. Here, as well as at the latter named place, we find the lodes on the east of this dike very numerous and well defined, but, as a general thing, not of the astonishing richness that characterizes those of the western belt. The district is well provided with fuel, especially in the center of the range, which rises abruptly from the Shoshone Valley on the west and descends more gradually to the great valley lying on the east.

## MILK SPRINGS DISTRICT

Adjoins Empire south. This was first discovered in August last, but was reorganized in January or February of the present year, consequently but little has been done towards its permanent development. In all surface characteristics it is similar to the last mentioned. Being situated out of the line of travel by any of the natural or graded roads, it has not heretofore received the same attention. It is probable that a branch of Clark & Co's road, diverging southerly from Egal Pass, will be constructed through Empire and this District, making a direct line to Reveille. This will be a necessity for the accommodation of the country between the great natural pass of the Diamond Range (Hot Creek Cañon) and this district, within which boundaries there probably exists a greater surface display of silver than can be found in an equal section of any mountain range of Eastern Nevada. At no distant day their permanency will be determined; and should they prove to be true fissure veins, of which there can be no reasonable doubt, the districts of Hot Creek, Empire and Milk Springs will stand unrivalled among the silver-producing districts of the world.

## REVEILLE DISTRICT

Is situated in a short, broken range of mountains, about due east of Milk Springs, near twenty miles distant. It is forty miles southeast from the eastern entrance of Hot Creek Cañon, and probably sixty west of Pahranaagat. It was discovered early in 1866, and a moderate amount of work has been continued ever since. This astonishingly rich district has been more fortunate than its neighbors in receiving the notice of the press, and is consequently better known abroad. For the production of surface ore of the most fabulous richness, it is perhaps

ahead of all others. A large quantity of this ore has been hauled to Austin for reduction, a distance of 145 miles, the reported yield from which has ranged from \$300 to \$800 per ton, while closely assorted lots have reached a much higher yield. Assays of \$5,000 and upwards per ton are not infrequent; in fact, such can be obtained from numerous lodes, nor is the quantity of such ore by any means limited. Much has been said about these rich deposits being mere "bunches," but recent developments tend to disprove this idea and establish them as true fissure veins, distorted by the crust of limestone, which is undoubtedly only superficial. The Fisherman lode has been opened to the depth of forty feet, showing, if they are bunches, that they are at least extensive ones; but the idea that these rich deposits of ore are scattered over the surface at random throughout this region, is an absurdity. The fountain-head lies below, and if any marked change occurs, it will be to prove that the deposits in sight are mere bagatelles compared with those below. A mill of five stamps will soon be in operation here in connection with the mines of the Rutland and Reese River Company. This district, as stated above, is not in any of the continuous ranges, being situated in a detached cluster of comparatively low mountains, midway of the great valley lying between the southern extremities of the Diamond and White Pine ranges. The last two ranges, like all the others of the central and eastern part of the State, lose their uniformity and regularity at this latitude south, the whole blending in chaos of valley, mountain, moraines and desert, as intricate in their windings here as they are uniform further north.

To the south lies a vast and almost unexplored region—an extensive field for the ever-restless prospector for the repetition of what his class has accomplished during the past year in this section. As this useful but poorly paid portion of our population push their explorations further into the unknown depths of the Great Basin, most of the former terror report has attached to it will vanish. Already a large portion of this region has been found to be not only inhabitable, but a desirable place of residence. Permanent homes will be made there, ranches, gardens and orchards will blossom along the water-courses in the sheltered glens of the foothills; silver discoveries that stagger belief will continue, and he turned over to the more fortunate that come after, until the poor prospector has exhausted the field and finds himself without employment—alas! too often in poverty.

(Written for the Mining and Scientific Press.)

## Oil Search in Humboldt County.

EUREKA, July 10th, 1867.

MESSRS. EDITORS:—Last week I visited a portion of this county in which search has been made for petroleum. Work has been suspended on most of the wells. Two companies, however, are disposed to make more thorough prospect before abandoning their claims. These will be considered tests of the oil-producing capacity of our county, and if successful, most of the other claims will be revived and work resumed. This is very desirable, for there is no better lubricator of the wheels of commerce than a flowing well of petroleum.

On Bear river, the Davis Company are still at work, under the superintendence of Mr. Hunter, a gentleman of long experience in this business. They use a portable steam engine, and have attained a depth of 626 feet. Progress last week was hindered by what is called swelling of the well. Mr. Hunter is quite sanguine of being able to give the company a deep hole—not so sanguine of getting oil. The company aim to go at least 1,000 feet, and at present rates this may be attained this season.

The Union Mattole Company's well is down about 600 feet. Oil was first obtained at a depth of 390 feet, and the well would yield to pumping about thirty gallons per day. Not satisfied with this yield, the company resolved to go deeper. They have been troubled by slight caves from that portion in which oil was found, and have been obliged to pipe about 550 feet. They are now ready to push on the work with greater facility. Their motto is, "More oil, or a hole 1,000 feet deep."

My opportunities for research were limited to these two localities. I am not prepared, of my own knowledge, to give any opinion as to the value of these petroleum claims. I am assured that there are much better surface indications at points where little has been done by way of prospecting.

## Facts About Patent Matters.

NUMBER SEVEN.

In my last I illustrated some of the numerous bad practices that exist in connection with the patent business, as at present conducted. It may be that some of my readers have about made up their minds, in view of the facts stated, to have nothing more to do with patents or patent agents; but that would be wrong. There is no business or profession that does not have its bad agents or members; and none in which there is not more or less of fraud and dishonesty. It is true, that sometimes when viewing theascalities of some of these geenty, I am ready not only to agree with Pope, that "an honest man is the noblest work of God," but inclined to think the sentence would be rendered more suited to the times, by adding—and the scarcest! Still, I would not be understood as saying that patent agents are "sinners above all other men," for they are not. On the contrary, they are probably about as honest as the times, and the nature of the business in the present condition of society, will admit of their being! As a large proportion of them are lawyers, or were educated for that profession, we should not expect too much of them in this respect. It is an old saying, that the man who goes to Heaven from New Orleans, is entitled to more credit than he who goes from New England, on the principle that the greater the temptation, the greater credit in resisting it, and therefore, when we do find one that is honest, we should prize him all the more. I am glad to be able to state that there are some such,—men who are above the "tricks of the trade" as practiced by the smaller fry, and who are an honor to their profession. Would that their number were greater; and indeed, there is reason to hope that it may be—for, as the adage has it,

"The Almighty works a wonder now and then,  
And makes of lawyers honest men."

and as these are eventful times in which our clergy assure us, God is showing forth his mighty works, who knows but that we may have a special dispensation for the conversion of lawyers, sutlers, army contractors, and other hard cases? Surely it is a "consummation most devoutly to be wished."

Still, the reader will be very likely to inquire how it is that the patent laws are so framed as to encourage or permit the practices previously referred to. In reply I would say, that the laws were not so intended, and that it is not so much the fault of the laws as of those whose duty it is to administer them, but like all other laws, they are in general terms, making general provisions in relation to the subject, and leaving the management, the details, the application of the laws to be provided for by the executive officer, the head of the bureau. If now he happens to be a man, who, like most heads of bureaus, is appointed not because of his supposed claim upon the party or the amount of political influence that he can get to press his appointment—and who has no knowledge of patent or any other law—nor mechanical skill sufficient to enable him to comprehend the practical duties of the office, what then is to be done? Why, of course the public must suffer the consequences. Or worse still—if he be one of those who say,—Well now I am here for four years, and I am going to make the most I can, with the least trouble, and thence busies himself in appointing the members of his family, and his personal friends to positions in the bureau, for which they have no qualification, or to using his official position as a stepping-stone to a higher one in the future—then indeed must the public suffer. And such a spirit in the head of a bureau, is sure to be diffused more or less among the employes, who are too apt to feel that the responsibility does not rest upon them, and hence the bureau is sure to become more or less demoralized.

The practical application of the patent laws is provided for by a set of office rules, which have grown up during the existence of the office, having been added to, and altered, from time to time as circumstances and the changes in the case have rendered necessary. If these rules were strictly enforced most of the cases before alluded to would not occur. For instance, section 11 of the rules provides that "if an article is claimed as a mere improvement on another invention, that fact should be clearly stated; and if claimed as substantially differing from another invention with which it appears to be coincident, the difference must be clearly pointed out." And the latter clause of section 13 provides that, "if the specification is for an improvement, the original invention should be disclaimed, and the claim confined to the improvement." These rules were intended to meet such cases as I have instanced, and thus to prevent the frauds therein do-

scribed; and it is clear that if they were strictly enforced by all branches of the Patent Office, the greatest good would result therefrom. But unfortunately these rules are not enforced as they should be; and the ingenuity of designing parties and their agents has been applied to devising ways and means for avoiding them, until they have become almost a dead letter. When the honest inventor, or the honest agent applies for a patent upon an improvement upon such a device, patented so and so, and then claims only the improvement—as he should; and then the public is put upon its guard and knows exactly what it is buying, —to wit: the improvement simply upon another and prior patent, and thus all chance of fraud from that source is prevented. But the dishonest applicant or agent avoids this straightforward method of dealing, and while pretending to comply with the rule, evades it both in spirit and in letter. Instead of pointing out specifically what machine or patented device his is an improvement upon, or "stating clearly" that it is an improvement on another invention, he simply says that he has invented a new and improved device—naming the general class to which it belongs, as for instance a seeding machine, without even specifying whether it is a corn planter, a grain drill, or a cotton or potatoe planter. And then, instead of "disclaiming the original invention," he makes a claim that shall embrace with the improvement, all the features of the original!

The reason why these rules are not enforced are numerous, some of which have been already hinted at. There are also others. In most cases the papers are so drawn as to make a show of compliance, while in fact avoiding the application of the rule in its integrity, and at the same time is so worded as to render it difficult for the Examiner to insist upon any change. Again, the attempt upon their part to enforce such a rule brings them constantly in conflict with the applicants and their agents, and as they are not interested, they are very apt to conclude that there is no reason why they should insist, and thereby render themselves odious alike to applicants and agents; and more especially is this likely to be the case, if the head of the bureau never interests himself in the practical duties of the office, nor looks to see how his subordinates perform their duties. Another, and still greater reason is, that there are no settled rules for the guidance of newly appointed Examiners. Each one is placed at a desk without any instructions whatever, and left to find out what rules ought to govern his action, the best way he can; and as the old examiners generally seek to keep the new appointees from acquiring the requisite knowledge, lest they should become as well posted as themselves, and hence likely to displace them, it follows they are like others we read of, "in pursuit of knowledge under difficulties,"—and the result is that "each becomes a law unto himself," until, in the course of time, you can hardly find any two who will agree upon the various questions that are constantly arising in the practice of the office.

Again, while the head of a bureau knows but little of anything of the details of the business, and therefore is not likely to have suggested to his mind those reforms and improvements which are necessary to render the system complete in its operation; to receive such suggestions from one holding an inferior position—though perhaps greatly his superior in ability—would be undignified, and therefore not to be thought of for a moment.

There is a deal of truth in the statement recently made in the Tribune—that "brains are never recognized in clerks—only in heads of departments," and that being so, of course it cannot be expected that their suggestions, no matter how reasonable or important, should be adopted. In fact, as recently stated by the chief clerk of a bureau, they "don't want men of brains—for, if they have brains, they will be making suggestions, and therefore trouble!" With this condition of affairs existing in nearly all governmental departments, it certainly is not strange that "red tape" and "old fogyism" should rule the day.

The remedy for the diversity of action and ruling that exists among Examiners in the Patent Office is a unity of opinion and action to be secured by an interchange of ideas,—discussion of new points as they arise from time to time—and the adoption of such rules and reforms as the experience of those most intimately acquainted with the practical duties and operations of the office may suggest. All this, however, requires that the examiners shall be men who are qualified for their position—feel an interest in their duties, and attend to them—and more than all else, that you have at the head of affairs a man qualified for the discharge of the important duties devolving on him.—W. C. Dodge, in Prairie Farmer.



## Mechanical.

**CONSUME YOUR SMOKE.**—The economical and sanitary advantages derivable from the consumption of smoke is very properly attracting much attention in England, particularly in cities and other populous localities. It is surprising, considering the simplicity and cheapness of the arrangement by which the result is effected, that more attention is not paid to the consumption of smoke in this State. With the exception of the rope manufactory on the Potrero, the Spring Valley Water Works' pumping machinery, the Pacific Foundry, and the brewery on Jessie street, and possibly one or two other establishments, the mode of burning coal in this city and vicinity is slovenly and wasteful. The dense volumes of black smoke which are vomited forth from the smoke-stacks of the furnaces connected with most of our steam engines, fully attest the truth of the above. A more close examination is not needed.

It was recently stated by Mr. Hanbury, in the British House of Commons, as a fact within his own knowledge, that a manufacturing firm in Leicester, England, saved themselves \$10,000 a year in coal by burning it up completely and allowing none of it to be wasted in smoke; and that, at the same time, \$10,000 worth of coal was saved to the country. Very wisely the manufacturers of Leicester "have voluntarily made themselves subject to a law of their own" for the prevention of smoke by the better consumption of coal. The result is, that "in the very center of the town, flowers are found blooming as fresh as in a country village;" but that is not the only result. A steam engine at Leicester is worked more cheaply than in any smoke-begrimed town in the realm where such smoke-consuming appliances are not employed.

**INTERESTING TO IRON MEN.**—The Iron Masters' Laboratory, Philadelphia, propose to analyze all limestones which have been used as a flux in the blast furnaces throughout the States. Samples are asked for, so that the analysis may be made available to the iron interest throughout the country. It is earnestly requested that all iron work establishments and others, who may feel disposed to cooperate in this movement, will forward to the Iron Master's Laboratory, 339 Walnut street, Philadelphia, "about one ounce, in coarse powder, of a fair average of the stone found by use the best adapted to their purposes.

**ENGRAVING BY ELECTRICITY.**—Gaiiffe's electrical engraving machine, lately much improved, is in the Paris Exposition. Any number of plates may be engraved at once; the tool cuts them as in the ordinary lathe, and the rest is operated by means of a platinum point, which passes over the design made with a varnish. The point in passing over the varnish breaks the connection of the electric current, and thus demagnetizes an electro-magnet behind each graver, and allows a spring to press the graver against the plate on each machine: when the point touches the unvarnished part of metallic plate, containing the shades of the design, the electrical current is again established, and the electro-magnet draws back, by its attraction, the graver thus overcoming the force of the spring. It is easy to see how comparatively plain work, like maps, could be executed with this machine; but it is difficult to imagine how the depth of line in a delicate copper-plate is to be graduated by a graver governed by one pair of electro-magnets. The multiplication of copies in this plan is not as feasible to duplicate the original plate by means of the try-telescope process.

**NEW PROCESS FOR KEEPING NAILS FROM RUSTING.**—A Belgian has made a discovery which may be of some utility; it is that the rusting of nails employed to fasten the branches of fruit trees to walls, can be prevented, by driving into the wall, in contact with the nail, a small piece of zinc. In giving an account of his discovery to the Agricultural Society of Ghent, he exhibited nails which had been eight years in walls, in contact with a piece of zinc, and which were not at all rusty.

**THE MANUFACTURE OF ARTIFICIAL SHARPENING STONES.**—Artificial stones are manufactured in England to take the place of Turkey, Water of Ayr, and Arkansas stones, generally used in sharpening tools. They prepare with a compound which will admit of being molded to any required form, and which when molded may be hardened and brought to the consistency of stone. In carrying out the manufacture, the chips and dust obtained in preparing lithographic stones are reduced to fine granules, emery powder, borax and saltpetre are added and the whole thoroughly mixed in a mill. The mixture thus obtained is molded to any required shape—first submitted to hydraulic pressure, and then to furnace heat, whereby the hardness and consistency of stone is imparted to the molded articles. The following proportions will produce a good result, viz.: pounded lithographic stone twelve ounces, borax two ounces, saltpetre half an ounce, and very fine emery two ounces. Place these substances together in an ordinary incorporating mill with edge runners, the pan of the mill being heated by means of steam or gas, and subject the substances to the action of the mill until they are well mixed and incorporated. Then remove the compound thus formed and place it in strong iron molds for the purpose of being submitted to pressure. These molds are made of various shapes to suit the purposes for which the artificial stone is to be used.

The pressure necessary to effect a proper consolidation of the compound may be conveniently given by means of a strong hydraulic press. The amount of pressure which has proved satisfactory is about 20 tons per square inch of surface of the molded article. When the requisite mechanical consolidation of the compound has been produced, the molded article is subjected to a white heat in any suitable construction of furnace, or to such a heat as will serve to fuse the borax and saltpetre, and effect the binding together of the granules of stone and emery. The time required for attaining this object will, in general, be from half an hour to one hour. To prevent the warping and running of the molded compound under heat, it is clamped in molds made of plumbago, fire-clay, or other like heat-resisting material, before being placed in the furnace. When it is required to produce cutting or polishing wheels, hones, or other like articles with a less cutting power than those made from the before-named mixture, ordinary chalk is substituted for a portion of the lithographic stone granules. The proportions of the chalk and the granules should be half of each to produce a good result, the proportions of the other materials being retained.

**TO CEMENT BRASS ON GLASS.**—Puscher uses a cement particularly adapted for fastening brass on glass lamps, which consists in a resin soap—made by holling three parts of resin with one part of caustic soda and five parts of water—which is mixed with one-half its weight of plaster of paris. This cement has great adhesive power, and is not permeable by petroleum, it sets firmly in less than an hour, and is a very slow conductor of heat. Zinc white, white lead, or precipitated chalk may be substituted for plaster of paris, but the material will be longer in hardening.

**STEEL BOILERS** are now coming pretty largely into use on the locomotives of some French railways. Thus, twelve express engines on the Paris and Orleans railroad are thus furnished, as also several on that of Paris and Soaux, and on the Midi or Southern railroad fifteen eight-compound engines have steel boilers. The Orleans Company now employ cast steel plates for the circular smoke boxes of all their engines, new and old, steel being thus substituted for iron when repairs are made.

**HARD IRON.**—It is said that there is a malleable iron made by a Glasgow firm of such toughness and tenacity that the teeth of pinion wheels cast from it may be hammered down to the solid base without cracking. The process of the manufacture is kept a secret.

The widest span yet made in a timber bridge is believed to be that of the Schuylkill bridge at Philadelphia, the clear opening of which is 340 feet.

The salt formed in the boilers of a large steamer would, if not prevented by flowing off or surface condensation, amount to 20 tons per day.

Tin wire, the thirteenth of an inch in thickness, sustains 34-7 pounds; a lead wire but 28 pounds.

## Scientific Miscellany.

**A MESSAGE FROM THE STARS.**—Mr. Graham, Master of the Mint in London, has deciphered a message from the stars. It came to him as a piece of meteoric iron. When heated and tested with Sprengel's aspirator, this iron gave off three times its volume of hydrogen. And since malleable iron can be made to take up only about one-half its volume of hydrogen, Mr. Graham understood the message to be that the iron had come from a very dense atmosphere of hydrogen gas, such as would not be found within the limits of the solar system. Spectrum analysis has already shown that hydrogen is a prominent constituent in many of the stars, and Mr. Graham's experiment shows how it can be conveyed all these countless millions of miles to this earth.

**SENSITIVE FLAMES.**—We have previously noticed the experiments by Prof. Tyndall, of London, showing the manner in which gas flames are affected by sound. Mr. W. T. Barrett, lecturer on Physical Science, who early made extended observations in this direction, thus accounts for the phenomena: "A sensitive flame is one in which, on the slightest mechanical increase in the pressure, or, what here comes to the same thing, in the velocity of the gas as it issues from the burner, will change its shape and take very much the appearance it has when influenced by sound. Now the sonorous pulses excited by sound throw, among other things, the pipe which conveys the gas to the burner into vibration; the flow of gas is thereby driven from the sides and urged more towards the center of the tube; and the current thus confined within narrower limits must issue from the burner with increased velocity so long as the sound continues. It is the greater rapidity thus induced in the issuing stream of gas which causes the flame to shorten and diverge; lowering of the flame being an analogous effect to that noticed and explained by Dr. Thomas Young in his well known experiments on streams of smoke ascending into the air at different velocities." Several cases illustrating this action, and confirming his opinion, are described by Mr. Barrett in the April number of the *Philosophical Magazine*.

**A GOLDEN THOUGHT.**—We know not the author of the following; but it is one of the most beautiful productions we have ever read: "Nature will be reported. All things are engaged in writing their own history. The plant and pebbles go attended by their own shadow. The rock leaves its scratches on the mountain side, the river its channel in the soil, the animal leaves its bones in the stratum, the fern and the leaf the modest epitaph in the coal. The falling drop makes its sepulchre in the sand or stone; not a footprint in the snow or along the ground but prints in characters more or less lasting a map of its march; every act of man inscribes itself on the memories of its fellows and his own face. The air is full of sound, the sky of tokens; the ground is all memoranda and tokens, and every object is covered over with hints which speak to the intelligent."

**A UNIVERSAL TELEGRAPH.**—Prof. Hitchcock has a chapter upon the "Telegraph System of the Universe," in which he broaches the remarkable theory that "our words, our actions, even our thoughts, made an indelible impression upon the universe." This proposition he endeavors to sustain by an appeal to well established principles of science. He shows by the doctrine of mechanical reaction that every impression which man makes by his words or his movements upon the air, the waters, or the solid earth, will produce a series of changes in each of those changes which will never end. Not a word has ever escaped from mortal lips, he contends, but it is registered indelibly upon the atmosphere we breathe. And could man command the mathematics of superior minds, every particle of air thus set in motion could be traced through all its changes with as much precision as the astronomer can point out the path of the heavenly bodies. In like manner the pictures of every occurrence propagate themselves through the reaction of light on the substances on which it impinges.

BORAX has been crystallized by Wohler & Deville, in their laboratory, with a brilliancy almost equal to the diamond, and of an exceeding hardness.

**GEOLOGY OF THE METALS.**—The metals were doubtless dissolved in the waters of the primeval sea at its formation, and in great part precipitated in its early sediments, to be again dissolved by infiltrating waters and brought to the earth's surface. From their soluble oxidized condition they have been reduced by organic matters, sometimes to the metallic state, as in the case of the copper of Lake Superior, but more generally to the condition of sulphurets. Whenever decaying organic matters encounter sulphates which abound in sea water, they give rise to sulphides or sulphureted hydrogen, which is nature's great agent for precipitating metals and removing them from the terrestrial circulation. Hence we find, in various rocks, sulphurets of iron, copper, zinc and other metals, sometimes in considerable proportion, forming workable beds of ore, but more generally sparingly disseminated. Nature's way of concentrating these sparsely shattered metallic matters is to dissolve them out by certain mineral waters, generally when the waters are deeply buried; these waters ascending through joints or fissures in the rocks, and gradually becoming cooled or changed, deposit upon the walls of these then dissolved matters in the shape of ores, often mixed with spars and other minerals which constitute the veins. Experiments show that alkaline bicarbonates and sulphides which abound in the hot mineral waters are the proper solvents for the dissolved metals, and this process of concentrating the metals in veins is doubtless now going on in portions of the earth's crust.

**UNINFLAMMABLE STUFFS.**—It appears from the experiments made by French chemists that only three salts have as yet been found that may be successfully applied to the manufacture of unflammable fabrics for ladies' dresses. There are many other salts that would do the same, but not without spoiling the dye or gloss or texture of the stuff. Of the three in question, the sulphate and the phosphate of ammonia have the inconvenience of being decomposed by the heat of a smoothing iron, but are applicable in those manufactures where stuffs are stiffened by the action of hot air, or cylinders heated by steam. They exercise no action upon either the thread or the color of the stuff. The phosphate of ammonia may be mixed with half its weight of hydrochloric of ammonia. To obtain an efficacious solution, twenty per cent. of this mixture must be dissolved in water. A solution of seven per cent. of ammonia produces the same effect, and is therefore the most economical salt that can be employed. But in those cases in which the smoothing-iron cannot be dispensed with, as in linen, for instance, a solution of twenty per cent. of tungstate is preferable. To obtain the desired effect, all these solutions must be applied to the stuffs after they have been stiffened and dried, because starch is always used in a weaker solution than that required for these salts. Acid tungstates destroy the thread of cotton stuffs, like borax, alum, etc.

**SPECIFIC HEAT OF SOILS.**—Pfraunder, in his investigations concerning the specific heat of soils, during which he determined that of seventeen different soils he has noticed that soils free from humus have the lowest specific heat, whether they consist of lime or of sand. The richer a soil in humus, the higher is the specific heat. Thus peat was found to have 0.507, and a soil very rich in humus gave 0.4142, while that of calcite and quartz is only 20 and 19. Loamy soils must have a high specific heat, owing to the presence of water. These facts are important to the agriculturist, since a plant sensitive to the changes of temperature would not grow well on soils of low specific heat.

**COLORS FROM PROTEIN COMPOUNDS.**—Erdmann observed that some roast veal was superficially red; he transferred a portion of the red matter to other substances, and found that with moisture and a proper temperature the coloring matter increased. It is probably produced by infusoria in the same sense as alcohol is made by yeast. Researches on blue milk by several German chemists show results closely analogous to those made by Erdmann.

SOUND is always propagated outward in a straight line, but recoils like a ball when driven against any obstacle, which, by its dimensions, is sufficient to intercept the undulations. It is to this rebound that we owe the beautiful effect of echoes.



Golden Rule Mining Company.

The following is the report of the Board of Trustees of the Golden Rule mining company, of Tuolumne county, for the yearly statement from July 1, 1866 to July 1, 1867:

Table with columns: Month, Amount Ore Crushed, Days Run, Average Per Ton, Value. Rows for 1866 (July-December) and 1867 (January-June).

Product, 2,155 ounces of retorted bullion, averaging about \$17.05 per ounce—fineness, gold, .875 to .881.

The above ore has been crushed and returns made from fifteen 700-pound stamps, water power, which is run by a 50-foot overshot wheel. Eight miners are employed regularly, and two carmen, four millmen, one blacksmith, and one superintendent—making a total of sixteen men, at a cost of

Table listing labor and expenses for the past year, including mill repairs, timber, charcoal, hauling, taxes, etc., and expenses for supplies sent from San Francisco.

Total expenses of the company per ton of ore crushed during the year, \$6.39; average value of ore crushed, \$8.94 1-5; net profit per ton, \$2.55 1-5.

Our mine at present is in good working order. The vein is open on the tunnel level about 400 feet, at a width of six to eight feet, eighty feet below the surface, from which our tunnel takes the surface drainage water. For the past six months we have been working on a level forty-four feet below our tunnel level, carrying a vein of from seven to eight feet in talcose slate, containing small stratas or threads of quartz. To what depth we may be able to carry it and find good pay ore, remains to be seen. Geologists and scientific millmen say that this vein matter is from a fissure of the Mother Lode, below which it is running parallel with our lode, and west of it, at our present depth of about forty feet. On the whole, prospects look encouraging for another year's work on the mine.

As to the mill, we are able to crush fifteen tons per day, through a No. 40 to 50 brass wire screen, and amalgamating 8-10 of all the gold in the batteries, saving 1-10 from copper plates outside, on our aprons, and 1-10 from our blanket washings, ground each day in a stone arastra. We find the best drop for our stamp is set at five inches, and not to exceed eight—running at a regular speed of fifty-strokes per minute.

The present officers of the company, are: Superintendent at the mine, A. J. Pfeiffer; Trustees: R. L. Pasteur, J. H. Turney, J. T. Boyd, E. V. Hathaway; and President, W. Bosworth; Secretary, J. B. Russell.

W. BOSWORTH.

AMERICAN RELICS IN GREECE.—There is a gentleman now visiting all the celebrated battle-fields of the late war, under a commission from the late King of Greece, to collect therefrom suitable memorials and records, for preservation in the royal archives of Athens. The story of Xenophon has found a parallel in the march of Sherman. Where is the loyal American heart that does not thrill with patriotic emotion when reflecting that the descendants of those who died at Marathon are now seeking to study and honor the grand struggle for American freedom. There is truly a fitting and a graceful compliment in thus twining the great deeds of American heroism with the memorable traditions of Hellenic story.

GOLD MINING is about to be commenced at Bluffton and Huntington, Indiana. At the latter place, a quartz mill is being erected at a cost of \$10,000.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

IMPROVEMENT IN NAUTICAL INSTRUMENTS. Mr. George Davidson, who left this port, on Sunday last, in charge of the scientific expedition to the late Russian Possessions, has recently devised an important improvement in telescopes for sextants, quadrants, etc., by which an artificial horizon for observations can always be had when the nautical horizon is undefined or obscured. The invention consists of the application of a small spirit level on top of the usual telescope, the bubble of the former, by the use of a prism, being reflected in the latter. The telescope has a fine wire horizontal line drawn inside, which, being made to bisect the image of the bubble, a true artificial horizon is obtained. This invention has been found very useful in land service for taking observations in surveying, and is considered particularly valuable for sea service, where accurate nautical horizons are required, but are frequently not to be obtained. The improvement has been sent to the World's Fair at Paris for exhibition.

USEFUL INVENTION.—The Dutch Flat Enquirer speaks of a newly-invented machine which is likely to create a complete revolution in hydraulic mining, as it is claimed by the inventor to supersede the hose method of conducting the water. The machine is attached directly to the pipe, and by it the stream of water is easily directed in any required direction. The North American Company at Michigan Bluff are now using the machine and are said to be greatly pleased with it. It is said to be cheap and easily managed. No description of the invention has been given.

THE AMERICAN DISHWASHER.—A machine for washing dishes has been invented and tried at Syracuse, with satisfactory results. It is thus described: "It is in shape like a wash tub with legs, and provided with a cover, to which is attached the machinery for working it. Around the inside a wire frame is constructed, between which and the sides of the machine dishes are placed, overlapping each other. After filling the space provided with dishes, a quantity of hoiling water is poured in the center of the machine, which is provided with a screw-shaped paddle, operated by a cog-wheel, which is adjusted on closing the cover. By turning the crank a few seconds, the boiling water is forced between and about the dishes with sufficient force to remove all grease, etc., which may be upon them. The machine is arranged so that the water can be drawn off beneath, fresh water introduced, and a few turns of the crank thoroughly rinses the dishes, and it only remains to take them out and stand them on their edges to drain. No wiping is necessary, the dishes having attained a temperature sufficiently hot to dry them perfectly.

A NEW SYSTEM OF WORKING OARS.—Mr. E. D. Farcot, of Neuilly, France, has devised a plan for working oars, quite novel, and said to be eminently practical. The oars are not worked in row-locks, but from a short stanchion or mast springing from the bottom of the boat. The rower sits with his face to the bow, instead of to the stern, so that he can see where he is going. He does not take hold of the oars at all; they are secured to the upright mentioned by springs, eyes and pintals, in such a manner that they may be operated by hauls, grasped like the handle of the common short-handled shovel or spade. Both oars can be worked by one hand when desired. The total weight of the apparatus for a pair of oars, including the oars themselves, need not exceed fifteen pounds.

A TYPE-WRITING MACHINE.—A machine has been invented by a Mr. Pratt, of Alabama, by which, it is assumed, a man can print his thoughts twice as fast as he can write them, and with the legibility of a printed page. The alphabet, with figures, etc., is formed in a solid stereotype plate, with the bodies of all the letters uniform in size. He prints a letter by the blow of a minute hammer, of size uniform with the size of the type body—striking the face of the letter, with a sheet of carbonized paper and that on which he would print intervening. Each letter, as wanted, is moved into position under the hammer by compound levers, actuated by keys, like those of a piano. The subject of type writing is an interesting one, and may be one of the accomplishments of the future; but it is hardly a thing that can spring fully developed into existence at one effort.

Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board. SAN FRANCISCO, SATURDAY MORNING, July 27, 1867.

We present in the annexed table a very flattering exhibit of the present condition of our savings and loan institutions:

Table titled 'Semi-Annual Reports of the San Francisco Savings and Loan Societies.' Columns include Name, Date of Report, Deposits, Loans, Grace Dividends, Reserve Funds, Expenses and Interest, and Cash on Hand. Lists various societies like Hilberna, Savings and Loan Society, etc.

It will be observed that the deposits in the several institutions have been augmented \$3,474,370 71 during the first half of the present year, \$5,073,094 69 within the space of one year, and nearly doubled since January, 1866—a period of eighteen months. We have not ascertained the number of deposit accounts at the date of the last semi-annual reports, but taking the statement we made twelve months ago in the Weekly Stock Circular as a basis, we may arrive at a very near approximation. At that time the depositors numbered 13,000 in round numbers, and adding the same ratio of increase as shown by the deposits, which is seventy per cent., we obtain the large number of 21,000 depositors, giving an average amount of nearly \$560 to each account. Estimating the population of San Francisco at 120,000, these savings would give to each inhabitant \$115.

Mining Share Market.

The mining share market continues to attract marked attention, a disposition to invest manifesting itself in a more general degree than has been the case for a long time past, and especially among those of comparatively limited means. The recent material decline, and the fluctuating rates at which shares rule at present, stimulate a desire to venture in order to realize small gains within a brief period, and for this purpose buyers' optional purchases are freely made with the hope of a general advance shortly over present rates, which opinion appears to be well founded. The recession in most shares up to Wednesday has been very considerable, since which time the market has become firmer, and at the close most stocks sell at enhanced rates.

SAVAGE—Sold at fluctuating rates, receding from \$4,500 to \$4,000, rallying to \$4,150, and at the close selling at \$4,200. During the week ending July 20th, this mine yielded 2,210 tons of ore, the approximate value of which is stated to be \$96,394, or an average of \$43 61 per ton. As compared with the previous week these figures show an increased yield as well as an improvement in the ore. The north mine, on the seventh level, continues to yield the largest quantity of ore, having contributed over half of the above amount, while the middle and south mines on the same level, with the exception of 147 tons from the third station, produced the remainder. In the absence of the Superintendent no detailed weekly statement, as usual, reached the office in this city. A special meeting of the stockholders is called by the Trustees, to be held next Tuesday, the 30th instant, for the purpose of increasing the capital stock to \$3,500,000, and dividing the same into 16,000 shares of \$200 each. This will doubtless be done, thereby enabling those of limited means to invest in the largest producing claim known.

HALE & NORCROSS—Continues to be firmly held; no sales transpired during the week. We quote it at \$3,200 asked. The average value of the company's ore is much better this month than last. On the 22d instant the shaft was 558 feet in depth.

CROWN POINT—Has been actively dealt in at extremely variable rates, opening at \$1,225, rapidly rising to

\$1,590, falling to \$1,260, and closing at \$1,330. The "strike" in the east drift from the 600-foot station, which had such a marked effect on the stock early in the week, was found to be about thirty inches in width; however, they are drifting in close quartz and porphyry, with some spots of ore, on the east of it, and on the west of the ore they passed through about five inches of dark clay. On the 500-foot level, 21 feet to the west, the same clay seam was penetrated. From the Superintendent's weekly report, dated July 19th, we obtain the following: Ore delivered to custom mills, 589 1/4 tons, showing an approximate value of \$20,223 34; extracted from the mine in the same period, 584 1/4 tons, the 65 1/2 cent. average assay giving \$34 39 to the ton. The ledge on the east vein had been opened 121 feet; the cross-cut east from the 600-foot level had been carried forward 2 1/2 feet; the winze from same level was 82 feet in depth, and the east drift on the 600-foot level was in 105 feet. Advances to the 24th instant state that the average 65 per cent. assays for the past three days have been \$30 80 of ore obtained from the 400-foot level, and \$46 11 of ore taken from the 600-foot level.

YELLOW JACKET—Has been in the market to a considerable extent, declining from \$900 to \$750, rallying to \$900, and closing yesterday at \$905. The information from this mine is more encouraging than has been the case for some time past. The usual annual statement made in July has not yet made its appearance. It would be a great convenience as well as benefit to all concerned if the office of this company was located in this city.

GOULD & CURRY—Has also declined very materially since our last reference, receding from \$760 to \$625 per foot, then selling at \$650@675, and closing yesterday at \$710. This mine shows no material change. The drifts continue to look promising, but a month may elapse before different ground will be reached.

CHOLLAR-POTOSI—Declined from \$455 to \$402 50, advanced to \$435, and at the close realized \$435. The various portions of this claim yield as follows: Blue Wing level, about 50 tons of ore per day, which it is reported will mill \$28 to the ton; Plute station, from 13 to 20 tons per day, averaging \$30 per ton; New Santa Fé level, some 20 tons, at \$27 per ton; and from the Old Santa Fé level, about 120 tons are daily extracted, showing an average yield of \$27 per ton. The ore is said to lock well between the third Santa Fé and the Old Santa Fé levels, and is reported to be 130 feet in length and 31 feet wide, producing about 180 tons of ore per day, which will yield from \$24 to \$30 to the ton. In the new shaft sinking is favorable. The station timbers for the 611-foot level are completed, but it is proposed to drop down another hundred feet before drifting off. During the week ending July 18th, 2,318 tons of ore were sent to custom mills; previous week, 2,185 1/2 tons.

KENTUCK—Opened at \$415, gradually declined to \$360, improved to \$400, and closed at \$395. The hullion returns from July 1st to the 23d, inclusive, amount to \$65,877 43, against \$68,569 37 same date last month. The largest proportion of the ore came from the upper works, which is of a lower grade than that obtained from the lower level. The receipts of the present month, it is thought, will not fall short of the returns made in June. This company has been hoisting from 70 to 80 tons of ore per day, during the past two weeks, for the Yellow Jacket Company.

EMPIRE—Has been in better favor this week, advancing from \$195 to \$215, then selling at \$210@200, and closing yesterday at \$204. The report upon this property recently submitted by Mr. Brown, the President of this company, makes favorable mention of the present condition of both the mines and mills, and is encouraging as to the developments in the future. The management, both here and in Nevada, is in excellent hands. The supply of ore is reported to be ample until such time as the drifts from the new shaft will be carried to the lode.

OVERMAN—Has been in decided favor during the period under review, opening at \$165, improving to \$180, receding to \$167 50, advancing to \$240, and closing at \$220. The general appearance of the mine is very promising, and the developments on the several levels are very favorable. On the 300-foot level a large body of ore has been found, and the discoveries on the 226-foot level produce average assays of \$40@45 to the ton. Since our last issue over \$100,000 in hullion has been received, and since the first of June the hullion returns amounted to \$42,058 16.

OPHI—Has been in less favor, rapidly declining from \$240 to \$140, rallying to \$155, and closing yesterday at \$152. Ore continues to be obtained in small quantities, but of good quality. A cross-cut in the north drift, 210 feet north of the main east drift, has already developed fifteen feet of the vein without reaching the west wall. An assessment of \$3 per share, or \$36 per foot, is anticipated during the coming week.

BECKER—Advanced from \$310 to \$350, declined to \$260, rallied to \$300, and at the close sold at \$315. EMPRE continues in the market at the closing price of last week—\$180. GOLD HILL QUARTZ sold at \$185@175. A dividend of \$15 per share is confidently expected next month.

CONFIDENCE—Ruled at \$62 50@55, and BULLION at \$35@26, closing at \$25. An assessment of \$15 per share was levied on the latter stock on the 17th instant. DANEY sold at \$19@25; JUSTIS ANN INDEPENDENT at \$15 @10; SEGREGATED BELCHER at \$10@12, closing at \$8.

SIERRA NEVADA—Advanced from \$16 to \$25, closing yesterday at \$18. This rise is based upon the prospects of soon ascertaining the existence of a ledge by draining the mine, the machinery for this purpose being nearly ready.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in this city as follows: CUMBERLAND M. & M. Co.—Storey county, Nev. July 23d. Capital stock, \$100,000; 1,000 shares, \$100 each. Trustees: A. T. Page, Henry Christie and Alfred Bryant.

SAN FRANCISCO WATER CO.—San Francisco. July 24th. Capital stock, \$6,000,000; 60,000 shares, \$100 each. Trustees: James T. Boyd, Milo Hoadley and John H. Turney.

ELECTION OF OFFICERS.—GOLD HILL T., G. & S. M. Co.—July 20th. Trustees: Camila Martin, P. G. Venard, O. Gori, F. O. Wegener, H. Motz, H. Huguet and R. Wegener. President, Camila Martin; Secretary and Treasurer, R. Wegener; Superintendent, H. Huguet.



Fluctuations in Leading Mining Shares for the past Six Months.

Table with columns for Name of Company, Jan. 10th, Jan. 21st, Jan. 30th, Feb. 9th, Feb. 20th, Feb. 28th, March 9th, March 20th, March 30th, April 10th, April 20th, April 30th, May 10th, May 20th, May 30th, June 10th, June 20th, June 29th.

PROFITS OF COÖPERATIVE LABOR.—There is a coöperative association in Troy, N. Y., composed of forty-eight iron founders, who have a capital of \$25,000, in shares of \$100 each—every member a laborer.

CHURCH ORGAN FOR THE SANDWICH ISLANDS.—Among the evidences of progress at the Sandwich Islands, we notice the fact that a fine church organ has just been completed at Boston for a native church edifice at Honolulu.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Table with columns for Name, Location, Amount, and Day. Lists various mining companies and their shareholders.

San Francisco Market Rates.

Table with columns for Commodity and Price. Includes Flour, Wheat, Corn, Rice, Sugar, and various oils.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

Table listing various books with authors and prices. Includes 'ANSTED'S Gold Seekers Manual', 'ANTISELL', 'BLAKE, W. P.', etc.

A PAPER FOR BEECHER.—There is considerable talk of starting a new religious newspaper in New York, to be under the editorial management of Mr. Beecher.

YEDDO, a city of two million inhabitants, has no beggars.

METALLURGIST.—A practical metallurgist, experienced in all branches of his business, and particularly in the manufacture of rosen correa, wants employment.

DEWEY & CO. PATENT AGENTS, ENGRAVERS AND PUBLISHERS. Mining & Scientific Press. SAN FRANCISCO.

Important Notice.

Another New Doctor in the Field!

DR. H. A. BENTON, Has been performing many wonderful cures in this city the past two years, and, as his practice is fast increasing at the office, he finds it difficult to attend all the outside calls, and has concluded to invite B. H. OLMSTEAD, M.D., to join him.

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less oil than any other lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used.

Assayer and Chemist.

A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine.

San Francisco Metal Market.

Table with columns for Commodity and Price. Lists various metals and alloys.

EQUINE MORTALITY.—This city appears to be as healthy for animals as for man.

In the late report of the Omnibus Railroad Company it is stated that the annual rate of deaths of horses belonging to that company is about two per cent, while the death rate among animals engaged in the same service at the East is from seven to eight per cent.—from three to four times as great as in this city.

MORTUARY.—The mortuary report for this city for the week ending July 20th was fifty-two.

The causes of death were thirty-three in number.

CONTINENTAL Life Insurance Company

302 Montgomery street, corner of Pine.

DEWEY & Co., Mining and Scientific Press Office, San Francisco. 1417-1418

Latest Stock Prices Bid and Asked.

Table with columns for Stock Name, Bid, and Asked. Lists various stocks and bonds.



## Mining Summary.

This following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, July 20th: A contract has been made with the I. X. L. Co. for 100 tons of their ore, to be worked in Davidson's mill, on Silver creek. The price paid for the ore is \$100 per ton. It is thought that the quality of ore comprehended in the contract will work so as to leave a margin of profit to the mill. Once started, it is believed this will furnish sufficient from the amount saved while prospecting their lodes to keep the mill running on first-class ore.

It is thought that two or three claims on the Hercules lode will be worked this season. The Hercules is an undoubted true lode, and shows the finest quartz to be found outside the Comstock. All it wants is opening to a sufficient depth, where pay ore is a sure thing.

The Supt. of the American Co. is putting things to right, preparatory to starting up work. The wheel used last season for driving the pump is now running.

It is the intention of the owners to start work on Bnckey's No. 2 lode in a few days. Their vein is two feet thick, the whole of which will work over \$80 per ton. It is likely the pay ore will increase with distance and depth under ground.

## Anador County.

*Ledger*, July 20th: Sylvester, Spagnoli & Co., at Clinton, have been working a hydraulic claim near that place for some time past. Chipsas weighing from a half ounce to two ounces are a common occurrence, and smaller ones in proportion.

After the burning of the shaft house and machinery at the Italian mine, on Else creek, the owners, to keep their mill going, re-opened an old tunnel, striking ore so rich that after throwing out one-sixth of it the balance would pay \$2 per pound.

On Monday last, Dr. Pangh, of this place, sold his mine and mill, near Clinton, to parties in San Francisco and Oakland. The price paid has not been made known. The new owners will push forward the work vigorously.

The Mountain, or Belding, mine has been yielding a better quality of ore for the last two months than usual. Much of the rock will yield from \$80 to \$100 per ton, mill working. The depth of the mine is 250 ft., and though the size and general appearance of the lode is unchanged, the quality of the sulphurets is improving.

## Butte County.

*Marysville Appeal*, July 18th: A Frenchman passed through Marysville lately on his way to Paris, who met with unusual luck while mining in the Last Chance claim, in Butte county. He had sold his claim for a fair sum, with the privilege of working two days longer; and while thus engaged was lucky enough to take out a nugget weighing 50 ozs.

## Calaveras County.

*Chronicle*, July 20th: Lamphear & Co. are progressing fairly with their lead. The ledge is between two and three ft. in width, enclosed between well-defined walls, and the rock extracted prospects richly. Should the lode continue to prospect as favorably to the depth of 150 ft. as it does at present, the company will erect suitable machinery as soon as practicable.

From Middle Bar the most cheering intelligence is received. Stewart & Co., Hoerchner, Grimm & Co., and Wesson & Co., are pushing forward labor upon their claims with redoubled energy. The custom mill at that place is kept constantly employed, and the returns are highly remunerative to the owners of the leads. During the coming fall mills will be erected upon every lead in the district.

Large amounts of dust continue to be shipped from the West Point, Whisky Slide and El Dorado Dists. Wallace, Cockley & Co., Peters, Champion & Co., and many others, are coining money.

Pennell, Savage & Co., whose gravel mining claim is located in Stockton Hill, have recently struck it rich.

Paul & Co., after having cut their way through solid bedrock for a distance of about 900 ft., have had their labors rewarded by striking a lead of paying gravel. The claim is one of the most extensive as well as the richest in the county.

Shaw & Co., Brackett & Co., and Mitchell & Adams are doing remarkably well. Mining operations, both in quartz and gravel, are livelier in this vicinity than they have been for years past.

A new vein has been struck in the old Crispin mine. The lode is between three and four ft. wide, full of sulphurets, and with considerable free gold, visible to the naked eye. It is easily worked, without

blasting, crushes well, and prospects better than any rock heretofore struck.

## El Dorado County.

*Placerville Courier*, July 20th: At Brownsville all the ledges that are being worked look well. G. W. Swan and others are putting up a mill on a ledge owned by them. The Gray Eagle mill is running regularly, and has been for the past year or two. The old Steely ledge has changed hands, and is now being worked by Wm. Givens, of Sacramento. They are sinking their shaft, and on the 4th of July got through the old rock, and are now getting out rock that will pay \$25 per ton. The new mill at Henry's Diggings has just commenced crushing. Rock from Bradley's ledge, at Henry's Diggings, shows free gold, and looks well.

Prospecting is still going on at Georgetown, and all feel satisfied that they are entering upon a season of prosperity.

## Inyo County.

A correspondent of this paper, writing from Inyo county, says that the Silver Sprout Co's mill, five stamps at present, is nearly ready for work, and good ore is being taken from the mines. This company intends to make the concern pay its way when once started, devoting the proceeds to improvements, such as roasting furnaces, etc., till all is complete. As the surface ore can be worked with good results raw, they expect to be able to do this.

The Kearsarge Co. have at last got to work, and have sent a superintendent, who seems to be the right man. He is determined to understand the situation, and to that end is operating vigorously on the mines at several points. The mill will not be started until something more is known of the mines, which, though rich, are, like the others, not yet properly opened.

From Lone Pine we have the most flattering accounts of the mines, but water is very scarce, even for drinking purposes. The Mexicans in this district continue to take out hulkion by means of their little furnaces, which they sell to the storekeepers in Independence. Some parties contemplate establishing an assay office in the latter town. A certain party at Lone Pine has a mine reported to be very rich, which he keeps under lock and key, allowing none to enter. He makes a point of disparaging the district, and thinks "the Mexicans won't stay there long," but has no idea of leaving himself. It is hinted that he desires to "annex" the whole district.

## Mariposa County.

*Mail*, July 20th: Mining operations on Bull creek are progressing favorably. On Hite & Kerrin's claims the vein presents a fine appearance, with well-defined walls, and prospects well. Loomis, Black & Co., working on the extension of the same, are getting some good ore. Sheelan is having a shaft sunk on his vein, with good prospects. Col. Arni intends to let a contract for sinking on the Mammoth lode on Bull creek, on the same range as the Hite & Kerrin mine.

## Nevada County.

*Transcript*, July 19th: The Eureka correspondent writes: Black & Young keep their mill constantly at work. They have about 80 men employed and their rock looks very good. The Jim mine is not working at present.

The machinery for Veach and Powell's ledge is expected next week. They have run a tunnel 180 ft. striking the ledge four ft. in width, with over 125 ft. back, and the rock shows plenty of free gold. There are about 100 men prospecting in this locality at the present time. The Golden Age, owned by Mulligan, O'Neil and Quinn, have struck their ledge. It is large, and shows gold and sulphurets. It is their intention to erect a 10-stamp mill on it the present season. The Birchville Co. are taking out rock which will average \$48 a ton. They are hauling their quartz to Black & Young's mill for crushing.

A shaft has been sunk on the Golden Eagle ledge 20 ft., striking the ledge three ft. wide. The rock looks well, and is interspersed with free gold. The company are now running a tunnel to strike the ledge 100 ft. from the surface.

Hunt & Pier have struck fine looking rock in their ledge on Gaston ridge.

New ledges are constantly being discovered, most of which prospect first rate.

July 20th: The claims owned by Delos Caultkins and others on Myers' Ravine, are yielding handsomely this season. The present owners purchased the ground some three months ago, for \$9,500, and since that time have cleaned up about \$5,000.

July 21st: The Bed Rock Tunnel and Mining Co. is incorporated for the purpose of running a tunnel in Johnson's Hill, Birchville mining district. They have already run 2,021 ft., and have let a contract to run 400 ft. further. At the point to which the tunnel is completed it is 419 ft.

to the surface. This tunnel will furnish an outlet for over a mile of mineral land, the range being that lying between Birchville and Kate Hay's Flat. The month of the tunnel opens into the Middle Yuha. When this tunnel is raised to the gravel it is estimated it will be nearly 5,000 ft. in length.

The Kennebec Co. have opened a shaft from their lower tunnel into the gravel bed. The lower tunnel is 950 ft. long, and opens the channel to the bottom 170 ft. below the surface. The new tunnel taps the blue lead and the profits are expected to greatly increase.

*Gazette*, July 18th: One-half of the U. S. Grant mine has been sold to San Francisco men. The amount paid was \$32,000. This company was incorporated a few days ago at San Francisco, and it is the intention of the present owners to erect a large mill and thoroughly develop the mine.

*Dutch Flat Enquirer*, July 20th: A few days ago a large specimen of ore from the Eureka mine at Grass Valley, was exhibited, which would, if reduced, yield \$10,000 or \$12,000 per ton. The specimen weighed about 100 lbs. and exhibited to the naked eye large quantities of free gold besides very rich sulphurets. A ton of sulphurets from the U. S. Grant mine at Meadow Lake, has been successfully worked at Grass Valley by the Eureka Q. M. Co. The metallurgist at the Eureka states that he experienced no difficulty in reducing them.

*Excelsior*.—*Transcript*, July 24th: From 50 tons of Green Emigrant ore, crushed at the California mill, an average was obtained of \$25.90 per ton. The rock is from 10 or 12 ft. below the surface. The company will make another crushing of 100 tons at an early day.

Fifty tons of rock from the Mohawk and Montreal ledge, worked in their new mill, paid \$20 per ton in free gold, yielding in addition a large quantity of rich sulphurets.

The Gold Run Phoenix ledge has been run 200 ft., striking a large ledge with 150 ft. hacks. The ore is of excellent quality, abounding in free gold.

On the Knickerbocker ledge, a drift has been run 150 ft. below the surface. The company is taking rock from the top which will be crushed in a short time.

The Confidence Co., Pacific ledge, are assorting rock which was taken out last winter to be worked. It is estimated that this rock will pay \$40 per ton.

The Kentucky Co. are about letting a contract for a tunnel 200 ft. in length, to tap their ledge 150 ft. below the surface.

*Meadow Lake Sun*, July 20th: A very rich body of ore has been struck in the Gold Run mine, at a distance of 230 ft. from the mouth of the tunnel. The ledge seems to be widening considerably.

The Live Oak boys, being so well satisfied with their prospects at a distance of 18 ft. on their ledge, are building an arastra, in order to prospect more thoroughly.

## Placer County.

The Grass Valley correspondent of the *Alta* of this city, writing July 10th, says: Placer county is comparatively poor in quartz, the poorest in fact, between Plumas and Mariposa, if we take development as a fact of wealth. No quartz mill has paid regularly for three years, nor has any one furnished a total yield of \$100,000. The Green Emigrant has contained some very rich pockets, and rumor says it has yielded \$500,000. The owners refuse to tell what the yield has been, and there is good reason for believing that, for the first two years the product was \$20,000.

The yield of the Schnable mine is \$6 per ton, and the expenses \$4. A level has been run 1,200 ft. on the vein, 50 ft. below the surface in pay rock all the way.

The Empire quartz mill was burned down about 10 days ago.

The Tallman and the Golden Rule mines are both being opened. They both promise to be profitable.

*Dutch Flat Enquirer*, July 17th: Parties who have been in the mountains prospecting, report good diggings, both surface and quartz, to have been struck near the headwaters of the American river.

## Plumas County.

The Quincy correspondent of the *Alta* of this city, June 11th: The ledges next the Rough and Ready, in Jamison Dist., are large and well defined. There are upwards of 20 on the hill, most of which have been well prospected. The most prominent are the Manhattan, Knickerbocker, Empire, Savage, New York, U. S. Grant, R. E. Lee, Abe Lincoln, and McGee. Rock from the Knickerbocker and U. S. Grant have paid \$25 in the mill. The Manhattan and R. E. Lee prospect upwards of \$100. Free gold can be seen in the rock in any of the ledges. The rock in all of them is precisely similar in character to the Mammoth, Eureka, and Seventy-Six. They range in width from

four to eight ft.—the Savage is nearer 80 ft. All the rock may safely be estimated to pay \$20 per ton in mill.

McGee & Woodward are erecting a mill on a ledge purchased by them last winter. The ledge promises to be valuable.

Iron is found here in unlimited quantities. In one place an entire mountain is composed of the best rock ore, containing from 45 to 75 per cent. A party have located 320 acres on the iron mountain.

There are large copper ledges in this district located, but not yet developed.

## San Bernardino County.

*Guardian*, July 20th: Some few weeks ago Messrs. Brown and Tyler discovered a quartz ledge, and have lately been at work on it to test its richness, average pay and permanency. They have built an arastra for crushing the ore, but, although the rock prospects very well from mortar, horn spoon or pan, the amalgam obtained from the arastra so far, has been in small and not paying quantities. The ledge is about three ft. in thickness, and can be traced on the surface for several hundred yards.

We learn from a friend that the Green lode, after a run of 20 days, working 20 tons of ore in five arastras, recently cleaned up nearly \$800—about \$40 to the ton, which we understand to be about the average yield of some 1,500 tons of ore, worked by the Ryerson process. This process involves the necessity of dry crushing. The mode of crushing adopted was the Howel Centrifugal crusher. The result, notwithstanding the yield, was a heavy loss. Working the ore by arastras, affords a profit of about 100 per cent.; while by the Ryerson process, an actual loss is entailed.

## Sierra County.

*Messenger*, July 20th: The Dutch Co. have been taking out large pay for some time past. The Hawkeye Co. are driving their tunnel into the hill and expect to soon strike the lead. Bigsby & Co. have commenced operations upon their claims in Wolf Creek with flattering prospects. Scott, Miley & Co. are opening a set of claims at Bunker Hill. There is a heavy bank of gravel about 60 ft. deep. They intend to work them with hydraulic and tunnel, as the gravel pays from the top down, and they find large pay on the bedrock in the claims. There is also an extensive bed of cement that will pay richly for crushing. There has lately been a fine quartz ledge discovered near American Hill, known as the Von Humboldt ledge. The company are sinking on the ledge, which is between three and four ft. in width. All the quartz taken from the ledge is good. It will mill at least \$50 or \$60 per ton.

A gang of Chinamen, working near Kanaka Flat, recently found a nugget of gold weighing 45 lbs. The strike was kept secret until the gang was well on its way to China. Many large pieces of gold have been found in the diggings in that vicinity.

Now diggings have been discovered near Galloway's ranch. Owing to the absence of water, those working them are obliged to haul their dirt to Rock Creek, a distance of over half a mile.

*Meadow Lake Sun*, July 20th: Quite an excitement has been raised over a gravel deposit, discovered near Milltown, Sierra county. The extent and value of the discovery is not yet known.

## Yuba County.

The *Commercial Herald and Market Review* of this city, says: The Blue Gravel claim at Smartsville is a specimen of mines in Yuba. This claim contains upward of 100 acres, averaging 100 ft. from surface to bedrock. Upward of \$1,000,000 have been taken from it, though it was not opened till March, 1864. It occupied nine years of incessant labor, and the expenditure of upward of \$100,000, to open it. It has four miles of sluices, three ft. wide and three ft. deep, in which three tons of quicksilver is distributed to catch the gold. One hundred and twenty-five thousand lbs. of gunpowder are annually expended in blowing up and breaking the cement where it is too hard for the hydraulic to wash. The water used in washing costs \$25,000 per annum.

## BRITISH COLUMBIA.

*Cariboo Sentinel*, May 23d: Wake-up-Jake claim has been sold for \$100. Borealis Co. cleaned up lately in one day 156 ozs.

May 27th: The West Britain Co. bottomed a shaft at 47 ft. and got a prospect of \$2.50 to the pan. Cariboo Co. cleaned up, on Wednesday, 47 ozs. Davis Co. cleaned up, in one week, 130 ozs. Borealis Co. cleaned up, for one week, 100 ozs.

At Conklin's Gulch, Ericson Co. washed up, last week, 60 ozs. Ericson Co. washed up, on Wednesday, 124 ozs.; on Sunday, 131 ozs.—making 255 ozs. for the week.

May 30th: At Antler creek, Cunningham creek, Stevens' creek, California creek and Wolf creek, the companies are all doing well.



June 3d: At Conklins' Gulch, the United Co. washed up, for one week, 335 ozs. The Small Hope Co., at Begg's Gulch, last week found a piece of gold worth \$25. On Grouse creek, the Black Hawk Co. cleaned up, during the last week, 215 ozs. The Morning Star claim was lately sold at Sheriff's sale for \$370.

June 17th: During the past week, the Davis Co. cleaned up 99 ozs., and the Aurora Co. 142 ozs. Borealis Co. yesterday cleaned up 47 ozs. The Alturas Co., at Stont's Gulch, cleaned up, the past week, 140 ozs. The Jenkins Co. are making from \$10 to \$12 per day to the hand. The Mucho Oro Co. have cleaned up for the week 50 ozs.

The editor has been shown a piece of rock from the Washburne Co's claim that was literally speckled with heavy nodules of gold.

June 20th: The Aurora Co., on Williams' creek, cleaned up, during the past week, 220 ozs.; Davis Co., 206 ozs., and Forest Rose, 30 ozs. Borealis Co. cleaned up, yesterday, 45 ozs.

At Stont's Gulch, during the past week, the Alturas Co. cleaned up 161 ozs. One piece was found weighing 7 ozs. and another 3 ozs. The gold in the gulch is very coarse. Mucho Oro cleaned up 60 ozs. Vaughan, Sweeney & Co., having occasion to clean up a portion of their ground sluice to make room for rocks, washed up 100 ozs. Several pieces of gold have been picked up on the Ancient Britons' claim, in Begg's Gulch, weighing \$5 and \$6.

The *British Colonist* states that a piece of rock weighing 150 lbs. has been blasted from the Cherry Creek ledge. Samples of lead ore from Shuswap Lake assayed at Westminster have yielded at the rate of 64 per cent. lead and \$23 silver per ton.

June 4th: A 4 1/4-oz. quartz specimen has been taken out of a bench on French creek. The Windgam Co. are taking out from 6 to 10 ozs. per day. Daggart Co. had taken out a \$2,000 dividend to the share since the season commenced. The Gold Hill Co. were taking out at the rate of \$30 to the foot width of tunnel.

**COLORADO.**

Georgetown *Miner*, July 4th: A correspondent writing to the *Miner* of above date, from Colorado Gulch, says: We have plenty of gulches here that will pay \$4 or \$5 per day to the man. An old California miner has located some lodes near Cash Creek, from one of which he has obtained \$1 to the pound of ore.

The Henry Clay lode on Saxon Mountain, has turned out some fine specimens. The lead shows an ore vein five ft. wide, giving large assays. Work is being pushed energetically on the Terrible lode.

The owners of the Watertown lode have discovered another lode some 20 or 30 ft. farther up the hill, and will drive their tunnel on through the Watertown, and tap the new discovery.

The German lode have out about 600 tons of ore. It is sorted into two qualities. The second quality about pays expenses in ordinary stamp mills. The enormous per cent. of copper (15 per cent.) prevented the gold from being saved in the batteries, and on the plates. The first quality has not been tried. The shaft is 225 ft. deep. The crevice is six ft. between walls, with a vein of pure ore, varying from 18 in. to three ft. It is opened east and west for 2,600 ft.

More gulch mining is commenced and in contemplation than at any time since 1862.

The Herkimer Co. is pushing forward work on their mine steadily.

**IDAHO.**

Owyhee *Avalanche*, July 13th: The Owyhee Co's mill is again at work in better trim than ever before. The company is making an experiment in working the tailings by the Keut process. The tailings are first made into bricks, then calcined in a furnace and subsequently worked in barrels. If it proves profitable, works on a large scale will be constructed, and the tailings all treated by this process.

The Potosi ledge is producing rich ore. The shaft is down 40 ft. A number of assays show a very high average value of the rock. The lowest assay gave \$116.65, and several others ranged from \$800 to \$1,500. Silver largely predominates.

Ten lbs. of Glenbrook ore lately assayed \$19.93.

The Cosmos mill is working on Silver Cond ore with favorable prospects.

The Wolffoot mill is at work on Woodstock ore. The quality of the ore is improving.

In Flint Dist., work has been stopped on the Leviathan. The Sherman Co. are still engaged on their tunnel.

The Iowa & Idaho Co. have their grading for their mill nearly done.

**MONTANA.**

*Helena Gazette*, July 6th: The Big ditch of Marshall, will distribute its waters on three different bars. It will carry 1,400 in. of water. The gravel on the bars is from 10 to 15 ft. thick. Fishback & Co. have erected a large crank wheel on the Missourri river, capable of raising 180 in. of water, for washing gold on these bars. Last fall, parties on one of these bars made \$25 to the hand.

From Ten Mile and Monitor Gulches, there is most flattering intelligence. A number of very promising leads have been recently discovered. Messrs. Tuft & Donnell are erecting a smelter at the mouth of Beaver on Ten Mile Creek.

Fred. Cope lately concluded to run the Cope & Napton mill single handed. After running 36 hours, he cleaned up and came back to town with a brick worth \$579. Had he been able to clean the batteries, they would have yielded \$150 or \$200 more.

W. Y. Lovell, in giving a description of the ores in Brown's, Ramshorn, Silver Star, Hot Springs and Williams Dist., says the ores are all of gold and silver—the latter very handsome and of great value, showing native silver as well as the more important sulphurets. The veins are represented to be of great extent and ores easily extracted; and we are certain that no better locations for silver mills can be found in the Territory than those now presented in both Brown's and Williams' Dists.

A fine bed of fire clay has been opened in William's Dist., which has been tested and so far proven to be superior to any yet found that we know of in the Territory.

Post, June 6th: There are about 50 men employed on the Whitlatch, getting out ore. At the Gold Hill lode, Big Indian Dist., the shaft is down 70 ft., and a fine crevice of rich ore developed. They are at present sluicing decomposed quartz with fine results.

The St. Louis works at Argenta, are again in full blast. A cast wheel of pure silver was lately cupelled in the works.

Quite an excitement has occurred in Highland Dist., over two or three new discoveries of exceedingly rich quartz lodes. One, the Forest Queen, has a 40-ft. crevice, containing decomposed quartz, similar to the Ballarat, and prospecting as well if not better than that lode. The other, the Highland Chief, also has a wide and well-defined lode, containing decomposed quartz, prospecting free gold.

July 13th: Negotiations are pending between Prof. Marshall and Messrs. Hall and Foote, contemplating the purchase of the Gold Mountain lode. The sanction of the company was received, and 1,200 ft. ordered purchased for \$23,000.

The editor saw 1,153 ozs. of molten dross run into a brick at Bohm & Molitor's lately. Its net value was \$20,160 in coin.

A nugget has been taken from Hall's claim on Trinity Bar, weighing \$154. There are some nine or ten sluices running night and day on the bar, and they clean up every 10 hours, from \$150 to \$200 to the sluice.

At B. the City the placers are paying well. One company cleaned up 116 ozs. after a six day's run; another in the same time, 68 ozs, and another in a five days run, turned out 70 ozs. Five hundred ft. of the Mountain Chief lode was sold a few days ago, price not given.

**MEXICO.**

*Santa Fé Gazette*, June 29th: New diggings have been discovered on the headwaters of the Cimarron. An extent of ground, seven or eight miles long by half a mile in width, has been found to contain flour gold in paying quantities, and higher up the river and at other points coarse gold has been found. Numbers of men are now sinking shafts to strike the bed rock. One shaft at the depth of 11 ft. gave three cents to the pan, coarse gold, with pay dirt from the surface down. Some Mexicans are reported to be making from \$5 to \$8 per day with pans. There were about 200 men on the ground, and more were constantly arriving. Further and richer discoveries are expected as the explorations become more developed. A ditch, with 2,000 inches of water, will be brought on the flour gold patch by the 15th of August.

**NEVADA.**

*Pahrangat*.  
*Reveille*, July 16th: A rich strike has been made on the Illinois ledge 200 ft. below the surface. A piece of the ore assayed at the Keystone mill, yielded at the rate of \$843.82 silver per ton. The ledge is 25 ft. thick on the surface; its width has not yet been ascertained, although four ft. of good mineral has been developed. The joy at Pahrangat was great, and the sight of the metal, highly pleasing to eyes long unaccustomed to the sight.

June 15th: The vein of the Illinois ledge, belonging to the Pahrangat S. M. Co., has been struck, at a depth of 200 ft. below the

croppings. The ore will yield at a high rate.

**RESE RIVER.**

*Reveille*, July 16th: In Hot Creek Dist., a shaft has been sunk 50 ft. on the Indian Jim ledge, and a cut made across the vein, from which rich ore was taken, the choicer samples of which assayed as high as \$800 per ton. The Southern Light has been opened 40 ft. down, and shows a vein 12 ft. thick, in which there is a stratum three ft. thick of a good quality of ore.

Work is about to be commenced on the Silver Glance, Virginia, and other promising ledges in the district. The Providential Co. are at work on the Hot Creek ledge, having four months to prospect it in with the option of taking it at an agreed price.

The Adriatic, a lately discovered ledge, is producing a fine grade of ore, 3,100 lbs. which were worked last week at the Keystone mill, yielded at the rate of \$334 per ton. Another batch of the ore has just been delivered at the mill, which is pronounced to be superior to the first lot. The present appearance of the ledge is highly promising.

A large part of the machinery for the Boston & Reading Co's mill at Hot Creek Dist., is in the district. An effort will be made to have the mill running in 40 days.

There is an extensive saline deposit 25 miles eastward of Hot Creek, upon which a company is organized for the manufacture and supply of salt.

Yesterday 3,825 ozs. of crude bullion were brought into town from the Rigby mill in the district of San Antonio.

The Pino Grove correspondent of the *Territorial Enterprise*, of July 12th, writes: During the month of June, the Pioneer mill crushed rock as follows: Midas Co., 53 tons; Wheeler, 8 tons; Burlesque, 40 tons; Mountain View, 11 tons—total 112 tons.

At Penrod's arastra mill, there were crushed 13 tons second class and 15 tons first class Midas ore, four tons Imperial and Grant Consolidated, four tons Poorman, and 30 tons first class and 17 tons second class Wheeler—total, 85 tons—all of which equaled the expectations of those interested. The Imperial and Grant paid the best, netting nearly \$100 per ton. Mr. Penrod purchases nearly all the rock he works on the dump. He is, however, always willing to do custom work.

Sixty-six hundred lbs. of the Midas ore taken to Silver City by Mr. Briggs, and by him worked at the Eagle mill, yielded at the rate of \$114 per ton.

*Enterprise*, July 10th: A gold bar weighing 20 1/4 ozs., .831 fine, and valued at \$347.86, from the Imperial mine, Pine Grove, has been received and assayed at the office of Bulling & Co.

*Trespass*, July 17th: A fine specimen of sulphuret ore has been received from the Chihuahua mine, Newark Dist. The ore is very rich, and in several places horn silver is discernible. The ledge is about 12 ft. in width, and is opening up in increased richness.

*Trespass*, July 20th: There is in course of construction a 10-stamp mill at Park Cañon. There is an abundance of ore in the district working over \$80 per ton. The south lode is being worked vigorously. On the north lode, but little has been done, sufficient, however, to disclose a considerable body of chloride. The rock pays from a few dollars up to \$75 per ton.

*Meadow Lake Sun*, July 20th: Pine Grove Dist. begins to supply bullion to an encouraging amount. The Imperial mine produced from four tons a bar weighing 20 1/2 ozs., .831 fine, and worth \$347.86.

*Reveille*, July 19th: The pans and gearing for Coover's 5-stamp mill, in Bunker Hill District, will be propelled by water power. The builders have contracted with the owners of the Victorine mine for 1,000 tons of its ore. The Victorine is of great size, and will yield thousands of tons that will yield from \$45 to \$75 per ton. The ore contains a good percentage of gold. The mill will be arranged for wet crushing.

Prospectors from the headwaters of Goose creek report themselves unsuccessful in discovering gold in either placers or quartz ledges.

Two boxes, containing crude bullion to the amount of 3,100 ozs., has arrived from the mill of the Social and Steptoe Co., in Egan Cañon.

**WASHOE.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

*Gold Hill News*, July 16th: At Dayton, the Carpenter & Birdsall mill, with its splendid water motive, is thundering out the bullion with incessant labor. The Rock Point mill is more fruitful than ever before.

*Enterprise*, July 21st: During the past week, Wells, Fargo & Co. shipped 6,202 lbs. of bullion, valued at \$177,727.22.

*Enterprise*, July 23d: The workmen in the Crown Point mine have struck some very rich ore in the lower level, eastern drift. The stratum at the point where it was cut was about 3 ft. wide, we believe. How much wider it may prove to be when followed down remains to be seen. There was very rich ore above it in the same section of the vein.

On Friday last the new plunger pump for the Sierra Nevada mine passed through town on its way to the works. It is one of the largest in the State, being 14-in. bore and 12-ft. stroke. It was manufactured at the Nevada Foundry, Silver City.

**UTAH.**

*Vedette*, July 13th: Everybody is going to Green river, or sending a man. Brigham Young has sent four of his sons. We have no doubt that rich deposits of gold will be found somewhere on Green river. The exact place is still a secret, so far as the public is concerned. The discoverers are Mormons. The editor says "our advice to all outsiders, is to wait awhile! If the report should be true, that rich and extensive gold mines exist in the Green River country, we will know it soon, and will publish that fact, when we are satisfied that it is true, and not before."

Some parties that lately came by the new gold mines, report them rich. The location of the mine they fix at 25 miles northeast of Pacific Springs, across the head of the Sweetwater in the Wind River range. It appears to be generally conceded that this is the locality. In addition to the \$740, and the presents of \$60 distributed by the discoverers, an additional 40 ozs. has been disposed of in the city. The distance of the mines from Salt Lake, does not exceed 160 miles.

*Reese River Reveille*, May 15th: The editor saw a bar of bullion weighing 13 ozs., the product of gold dust and nuggets from Green river. The bar was worth \$400, gold and silver. The lot was clean and entirely free from quartz and clay.

June 15th: Porter Rockwell sent a dispatch to President Young from Green river as follows: "The mines are good, tell the boys to come."

FROM GRASS VALLEY.—A correspondent writes from Grass Valley, as follows, under date of July 20th:—"I visited the Eureka mine and mills. The new shaft of this company is nearly completed. It is to consist of four divisions, one for pumping, one for continuing the sinking of the shaft still further, and the other two for hoisting the ore. When it is completed the mine will be much better ventilated and labor facilitated. At present the mill is capable of crushing one thousand tons per month; but the proprietors intend increasing the number of stamps. The sulphurets are reduced in the company's own works, by Plattner's chlorination process. By the aid of an improvement lately added to the furnaces, two tons can be worked per day, which exceeds the supply of the mine. Considerable outside work is done.

This process works well with the Meadow Lake sulphurets, in working which great difficulty has been experienced, by those who have attempted their reduction near the mines. A ton of sulphurets was recently sent to the Eureka works from the U. S. Grant mine, and the result of the working is stated to be within five per cent. of the assay.

The Eureka has under foot in the tunnels over 1,000 tons of ore, ready for hoisting. The proprietors informed me that their average monthly dividend is \$30,000."

C. A. W.

SAN FRANCISCO, in proportion to its size, is the busiest seaport in the world. Her annual exports are about \$70,000,000, and her imports nearly as much; the manufactures are worth nearly \$20,000,000; the real estate sales amount to about \$12,000,000, and the cash value of the land, buildings and movable property of the city is about \$200,000,000, although assessed for taxation at only \$80,000,000. It sends away about forty tons of silver and six tons of gold every month—the former metal in bars fifteen inches long and five inches square; the latter in small bars about six inches long, three inches wide and two inches thick. Wagons loaded with the precious metals are seen in the streets nearly every day.

It is estimated that there are over 1,000,000 Frenchmen in the United States.



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1886.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1886.

Dr. J. G. Yates is our duly authorized traveling agent. July 6, 1887.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1887.

## San Francisco:

Saturday Morning, July 27, 1887.

## Notices to Correspondents.

A YOUNG MINERALOGIST wishes to be informed of the rocks which are supposed to form the matrix or matrices of the diamond. This is a difficult query to reply to, as we have no very positively reliable information as to any evidence having yet been afforded where it can be satisfactorily affirmed that diamonds have been found in incontestible association with and accompanied by the rocks in which they were originally formed. Mr. Cliff, a very careful and attentive observer, conceives that the country and series of rocks from which the diamonds of Brazil were originally derived, consists of an elevated plateau of micaceous rocks, on which, so far as the eye can reach in every direction, the observer cannot discover the slightest trace of vegetation. The correctness of this opinion is somewhat confirmed by a communication from Kessel to Zerrner, wherein the former describes the diamonds of Borneo as being more particularly found in the districts of Landak, Sakajam and Tajan, and the Bayermassing country on the opposite or southeast part of the island. In both cases diamonds are described as occurring on a talcose rock, of from two to four yards in thickness, consisting of a bluish gray clay basis enclosing small white pebbles. It was long supposed that a conglomerate rock called itacolomite was the matrix of the diamond. The fact of it being found at all in the itacolomite, is doubtful, and still more so, even if found therein, whether these wonderful and beautiful specimens of crystallized carbon have been originally formed in itacolomite; or, at all events, that kind of conglomerate rock to which the name itacolomite was originally attached by such authors as Count Eschwege and others. The name has, however, been more recently applied to another variety of rock, to which we may hereafter recur.

PETER, Austin.—You are correct in conceiving that the acquirement of physical geology and paleontology requires, on the part of the learner, not only studies various and distinct, but also mental faculties of a diverse character. So much is this the case, that an accomplished physical geologist, such a one whose opinion might be relied upon as to the constitution of rocks and mineral veins, their probable formation and economic value, will usually be found but a smatterer in paleontology, which, in fact, is but a classic name for the natural history of ancient life, branching, consequently, into the science of anatomy and physiology. On the other hand, the paleontologist is generally deficient in the physical sciences relating to dynamics and chemistry, a profound acquaintance with both being required either to explain or understand most of the phenomena associated with physical geology. To become a practical man, however, it is essential that both branches of geology should be harmoniously studied.

SAVE YOUR FILES.—We are informed by Messrs. Durning & Fisher, proprietors of the Pacific File Factory, No. 53 Beale street, that nearly fifty per cent. can be saved by having old files re-cut. See advertisement.

## Improvement in Gas Lighting.

Much has been said and done, within four or five years past, with regard to improving the illuminating qualities of ordinary coal gas. It has been known that by passing coal gas over the lighter products of petroleum the latter is taken up, in a gaseous form, greatly to the improvement of the former. Various devices have been brought out for more effectually and readily effecting this union, and some twenty patents have been taken out to secure these inventions.

Quite recently a company has been formed at the East, with a large capital, which has bought up all that are valuable of these patents, and consolidated the numerous interests into one. This company is known as the "American Improved Gas-Light Company, of Virginia," and arrangements are being made to introduce the improvement into all places where gas-light is used. Mr. David Bush, formerly connected with the gas companies of this city and Sacramento, has recently returned from New York for the purpose of introducing it here, and may be seen at 708 Montgomery street, where the improved light is exhibited, in connection and comparison with the ordinary gas-light from the city mains.

The economy of this improvement has been most effectually established by various experiments in New York City and elsewhere. The New York, Boston and Richmond papers speak highly of both the increased illuminating qualities and decided economy of the improved gas. The Superintendent of the New York Tribune office says that an economy of fully one-half has been effected in the cost of gas in that establishment.

The result produced is perfectly philosophical; and is shown by Mr. Bush in a manner so simple and practical that conviction of its merits will be at once forced upon any one who will take the trouble to call upon him. The device hest approved and adopted by the company consists of a small iron box, whose interior is divided according to the annexed diagram:



The observer is supposed to be looking down into the box with the cover removed. The center partition, it will be noticed, is not carried entirely across. The two points at one extremity are to show where the gas is received into the box from the meter and let out to the burner. The interior of this box is first loosely stuffed with a fine, fibrous kind of shavings, the same which is much used instead of hair for stuffing mattresses; then a specially-prepared liquid—similar to naphtha, but less explosive—is poured into the box until nearly filled. The gas entering at the one opening has to pass through the saturated mass, around the end of the partition, and again across the length of the box to the place of exit. In its course it becomes "carbureted," as it is called, but, in fact, mingled with the naphthaline gases from the liquid—the liquid being gradually converted into vapor and thus mixed with the coal gas—the compound containing a larger proportion of carbon than the gas from the meter; hence its greater illuminating power.

There is no question as to the value and economy of the improvement, and we trust its management will fall into such hands as will allow the advantages to accrue to the benefit of the great mass of our citizens, rather than to the enrichment of a few.

INVENTIONS FOR THE EAST.—A party connected with this office, who contemplates a visit to the Atlantic states, would undertake the introduction of a few important inventions.

NEXT WEEK we shall make mention of the Central Pacific Railroad, and several mills and mines in Nevada county.

## The Wearing Away of Rivers.

The wearing away of the earth, by the action of streams, is familiar to all; but the vastness of this influence in modifying the surface of the earth is rarely appreciated, except by the professed geologist. In passing westward across the continent of North America, from the Atlantic to the Pacific, the regularly increased evidence of this action is noticeable at almost every stage of progress. In New England the action is but slight. The Connecticut river flows, for several hundred miles, through a broad valley but slightly depressed from the general level. Passing on to the Niagara, we observe that that river has excavated a valley, or rather a huge, narrow ditch, with almost perpendicular sides, so deep that the surface of the water, for some twelve miles below the falls, is over 300 feet below the level of the surrounding country. Passing still further westward, and into the Ohio valley, we find that river, between Pittsburgh and Cincinnati running, in one place, in a narrow channel some 700 feet below its original level; although in most places, this, as well as the Connecticut and Mohawk rivers, etc., have excavated quite broad valleys, with gently sloping sides, or peculiar offsets or steppes.

But it is not until the traveler has passed the crest of the Rocky Mountains, that he beholds the most extraordinary phenomena of this description. Very deep cañons are comparatively rare east of those mountains, while they become the almost invariable rule to the west of them. Two of the most remarkable instances of this character are, perhaps, the Black Rock Cañon, on the route from the Great Bend of the Humboldt to Goose Lake and Oregon, and the still more famous Black Cañon, on the Colorado, where that river flows through the Black Mountain region. The latter is considered the most remarkable depression, or rather excavation, of this kind in the world. The land of this region is an elevated plateau, and for many miles the head of the Colorado flows through it, in a narrow channel, 6,000 feet deep! The sides of this cañon are so steep that in some places, for miles on the stretch, no human being, not even a mountain goat, can pass up its sides. At one point there is a perpendicular wall, forming one of the banks of the river, over 5,000 feet high!

Throughout the entire western flank of the Sierra Nevada, the principal rivers, in the upper portions of their course, have generally cut their way down from 2,000 to 4,000 feet in depth, with banks upon either side rising at an angle of from 35° to 45° with the plane of the river. It has been supposed by many that these channels were formed before the rocks had become so much indurated as to present any very serious obstacle to their being worn away. But such could not have been the case, as we find that before the present river courses had an existence there was another system of rivers, running at almost right angles with the present water courses. In excavating into the heads of these ancient rivers, as the miners are now doing in thousands of places, in search for gold, we find the most unmistakable evidences that even they flowed over the country after the rock had become fully as much indurated as it now is. The upper branches of the American river have, in some places, worn their way 3,000 below the heads of these ancient streams. This entire distance must have been accomplished all the way through a hard slate rock. It is difficult to conceive the length of time which must have elapsed since this process of denudation had its origin. And yet there is good evidence for believing that this State must have been inhabited by man before this action commenced, as undoubted human remains are found beneath the debris of the ancient rivers, under circumstances which almost preclude possibility of their finding their

way there after the present river courses commenced their flow. If there is no mistake in these observations, the first existence of humanity on this continent must be referred to a period three or four times as remote as that usually fixed for the creation of man in the Eastern Hemisphere.

## The Late Boiler Explosion.

The steam boiler explosion of Saturday last should impress upon our City Council the necessity of providing a system for the more rigid inspection of steam boilers. It seems almost a miracle that so much damage and such wide-spread destruction should have been effected at mid-day, and directly in the midst of a populous neighborhood, without bodily harm to a single individual. The result has been most fortunate; but the lesson it teaches should be pressed home as strongly as though the horrible tragedy which might reasonably have been expected from such a result had actually occurred. It is to be feared, from the slight attention which appears to be paid to the accident, that nothing short of a terrible tragedy will incite our people and city rulers to a proper discharge of plain public duties.

Time was when such explosions were very generally attributed to some mysterious agent or principle connected with steam generation, which no human foresight could prevent; but careful and scientific observations have now pretty effectually established the fact that fully eight-tenths of all steam-boiler explosions are traceable directly to carelessness, ignorance, or defective boilers, which the most common intelligence and care may avert. Hence the necessity of more stringent rules and regulations for the construction, setting up and operation of boilers, especially where they are so generally distributed throughout populous neighborhoods, as they are in this city. The character of the iron, the form of construction, and the manner of bracing, are all important, and it should be the duty of some one to see that all the requisites are properly cared for. Such duty should be most carefully attended to. Hundreds and thousands of lives are dependent upon the proper performance thereof.

There is no evidence that there was any undue pressure of steam at the time of the explosion on Saturday; on the contrary, the evidence all goes to show a defective boiler—in this case, a boiler badly braced.

The accident by which the steam-drum was torn from the main boiler in one of the small steamers in our harbor, about a year ago, and destroyed several lives, was undoubtedly due to the same cause. Boilers, set in pairs, often owe their destruction to faulty connections, the mechanical work upon which is unexceptional—the fault being in the design. At least one such accident has occurred in the waters connected with this harbor. It should be made the duty of some person of proper experience and intelligence to look after such things, and, irrespective of friend or foe, to see that these dangerous but indispensable magazines of power are built and kept in proper order.

We have been thus particular in presenting the foregoing considerations in order that ignorance of the general causes of boiler explosions may not be held up as an excuse for defects of construction or recklessness in their use. As already stated, eight-tenths of all such accidents may be avoided by the use of a little care and attention.

ICEBERGS.—An unusually large number of icebergs have recently been seen in the North Atlantic. One vessel had to sail nearly 200 miles in a southerly direction along a perfect continent of ice, while others have met enormous icebergs much further south than they are commonly found at this season of the year. It is said that the presence of these large masses of ice have had a sensible influence on the temperature of the New England States and British Provinces to the northeast.



The Next Agricultural Fair.

The State Agricultural Society is making especial efforts to secure for their next annual exhibition a more than ordinary display of the varied industrial products of California. To that end, it has placed itself in communication with the Mechanics' Institute of this city, which, having no exhibition of its own to attend to this year, has promptly responded and taken favorable action in the matter.

The industry of this State is rapidly widening and increasing its operations, and the joint action of the two associations named, with anything like an active interest on the part of our people and mechanics generally, will not fail to secure for the next annual State Fair a success far beyond anything which has heretofore been met with. In order to do this, however, there is work to be done, and the people who are most directly interested in the result, must not stand idle, and leave everything to be attended to by the officers of the two societies. There is not a mechanic, manufacturer, farmer, or miner in the State, who may not add something to the grand result.

It is already time the work was commenced, especially on the part of our mechanics, who generally require more time than either of the other classes to prepare for such an exhibition. Let every one feel that he has something to do. If you have nothing to exhibit, talk—talk and induce others who have something to exhibit, to be up and doing. Every individual is more or less interested in securing a full and creditable exhibition. Do not think because you have nothing to exhibit, you have no interest in the matter. It is through such gatherings as these that men become more thoroughly and profitably acquainted one with another, and with the industries and resources of the State, in all their varied ramifications. An interchange of opinions and exhibitions on such an occasion, is worth months of solitary study and reflection. There is nothing like such things to sharpen one's wits, and open up new avenues for industry and employment.

The miners have also something at stake in this matter. If the exhibition does not put more gold into your claims, it will at least tell you how to get out what you have there to better advantage than you are now doing. Such will be the case with nine-tenths of you—both placer and quartz miners. Come up, then, to our great State Exhibition. Bring along your improved machinery and new ideas, and get others in exchange. If you don't benefit yourself, you may benefit another, which is the next best thing which you can do.

The *Bulletin* of this city has most appropriately observed in this connection: "That a thoroughly good fair will be particularly useful this year, when a larger amount of attention is directed to California from abroad than ever before—that is, on all points affecting her substantial and permanent interests. The leading Eastern journals now have correspondents here, who will form their conclusions and write largely of the resources and capacities of the State from what they see of them at the fair. For the mechanics and manufacturers of San Francisco to neglect the fair is therefore to neglect, in some degree, their own interests."

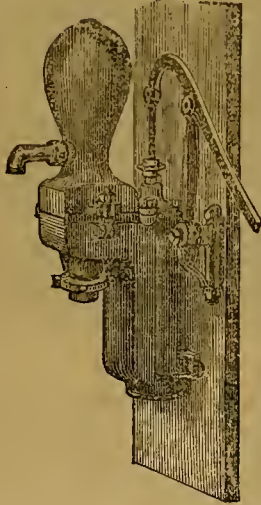
**MOUNT HOOD.**—It will be recollected that about a year ago Prof. Wood, the Botanist, reported to the Academy of Natural Sciences in this city, that he had ascended Mount Hood, and found it to be 17,500 feet high. The correctness of this statement was seriously doubted at the time by the members of the California Geological Survey, and others. Prof. Whitney, of the Survey, has just returned from Washington Territory and Oregon, and reports that he ascended Mount Hood, took careful barometrical observations, and found the height of the mountain does not exceed 12,400 feet. He does not know the precise height, as he had not time to calculate all of his observations.

HANSBROW'S CHALLENGE  
Deep-Well, Mining and Double-Cylinder Patent Pumps.

These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

Four-Inch Deep-Well Pump.



The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

All sizes, from 2-inch to 8-inch Cylinder, manufactured by the Pacific Iron Works, GODDARD & CO., and for sale by the Agents,  
**LOCKE & MONTAGUE,**  
112 and 114 Battery Street, San Francisco.

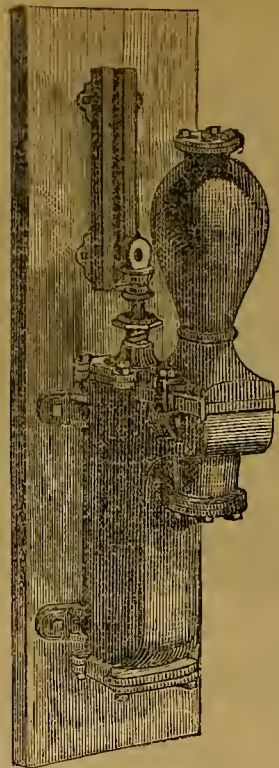
**COMPLIMENTARY.**—Encouraging views of American affairs are not often announced from the other side of the Atlantic; but in the *London Economist*, of a late date, we find an article of which the following extract is a fair sample: "The United States have still the best possible land, the best mines, the best things above ground, the best things under ground, and an educated Anglo-Saxon race to make use of all of them. Such means and materials for production, and such skill in making, the world has never seen together. In consequence, wealth is created faster than ever before, and the government can tax it much more readily."

**THE PITTSBURG & SONORA C. & S. M. CO.** of Rio Chico, Sonora, Mexico, some time since tested 3,600 lbs. of their ore by the Mexican smelting process, and obtained a yield of \$1,100. This company has several mines, pronounced rich, two of which are extensively opened. Work has been steadily kept up on them for the past three years, and many tons of ore, equal to the above, have been broken down and stored up in the mine, under lock and key, for future working. A first class mill is nearly completed, and will soon be at work.

**INFERNAL MACHINE IN A LETTER.**—One of the clerk's in the Virginia City postoffice was recently canceling the stamp on a letter, when an explosion followed the stroke, attended by fire and smoke—the former being thrown in every direction and setting fire to several other letters lying near, and the latter filling the room. It is supposed that the letter contained a string of percussion caps upon tape, similar to those used in self-capping rifles, etc. Curious matter to find its way into Uncle Sam's mail bags.

**THE MARYSVILLE WOOLEN MILL.**—Active operations have been commenced in preparing the building intended for the Marysville woolen mill. Four sets of machinery will be put into service.

Six-Inch Mining Pump.



It is said that there are over 700,000 people in Ireland who speak the old Irish language exclusively.

Troy manufactures 10,000 tons of iron into stoves annually, the value of which is about \$2,000,000.

**NORTH AMERICA  
Life Insurance Company.**

Usual Restrictions on Occupation and Travel  
**ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!  
**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery st.  
20v14n9p SAN FRANCISCO.

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. Lutz, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

Persons desirous of obtaining the finest Wood Engravings, can procure them only by having the picture photographed on the block, by  
**H. H. WOODS,**  
Address, No. 28 Third street. 19v14nfr

**Gold Bars,** of whatever size, if well cast, assayed for two dollars, at A. P. MOLLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14-3m

**JACOB SMITH,** Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14nfc

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. **H. B. BEERS,** corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with PURE GOLD—thus restoring them to their original usefulness and beauty. Call and examine the work. Finest quality of artificial work also manufactured. 16v14-1f

**Builders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansone street.  
FIRE AND MARINE INSURANCE. 10v14n9pqr

**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler—repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v14-1y AUSTIN A. WELLS, Agent.

**Perry Davis' Vegetable Pain Killer.**  
The universal remedy for internal and external complaints. At this period there are but few unacquainted with the merits of the Pain Killer, but while some extol it as a liniment, they know but little of its power in easing pain when taken internally, while others use it internally with great success, but are equally ignorant of its healing virtues when applied externally. We therefore wish to say to all that it is equally successful, whether used internally or externally, and its sale is universal and immense. The demand from India and other foreign countries is equal to the demand at home, and it has become known in those far-off places by its merits—the proprietors have never advertised it or been to any expense in its introduction into foreign lands.  
Sold by all Medicine Dealers everywhere. 2v15-1m

**Pacific Chemical Works.  
NITRATE OF SILVER.**

Messrs. FALKENAU & HANKS—Gents:—I have subjected the sample taken from your Nitrate of Silver to a thorough analysis, and find it to be chemically pure, not containing the slightest trace of any impurities whatever.  
Respectfully yours, THOS. PRICE  
Messrs. FALKENAU & HANKS—Gents:—I have examined the sample of Nitrate of Silver of your manufacture. I have never seen in this market, Nitrate of Silver, manufactured here or imported, so free of every kind of foreign matter, and find it not only adapted to Photography, but it was subjected to every mode of examination, aside from critical chemical analysis, and every test applied confirmed the opinion that a purer article could scarcely be produced or desired for medicinal purposes. H. L. LANZWEERT  
Nitrate of Silver manufactured by FALKENAU & HANKS, Pacific Chemical Works, San Francisco.  
For sale by all Wholesale Druggists and Importers of Photographic Stock. 4v15a1tw

**CALIFORNIA  
TOOL AND FILE FACTORY.**  
Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
4v15-4y J. WEICHHART, Proprietor.

**SAN FRANCISCO MILL,  
HOBBS & GILMORE,**  
Manufacturers of Boxes,  
Market street, between Beale and Main.  
For Sale.—Mahogany, Spanish Cedar, and other Fancy Woods. 4v15-3m

**AGENTS WANTED.**  
ENERGETIC MEN OR WOMEN CAN MAKE MONEY by canvassing for our NEW BOOKS and ENGRAVINGS. One Agent reports thirty three orders for one Book in three days. Address, **PACIFIC PUBLISHING COMPANY,** 4v15n9p 305 Montgomery street, San Francisco, Cal.

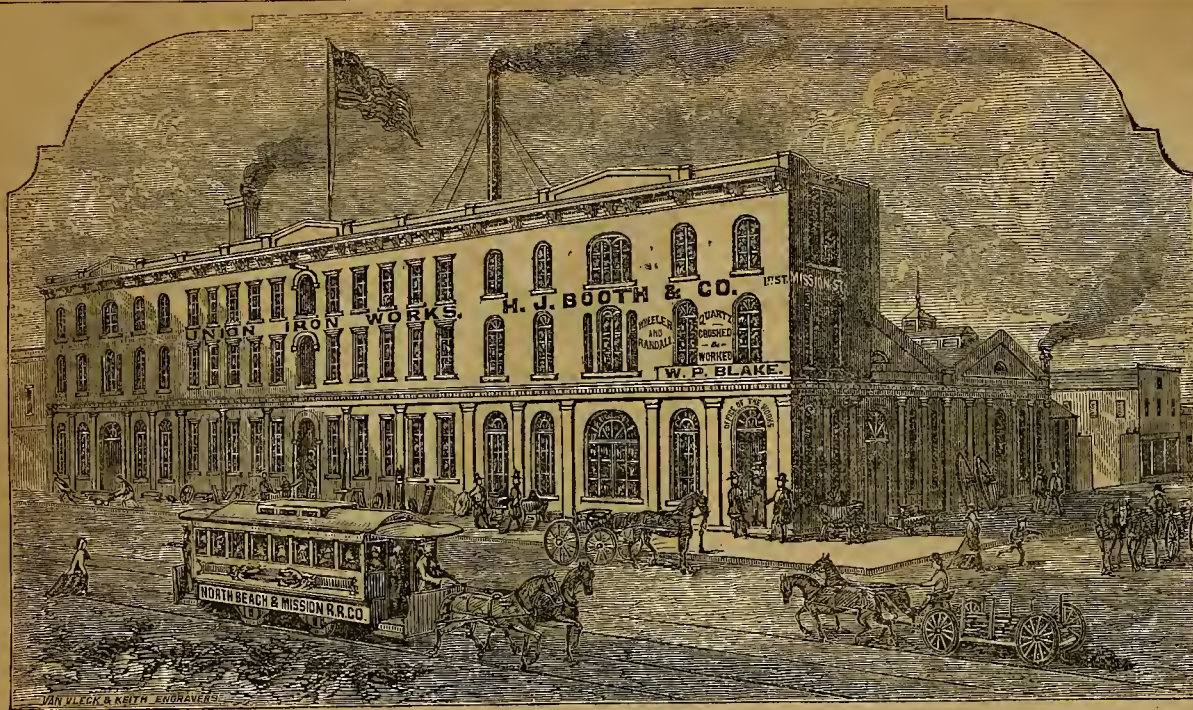
**DR. FONDA'S  
San Francisco Eye Infirmary.**  
Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. F. W. FONDA, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite Wells, Fargo & Co's. 4v15-1y

**BROWN & CO.,  
HATTERS,**  
Importers and Manufacturers of the  
LATEST STYLES,  
At No. 132 Kearny Street.  
CALL AND SEE THEM.

**LINSEED OIL.**  
**The Pacific Linseed Oil & Lead Works**  
Are now prepared to furnish dealers and consumers  
**Pure Linseed Oil,**  
Raw or Boiled, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market. Orders from the country will have prompt attention.  
Address,  
**Pacific Linseed Oil and Lead Works,**  
Care of L. B. BENCHLEY & CO.,  
19v14-3mnp San Francisco.

**PACIFIC  
Rolling Mill and Forge Co.,**  
SAN FRANCISCO, CAL.  
Established for the Manufacture of  
**RAILROAD AND OTHER IRON**  
—AND—  
**Every Variety of Shafting**  
Embracing ALL SIZES of  
Steamboat Shafts, Cranks, Piston and Con-  
necting Rods, Car and Locomotive Axles  
and Frames.  
—ALSO—  
**HAMMERED IRON**  
Of every description and size.  
Orders addressed to **PACIFIC ROLLING MILL and FORGE CO.,** Post Office, San Francisco, Cal. will receive prompt attention.  
The highest price paid for Scrap Iron. 9v14m9p





Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, screw and Drop Presses, Coling Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

**BOILERS.** Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Wakie's pans, Beck's pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

**OIL BOKING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT  
24712 **H. J. BOOTH & CO.**

A TOPOGRAPHICAL MODEL OF THE COMSTOCK LODE.—The Nevada *Trepass*, says: "A day or two since we visited the office of Mr. R. H. Stretch, Civil Engineer, and examined a plaster of paris model of the face of the country comprising most of Storey and Lyon counties, and the entire area which will be reached by the proposed Sutro Tunnel. The model has been a work of great labor, being built in sections, and is a perfect outline of the Comstock lode, with all its depressions and elevations, its mines, mills, and the towns and cities adjacent. Each spur of Mt. Davidson, Cedar Hill, Gold Hill, and the foothills to Carson river, stands in bold relief, and represented with the nicest accuracy. We know of no better way to form an idea of Mr. Stretch's model, without a personal inspection, than for one to imagine himself in a balloon, suspended over this city, 2,000 feet high, looking down upon the section of country embracing the richest mineral vein in the world. The model is to be forwarded to Sutro, who, by its aid, can practically demonstrate to any person who never was in Nevada, how absolutely necessary his grand project is, not only for the benefit of owners on the Comstock, but for the commercial prosperity of the whole world. It will also demonstrate how very probable it is that the tunnel will cut unknown veins of ore, rich in gold and silver; and more than all, when completed each stockholder will be certain to receive a handsome dividend on the invested amount of capital it requires to complete the grandest project of the century—grander and more beneficial to the world at large than even the famous Mt. Cenis Tunnel. Stretch has done his work faithfully, and it will redound to his credit."

It is said that the paper money now in use in Italy was manufactured in the United States. This country has acquired a widespread reputation for the manufacture of paper money.

PATENT SOAP is molded by pressure in dies, which are generally made of brass. The soap is first cut into blocks of a suitable size, and then pressed while in a semi-plastic state.

**Machinists and Foundries.**  
**PALMER, KNOX & CO.,**  
Golden State Iron Works,  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
STEAM ENGINES AND QUARTZ MILLS.  
DUNBAR'S IMPROVED  
Self-Adjusting Piston Packing,  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S  
**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.  
Steam Engines, Boilers,  
SAW AND CRIST MILLS,  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
18v13-ly One block north of Couch's Wharf.

**UNION IRON WORKS,**  
Sacramento.  
**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,  
STEAM ENGINES, BOILERS,  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old Cylinders, manufactured to order.  
Front Street, between N and O streets,  
14v11 SACRAMENTO CITY

**Pacific File, Reaper and Mower Section MANUFACTORY.**  
No. 53 Beale Street, between Market and Mission, SAN FRANCISCO.  
Files re-cut and warranted as good as new, or no charge. The only establishment in the State. We also manufacture Reaper and Mower Sections.  
1v15tf **DURNING & FISHER, Proprs**

**GEORGE T. PRACY,**  
**MACHINE WORKS,**  
Nos 109 and 111 Mission Street, between Main and Spear,  
SAN FRANCISCO.  
STEAM ENGINE, FLOUR AND SAW MILL  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. —ES 47-3

**SAN FRANCISCO**  
**Foundry and Machine Works,**  
N. E. Cor. Fremont and Mission streets,  
Manufacturers of  
Marine and Stationary Engines  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—  
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.  
**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight, and never gets slack or leaky.  
**MACHINERY, OF ALL DESCRIPTIONS**  
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
6v11-ly **DEVORE, DIXMORE & CO**

**GLOBE**  
**Foundry and Machine Shop,**  
STOCKTON, CAL.  
**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF  
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.  
13v13-ly

**LEWIS COFFEY,** J. S. & SON  
**LEWIS COFFEY & RISIUN,**  
Steam Boiler & Sheet Iron Works.  
THE only exclusively Boiler Making establishment in the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna, SAN FRANCISCO.  
All kinds of Brass, Composition, Zinc, and Rabbit Metal Castings, Brass Ship Work of all kinds, Spikes, Shunting Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE.  
V. KINGWELL. 18v13-ly J. H. WEED. 6v12-ly

J. O. HANSCOM & CO., J. PENDERGAST, H. S. SMITH, W. W. HANSCOM.  
**Etna Iron Works!**  
Southeast corner Fremont and Tehama streets,  
SAN FRANCISCO.

Practical Machinists and Iron Founders,  
MANUFACTURE  
**STEAM ENGINES,**  
QUARTZ MILL MACHINERY OF ALL KINDS,  
SAW MILLS, FLOUR MILLS,  
Dunbar's Improved Self-Adjusting  
PISTON PACKING,  
Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or any where else  
**Wheeler & Randall's New Grinder and Amalgamator,**  
Which only needs examination to be appreciated.  
Tyler's Improved Water Wheel,  
Giving greater power at lower cost than any wheel in use. Send for one of our circulars, giving full tables.  
All Wheels warranted to give the power as set forth, or the money will be refunded.  
Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
18v12

**FULTON**  
**Foundry and Iron Works.**  
**HINCKLEY & CO.,**  
MANUFACTURERS OF  
**STEAM ENGINES,**  
Quartz, Flour and Saw Mills,  
Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.  
Nos. 45, 47 and 49 First street, between Market and Mission street, San Francisco. 3-47

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets,  
SAN FRANCISCO.  
**MARINE,**  
**Locomotive,**  
And all kinds of  
**HIGH PRESSURE**  
**Steam Boilers**  
MADE  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
Old Boilers Repaired.  
**D. CAMERON.**  
6v12-ly

**JOHN LOCHHEAD'S**  
**Steam Engine Works,**  
Beale street, near Mission, San Francisco.  
STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the  
**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.  
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**TOWNE & BACON,**  
Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices  
In this City,  
**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgom'y,  
Over Pacific Fruit Market.

**CITY IRON WORKS COMPANY.**  
P. CLERC, B. KLEINCLAUS, W. DEBRIE.  
**CLERC & CO.,**  
Iron Founders, Steam Engine Builders, and  
Makers of all kinds of Machinery.  
No. 28 FREMONT STREET, San Francisco.  
9v146m

**J. NEWSHAM, J. DUNWOOD.**  
**SOUTH BEACH IRON WORKS,**  
Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
AND ALL KINDS OF  
**MACHINERY FORGING.**  
All kinds of Ship-building and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed.  
13v14-ly



**MEN FOR POSITION.**—In these days of political excitements, when the multitude are looking eagerly around for those upon whom to bestow the favors of office, it may not be out of place for even a "class paper" to present the following suggestions, from Emerson, found in his "Representative Men:"

"The robust man, who stand at the head of the practical class, share the ideas of the time, and have the most sympathy with the speculative class. It is not from men excellent in any kind, that disparagement of any other is to be looked for. With such, Tallerrand's question is ever the main one. Not, is he rich? is he committed? is he well meaning? has he this or that faculty? is he of the movement? BUT, is he anybody? does he stand for something? He must be good of his kind. That is all that Tallyrand, all that State street, all that the common sense of mankind asks. Able men do not erro in what kind a man is able, so only that he is able—a master likes a master."

**WE ARE NOW OFFERING OUR IMMENSE STOCK**

**Fine Custom Made Clothing**

**Gents' Furnishing Goods**

**AT PRICES THAT DEFY COMPETITION.**

**Our Stock of Clothing Consists of ALL THE LATEST STYLES**

**BOTH OF MATERIAL AND FINISH.**

**A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc.,**

**AT EXTREMELY LOW PRICES.**

**J. R. MEAD & CO.,**

**Cor. of Washington and Sansome streets.**

**BLASTING POWDER.**

**PRICE, \$3.00 PER KEG.**

**SPORTING, CANNON AND MUSKET**

**POWDER,**

**Of superior quality.**

**FUSE AND SHOT,**

**Always on hand and for sale at the office of the**

**CALIFORNIA POWDER WORKS,**

**No. 318 California Street.**

**JOHN F. LOHSE, Secretary.**

**25v14qr**

**PACIFIC POWDER MILL**

**COMPANY'S**

**BLASTING POWDER!**

**MANUFACTURED**

**IN MARIN COUNTY,**

**CALIFORNIA.**

**FOR SALE BY**

**HAYWARD & COLEMAN,**

**AGENTS,**

**414 Front Street, San Francisco.**

**3v11-1a**

**California Steam Navigation**

**COMPANY.**

Steamer CAPITAL.....CAPT. E. A. POOLE

" CHRYSOPOPOLIS.....CAPT. A. FOSTER.

" YOSEMITE.....

" CORNELIA.....CAPT. W. BROWLEY

" JULIA.....CAPT. E. CONCKLIN.

One of the above steamers leave BROADWAY WILKINSON

at 4 o'clock P. M. EVERY DAY (Sundays excepted), for

Sacramento and Stockton, connecting with light-draft

steamers for Marysville, Colusa, Ohio, and Red Bluff.

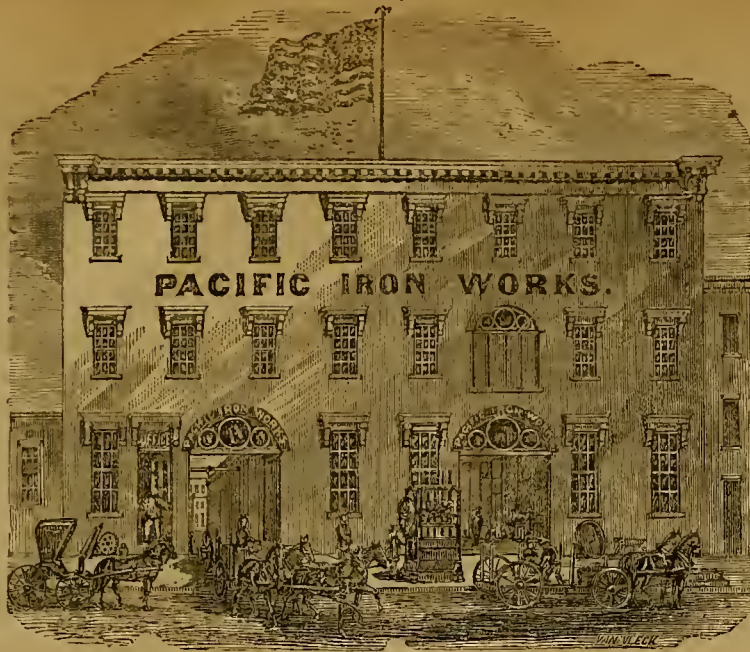
Office of the Company, northeast corner of Front and

Jackson streets.

**JOHN BENSLEY,**

**President.**

13v12



**THE PACIFIC IRON WORKS,**

**First & Fremont Sts., between Mission & Howard, San Francisco.**

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

**Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.**

**GODDARD & COMPANY.**

A. S. CHERILL. S. B. CLARK.

**CHURCH & CLARK,**

**IMPORTERS AND DEALERS IN**

**Mediterranean and California**

**FRUITS, NUTS, CONFECTIONERY, Etc.,**

**AND MANUFACTURERS OF**

**FIRE WORKS**

**Of every description, at No. 407 Front st., San Francisco.**

**15v14-6m12p**

**NEW YORK PRICES.**

**WATCH REPAIRING AT NEW YORK PRICES.**

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**Patent Agents, Publishers and Job Printers, 560 Clay st.**

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**WILL INTRODUCE**

**On Saturday, February 9, 1867.**

**An Entirely New Style of**

**Cloth Cashmere Hat**

**"YACHT HENRIETTA,"**

**Which are the most dressy Hat ever introduced on the Pacific Coast.**

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**8v14**

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**FIRST PREMIUM 1857**

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**12v14-6m**

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**BETWEEN MONTGOMERY AND KEARNY STS.,**

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**THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.**

**Prices varying from \$1.50 to \$2 per day for Board and Room.**

**FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.**

**Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents**

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**12v13-1y**

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**13v14-qr**



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**Repairing promptly and neatly attended to.**

**13v11**

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**THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator. As a purifier of the blood, acting softly, yet gently, on the secretions of liver and kidneys, they are unsurpassed and a most agreeable drink.**



**For sale at all wholesale and retail stores on the Pacific Coast and at the depot of TAYLOR & BECKER, 43 and 45 Clay street, between Sansome and Battery, San Francisco.**

**Piles! Piles! Piles!**

**NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of**

**WOOD'S SUB-POSITORY.**

**It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.**

**Sold wholesale and retail by J. H. REDINGTON & CO., Nos. 416 and 418 Front street; GEO. GRISWOLD, corner of Mission and First streets; OLD FAMILY DRUG STORE, corner Mission and Second streets; UNITED STATES DRUG STORE, Bush street, between Montgomery and Kearny. C. WOOD, Proprietor, No. 63 Tehama street, between First and Second.**

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**WE are receiving direct from MESSRS. LADD & OERTLING (London) and BECKER & SOHN (Antwerp, Belgium) their superior**

**ASSAY AND BULLION BALANCES,**

**And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand.**

**San Francisco March 6, 1865.**

**11v10-1f**



Business Cards.

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EMERY & EATON'S GREEN SEAL SMOKING TOBACCO. 15v14-6m No. 618 Battery street.

Schmiedel & Shotwell, Stock and Money Brokers, and dealers in Government Bonds, State, City and County Securities, Gas, Water and Insurance Stocks, etc., south west corner of California and Sansome streets, opposite Bank of California. 1v15-6m

ISAAC E. DAVIS. HENRY COWELL. DAVIS & COWELL, DEALERS IN Santa Cruz Lime, Cement, PLASTER, HAIR, LATH AND LATH NAILS. Marble Dust, Fire-Bricks, Fire-Clay, Fire Tiles of all sizes. Cor. Front and Washington Streets, San Francisco. 23v14-1f

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Enamelled Cards, Ambrotypes and Sun Pearls, executed in a superior manner. Small pictures copied and enlarged to any size, at one-half the price usually paid for such work. Cards de Vishes only \$5 per dozen; Vignettes at \$4 per dozen. We warrant our work to be superior to any made in this city or State. Give us a call and see our specimens. 5v14-6m

ANDRADE & PATTERSON, MANUFACTURERS AND ENGRAVERS

METALLIC SIGNS, AND SIGN PAINTERS, Corner of Montgomery and Pine Streets, SAN FRANCISCO.

Door Plates and Office Signs made to order at short notice and on reasonable terms.

REMOVAL.

The well known establishment of LUCY & HYMES, MANUFACTURERS OF Genuine Pale and Chemical OLIVE SOAPS,

Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged. The capacity of this establishment is now the largest on the Pacific Coast. It is now in full operation, and prepared to supply the demand of the trade. Office--319 California St., San Francisco. 1v15qr

We take occasion to inform our friends and customers that we have sold our entire stock in warehouse, also in store, to Messrs. N. P. COLE & CO., 312 and 314 Pine street. The whole forms a most complete and desirable assortment of FURNITURE, and well merits attention before purchasing elsewhere.

FURNITURE. We beg leave to call the attention of the public to our warehouses, Nos. 312 and 314 Pine Street.

Having purchased the entire stock of Messrs. J. Peirce & Co., and in addition to our large invoice from our factory at the East, we are prepared to fill all orders promptly, both WHOLESALE AND RETAIL, and call the attention of the public to our salesroom, as containing the most complete assortment of desirable goods on this coast. 2v16-1qr N. P. COLE & CO.

Greatest Invention of the Age.

BOWMAN'S AMERICAN WASHING COMPOUND

Add housewife's true friend, saves one-half the labor, one-half the time, and one-half the expense. For WASHING CLOTHES, CLEANING HOUSES, REMOVING PAINT, GREASE, etc., it is unequalled. It makes hard water as soft as rain water. For sale at \$1.50 per can of five gallons, at the manufactory, 222 Jackson street, near Battery. Please send your orders, by mail or express, to LYNCH & PARSONS, 25v14-2amqr San Francisco, Cal.

Such a journal has been needed on the Pacific Coast. The Press fills the bill. -Revere River Recreiter.

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL. BARTLING & KIMBALL, BOOK BINDERS, Paper Rulers and Blank Book Manufacturers. 505 Clay street, (south west cor. Sansome), SAN FRANCISCO. 15v12-3m

JOHN DANIEL, (SUCCESSOR TO O. CORI) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order. Goods shipped to all parts of the State. Orders re spectfully solicited. 5v8-3m

Palmer's Patent ARTIFICIAL LEG, Manufactured in Philadelphia, Penn. JARVIS JEWETT, AGENT. 629 Washington Street, San Francisco, Cal. 10v8-1m

HUCKS & LAMBERT, SOLE MANUFACTURERS OF THE CELEBRATED H. & L. AXLE GREASE, Natoma Street and North Beach, SAN FRANCISCO. 2v13-3m

PIIONEER IRON SHUTTER WORKS! Established 1849.

C. NUTTING, Manufacturer of Fire-Proof Doors and Shutters, BANK VAULTS, PRISON CELLS, BALCONIES, AWNINGS, GRATINGS, IRON FENCE, STAIRS, Etc., 123 Bush street, San Francisco. 11v14-1q

HARRIS BROS., CUTLERS, LOCKSMITHS, BELLHANGERS And Model Makers. 208 Leideedorff street, bet. Sacramento and Commercial, SAN FRANCISCO. 2v14-1f

LEATHER HOSE AND BELTING, ALL SIZES. SUCTION HOSE MADE TO ORDER At short notice, by M. M. COOK & SON, No. 801 Battery street, SAN FRANCISCO. 13v13-3m

SAN FRANCISCO Cordage Manufactory! CONSTANTLY ON HAND A LARGE ASSORTMENT

MANILA CORDAGE, Whale Line, Bale Rope, etc., Manufactured from Pure Manila Hemp. Office, at TUBBS & CO'S, 611 and 613 Front street. Manufactory at the Potrero. 15v14-1q

E. POWER, WOOD CARVER - AND - Composition Ornament Manufacturer. Designing, Modeling and Patterns FOR CASTING.

INTERIOR DECORATIONS OF ALL DESCRIPTIONS, In Wood, Composition and Metal. Nos. 311 and 313 Market street, San Francisco. 25v14-1q

J. M. STOCKMAN, Manufacturer of PATTERNS AND MODELS, (Over W. T. Garratt's Brass Foundry) S. E. Corner of Mission and Fremont sts., 5v14-1f SAN FRANCISCO.

J. H. WHITE & CO., Lubricating Oils & Axle Grease, From Petroleum of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricators are equal to any in the market, and surpass all others for cleansing of gms caused by the use of animal oils which contain stearine and margarin, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 25v14-1f

THEODORE KALLENBERG, Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc. No. 10 Stevenson street, near First, San Francisco. Repairing promptly attended to. 3v15-1f

Favorable to Inventors. - Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Professional Cards.

SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco. Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 25q

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leideedorff. Drawings of MODELS made for parties applying for patents at Washington or London. mar23-1f

E. V. JOICE, NOTARY PUBLIC, N. E. cor. of Washington and Battery sts. 3v15-1f SAN FRANCISCO.

JAMES M. TAYLOR, Attorney and Counsellor at Law, Court Block, 636 Clay Street, SAN FRANCISCO. Will practice in the State and Federal Courts. Special attention given to proceedings under the Patent Law. 2v15-1q

ISAAC LOBREE & CO., GOLDEN STATE POTTERY, ANTIOCH, CAL. Office in San Francisco, 515 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware. Is prepared to fulfill all orders at the shortest notice. 20v14-1f

J. N. ECKEL, M. D., Homoeopathic Physician 226 Post Street, San Francisco. 2v14-1r

DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets [OVER SAN FRANCISCO BATHS] SAN FRANCISCO. 20v10-1q

J. W. WINTER, DENTIST. Office, 647 Clay street, San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years--fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$20 to \$35. Teeth extracted without pain by local application. 18v14-1f

RADICAL CURE - OF - RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 24v14-11ptf

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 31 days. On the 10th, 18th and 30th of each month that has 30 days. When the 10th, 18th and 30th fall on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 15th or 19th connect with French Trade-Atlantic Co.'s steamer for St. Nazaire, and English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America. The following Steamships will be dispatched on dates as given below: July 30th--GOLDEN CITY, Capt. W. F. Lapidge, connecting with OCEAN QUEEN, Capt. Godner Cabin passengers berthed through. Baggage checked through--100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. The steamers will positively call at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas--if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The COLORADO will be dispatched July 4, at noon, and will be followed by the GREAT REPUBLIC, on August 24th, from wharf corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer OSTA RICA for SHANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leideedorff streets.

OLIVER ELDRIDGE, Agent. American and Foreign Patents. - Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, CENTRAL CITY, COLORADO. 19v12-1y

EUROPEAN METALLURGICAL WORKS, Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test 1. Ores sent to this establishment--either in large or small quantities--by such process as may be found best adapted to their chemical character, after a careful analysis has been made, and Ore adapted to the smelting process attended to. Sulphuretted, pyritous, and the so-called "rebellious ores" are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL. The proprietors--encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy--have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business. S. P. KIMBALL. J. R. MURPHY. 10v10

J. A. BAUER, Chemical Laboratory, AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO. Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Arts, etc. Pharmaceutival Preparations Made to Order.

Opinions given on Chemical Questions and Geology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Gold Chloride, Platin Chloride, Sodium Amalgam, Sulfate of Copper, etc., for sale. 12v14-6m

LACOUR'S SARSAPARIPHERE BITTERS. Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the fineness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry. The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

LACOUR'S SARSAPARIPHERE BITTERS. They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate costiveness, and remove regularly every impurity of the blood. They are unrivaled as a remedy for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them? The Old Man Takes them as a gentle stimulant and mild rejuvenator. The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overtasked body. The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health; to give a sparkle to her eyes, and sweetenness to her breath. The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family. The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness. Children Take them as a gentle, yet effective tonic. The Dasher Takes them as a mild, pure stimulant, containing none of the deleterious, essential and tussle of forbidden drinks. The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does not madden or destroy. The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.

Everybody Takes Them! PRO BONO PUBLICO! 2v15-6m



New Mining Advertisements.

Gold Quarry Company, Location of Works: Placer County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Hayden Judson, J. C. Beidman, R. C. Murray, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, No. 705 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 705 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. j27

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the eighth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale, by order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. j22

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Thursday, the first day of August, 1867, and the sale thereof until Monday, the 19th day of August, 1867. By order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. j22

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. j27

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, Up stairs, San Francisco, California. j27

To Capitalists,

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Pans, etc., FOR SALE. The mine has three main veins, and more than \$90,000 have been spent in opening them and completing the mill. Good prospects. Apply to BELLOC FRERES, Bankers, 23 1/2-31-6m 635 Clay street, San Francisco.

Mining Notices--Continued.

Adelta Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like E. F. Bauldwin, E. F. Bauldwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at No. 413 Montgomery street, San Francisco, Cal., on Monday, the fifteenth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. j29

Postponement.—The above sale is hereby postponed until Monday, the twenty-ninth day of July, 1867, at the same hour and place. By order of the Board of Trustees.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. j29

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco.

At a meeting of the Board of Trustees, held June 21st, 1867, the order levying assessment (No. 6) made February 14th, 1867, was rescinded.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco. j29

Casco Senores Gold and Silver Mining Company, Copalco, Sinaloa, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the first day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Hayden Judson, J. C. Beidman, etc.

And in accordance with law, and an order of the Board of Trustees, made on the first day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, No. 705 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 705 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. j27

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of June, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the eighth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fifth (5th) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale, by order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. j22

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Thursday, the first day of August, 1867, and the sale thereof until Monday, the 19th day of August, 1867. By order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. j22

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. j27

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, Up stairs, San Francisco, California. j27

To Capitalists,

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Pans, etc., FOR SALE. The mine has three main veins, and more than \$90,000 have been spent in opening them and completing the mill. Good prospects. Apply to BELLOC FRERES, Bankers, 23 1/2-31-6m 635 Clay street, San Francisco.

Mining Notices--Continued.

Adelta Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-ninth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like E. F. Bauldwin, E. F. Bauldwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-ninth day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at No. 413 Montgomery street, San Francisco, Cal., on Monday, the fifteenth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. j29

Postponement.—The above sale is hereby postponed until Monday, the twenty-ninth day of July, 1867, at the same hour and place. By order of the Board of Trustees.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. j29

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco.

At a meeting of the Board of Trustees, held June 21st, 1867, the order levying assessment (No. 6) made February 14th, 1867, was rescinded.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco. j29

I. X. L. Gold and Silver Mining Company, Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Ayer, Isaac, Barron, Jas., etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at the office of the Company, 415 and 420 Clay street, San Francisco, Cal., on the fifth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

FRANK H. HAMILTON, Jr., Secretary. Office, 415 and 420 Clay street, San Francisco. j20

Lyoa Mill and Milling Company, Keley District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of July, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 5 Government House, corner of Sansome and Washington streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansome streets. j13

Lady Franklin Gold and Silver Mining Company, Silver Mountain Mining District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like John Birdsley, John Birdsley, etc.

And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Messrs. Olney & Co., auctioneers, at the office of the Company, 318 California street, San Francisco, California.

JOHN F. LOHSE, Secretary. Office, 318 California street, up stairs, San Francisco. j13

De Soto Gold and Silver Mining Company, Location of Works: Star District, Humboldt County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 58 Exchange Building, northwest corner Washington and Montgomery streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. RURNETT, Secretary. Office, No. 58 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California. j13

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that a meeting of the Stockholders of the Gold Quarry Company will be held in San Francisco, at the office of the Company, No. 705 Montgomery street, Room No. 4, second floor, on MONDAY, the twenty-ninth day of July, at 12 o'clock, noon, of that day, for the purpose of taking into consideration the increase of the Capital Stock of said Company, from the sum of six hundred thousand dollars, divided into six hundred shares of \$1,000 each, to the sum of two millions four hundred thousand dollars (\$2,400,000), divided into twenty-four hundred (2,400) shares of one thousand dollars (\$1,000) each.

G. D. ROBERTS, A. C. PEACHY, L. MAYNARD, I. FREEBORN, E. WERTHEMAN, Trustees of the Gold Quarry Company. T. W. COLBURN, Secretary. Office, No. 705 Montgomery street, San Francisco, June 24th, 1867. j29

Hope Gravel Mining Company, Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of June, 1867, an assessment (No. 15) of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 629 Clay street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of July, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. P. GREENE, Secretary. Office, Room No. 11, 338 Montgomery street, San Francisco, California. j13

Neagle & Corcoran Silver Mining Company, Location of Works: Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary of the Company.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirty-first (31st) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco. j13

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of fifteen dollars (\$15) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco.

At a meeting of the Board of Trustees, held June 21st, 1867, the order levying assessment (No. 7) made February 14th, 1867, was rescinded.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco. j29

Neagle & Corcoran Silver Mining Company, Location: Storey County, Nevada.

The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 338 Montgomery street, on MONDAY, the 19th day of August, 1867, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc.

A. P. GREENE, Secretary. Office, Room No. 11, 338 Montgomery street, San Francisco. j13

Nucera Senora de Guadalupe Silver Mining Company, Location of Works: Tayollita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1867, an assessment (No. 28) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Frazer, at the office, No. 210 Post street, or to the Treasurer, A. H. Hixson, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the third day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. j13

Seaton Mining Company, Location of Works: Drytown, Amador County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Wm Ashburner, Peter H Burnett, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets San Francisco. j13

St. Louis Silver Mining Company, Cortez District, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the fourth day of May, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Shares, Amount. Includes names like Baldwin, John E., Berry, John, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fourth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the second day of July, 1867, at the hour of 12 o'clock, noon, of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. j05

Postponement.—The above sale is hereby postponed until Monday, the 9th day of July, 1867, at the same hour and place. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. j05

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Lodge, Tuolumne County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. Verdenal, office, 22 Court Block, 636 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirty-first (31st) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco. j13

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of June, 1867, an assessment of fifteen dollars (\$15) per share was levied upon the capital stock of said Company, payable on or before the second day of August, 1867, in United States currency, to the Secretary, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the second day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco.

At a meeting of the Board of Trustees, held June 21st, 1867, the order levying assessment (No. 7) made February 14th, 1867, was rescinded.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco. j29

THE MINING PRESS has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one. (Marysville Appeal, j29)



Machinery.

**VARNEY'S PATENT AMALGAMATOR.**

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and so to the circumference as before. This it constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp down and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the

**PACIFIC FOUNDRY,**  
San Francisco.

**\$85 for Hunter's Improved Concentrator.**

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 25 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

**FOR \$50.**

**HUNTER'S EUREKA AMALGAMATOR.**  
For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer of wood.

By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address

**ANDREW HUNTER,**  
Union Foundry, San Francisco.

**BLAKE'S PATENT QUARTZ CRUSHER.**

**CAUTION!**

The owners of the Patent for this valuable, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages.

**BLAKE & TYLER,**  
1414 1/2  
Agents for the Pacific Coast.

**QUARTZ MINERS, MILLMEN,**

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

**First Class Mill,**

In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps.

Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or

**J. B. HITCHCOCK,**  
Millwright, Russ House.

**Steam Pumps,**

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

**PICKERING'S GOVERNORS**

For Steam Engines.

**Giffard's Injectors,**

For Feeding Boilers.

**STODDART'S IRON WORKS,**

Beale Street, San Francisco, 2412 3rd

**BLAKE'S QUARTZ BREAKER!**

**PRICES REDUCED!**

MACHINES OF ALL SIZES FOR SALE

—BY—

**WM. P. BLAKE,**

Corner First and Mission streets, or Box 2,077  
3v13r  
SAN FRANCISCO.

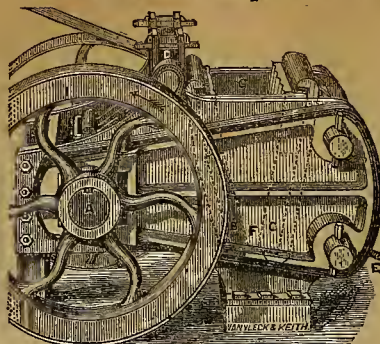
**NELSON & DOBLE,**

AGENTS FOR:

**Thomas Firth & Sons' Cast Steel, Files,**  
Etc., Shear, Springs, German, Plow, Blister and Toe Calk  
Steel, manufacturers of

**Mill Picks, Sledges, Hammers, Picks,**  
Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,  
319 and 321 Pine Street,  
Between Montgomery and Sansome, San Francisco.  
10v14r

**Brodie's Patented Improvements**



FOR THE TREATMENT OF  
**Gold and Silver Ores.**

**BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.**  
The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:  
No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600  
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour.....\$800  
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour.....1,200

**EXPLANATION OF THE ABOVE DRAWING.**  
The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, B, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:  
RAWHIDE RANCH, Tuolumne Co., Sept. 29, 1866.

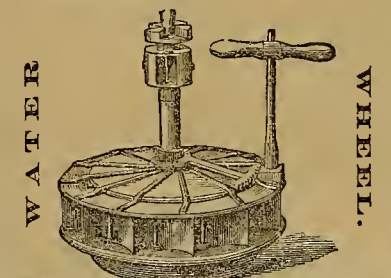
**JAMES BRODIE, Esq., San Francisco.**—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,  
R. P. JOHNSON,  
Supt. Rawhide Ranch Quartz Mill.

**BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.**—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.  
Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$200 per Barrel.  
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

**BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.**—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations are afforded on application to the subscribers.  
A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

**EXPRESS BUILDING, 402 Montgomery street,**  
San Francisco.  
12v13r

**LEFFEL'S American Double Turbine**



**THESE WHEELS, UNEQUALLED AND UNRIVALLED** in the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc.  
**CALIFORNIA REFERENCES.**—E. Stockett, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County.

**KNAPP & GRANT,**  
Agents for California.  
26v13-1yq 310 Washington Street, San Francisco

**Quartz Mill Construction and Superintendence**

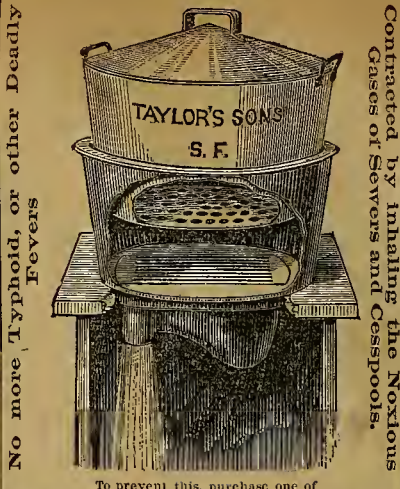
**THE UNDERSIGNED IS AT PRESENT OPEN FOR AN** engagement, as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of refractory ores. Is prepared to give references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address **F. M. SHAW,** San Francisco, care Mining and Scientific Press. 26v143m

**Notice to Miners, Well-Borers and Water Companies.**

**M. PRAG IS NOW PREPARED TO MANUFACTURE** Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to his stock of machinery, this branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi shovels, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing, etc.  
**M. PRAG,**  
5v13-1y Stove Store, No. 125 Clay street, below Davis.

**Mechanical Drawings.**  
Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

**HEALTH! HEALTH!**



To prevent this, purchase one of  
**Taylor's Stench Traps and Garbage Baskets,**

And promote the health, comfort and cleanliness of your family. [For description see Mining and Scientific Press, April 6, 1867.] Sold wholesale and retail by **TAYLOR & SONS,** at No. 429 Pacific street, San Francisco. 15v14r

**THE CELEBRATED Self Generating Portable Gas Lamp.**



**Directions for Use.**  
Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.  
When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.  
Manufactured solely by **JOHN J. BUCKS,** original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 15v14-3m

**E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.**



**HUNT'S ADJUSTABLE WIND MILLS** to have all the sails so arranged as to turn sideways to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.  
**HUNT'S SELF-REGULATING WIND MILLS** are of a simple and cheap construction, and is provided with means for stopping in the most violent winds. This mill is well known throughout the State.  
Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Trucks built to order.  
No. 18 Second St., and 105 and 110 Jessie St. San Francisco. 2v15-1y

**ROOT'S PATENT FORCE BLAST BLOWER.**

Adapted for Smelting, Foundry, Mining and Steamships. Requires 50 per cent less power than any Blower now in use. For further particulars, address **KEEP, BLAKE & CO.,** Stockton, or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 1v15-10pr

**National Mineral Land Law, Instructions, Blanks, Etc.**

Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address **DEWEY & Co.,** office Mining and Scientific Press, San Francisco.

**THE GREAT BRIDGE AT ST. LOUIS.**—Surveys and estimates have been made for an immense wire suspension bridge across the Mississippi at St. Louis. If the project is ever carried into execution, it will be the most costly one in the world, as well as one of the most splendid efforts of mechanical ingenuity in existence. It is intended to accommodate the great lines of railway centering at this point, as well as for the general accommodation of the public. The plan proposes that this bridge shall be over a mile in length and eighty-four feet above high-water mark, so that all steamers, of whatever dimensions, may readily pass under it without injury. The greatest distance between the towers to be 1,800 feet, and the bottom of some of these to be sixty feet below the level of the river at low water. Its erection will cost two millions of dollars. Another plan has been suggested to afford an easy means of communication between the two sides of the river; this—which will obviate the necessity of a bridge—to consist of an iron tunnel, or "vast iron tube," laid across the bed of the river, for the passage of railways trains and for the use of vehicles and pedestrians. Others propose that the tunnel shall be dug in the earth under the bed of the river. In either case, next to the Hoosac and Mount Cenis tunnels, this will be the most remarkable enterprise of the age. In comparison with it, those of Chicago and London will sink into insignificance.

**WYOMING** is the proposed name for a new Territory which must soon be organized in the region of country on the eastern slope of the Rocky Mountains and to the north of Colorado. This region is as yet undeveloped; but enough is known of its immense deposits of gold, silver, copper and coal, to warrant the statement that within a short time it will equal Montana in population. The veins of coal alone will supply the Pacific Railroad with fuel for years to come. These veins are already being worked in Colorado. At Boulder City, north of Denver, there are five veins of a superior quality of coal, the largest being fifteen feet and the smallest five feet thick. At the crossing of the North Plate there is a coal strata among the rocks on the north side of the river. The other precious metals will be found equally rich. This Territory is bound to be settled up with a thriving population. The mines on Strawberry, now in Utah, are in this proposed new Territory.

**MOUNTAIN SILK.**—The Nevada Transcript of the 23d inst. says: "We have seen at the store of Gregory & Waite a spool half filled with raw silk, of a rich orange color. The threads are exceedingly fine, and very glossy in appearance. This spool contained the silk of two cocoons, and was raised by Messrs. Isoard & Muller. We yesterday saw a spool at Isoard's store, containing about the same quantity of rich white silk. They reeled, on Saturday, the silk of fourteen cocoons, which averaged 2,000 feet to the cocoon. Prevost says the flies produce an average of from 250 to 300 eggs. Those raised by Isoard & Muller produced an average of 400 eggs each. These gentlemen have about 60,000 eggs. They also have a fine lot of cocoons, which they propose to send to the State Fair."

**GOVERNMENT MINING TITLES NOT COMPULSORY.**—The Commissioner of the General Land Office, in issuing instructions to Registers, Receivers and Surveyors-Generals, relative to receiving claims under the Act of July last, says they should advise claimants to appear before the approval of the surveys, and all further proceedings will be stayed until final settlement. It is understood there is nothing obligating claimants to proceed under the statute, and when they fail to do so, there being no adverse interest, they hold the same relation to the premises they did before the passage of the Act, with additional guarantees. They possess the right of occupancy under the statute.

**IMPORTANT DISCOVERY.**—It is said that the Hudson Bay company's agents have discovered a practicable pass through the coast range via Gardner's Inlet, Lake Francois and Lake Fraser to Fraser River. Goods landed at Gardner's Inlet may be carried through the coast range to Francois Lake, where they will be put in canoes and boated through Fraser Lake and its feeders to Fraser River and Quesnelmouth.

**BAD LUCK** is simply a man with his hands in his breeches pockets and a pipe in his mouth, looking on to see how it will come out. Good luck a man of pluck to meet difficulties, his sleeves rolled up, working to make it come out right.



**POPULAR FALLACIES.**—That warm air must be impure, and that, consequently, it is hurtful to sleep in a comparatively warm room. A warm room is as easily ventilated as a cool one. The warm air of a close vehicle is less injurious, be it ever so foul from crowding, than to ride and sit still and feel uncomfortably cold for an hour. The worst that can happen from a crowded conveyance is a fainting spell; while, sitting even less than an hour in a still, chilly atmosphere, has induced attacks of pneumonia—that is, inflammation of the lungs—which often proves fatal in three or four days. It is always positively injurious to sleep in a close room where water freezes, because such a degree of cold causes the negatively carbonic acid gas of a sleeping-room to settle near the floor, where it is breathed and re-breathed by the sleeper, and is capable of producing typhoid fevers in a few hours. Hence, there is no advantage, and always danger, especially to weakly persons, in an atmosphere colder than the freezing point. That it is necessary to the proper and efficient ventilation of a room, even in warm weather, that a window or door should be left open. This is always hazardous to the sick and convalescent. Quite as safe a plan of ventilation, and as efficient, is to keep a lamp or small fire burning in the fireplace. This creates a draft, and carries bad airs and gases up the chimney.

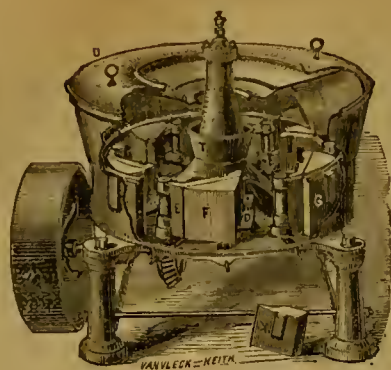
**POPULATION OF THE UNITED STATES.**—Through the machinery of the Internal Revenue, a census of the population of the United States was taken last fall. It was taken quietly but thoroughly during six weeks of last November and December, and is, in most cases, the result of actual counts in the revenue districts. The returns from a few of the remote mountain districts are the only ones not deemed satisfactory. The census shows the population of the thirty-seven States to be 34,100,255 and of the States and Territories taken together 35,505,882. In most of the Southern States there has been a decrease of population, a slight increase in the Eastern States, and a large increase in the West. The increase since 1860 has been over 3,000,000, which, in view of the four years war, demonstrates the powerful recuperative powers of the country.

Emigration to the United States from Germany at the present time is more extensive than ever, many young men flying from the military service. A new sort of emigrants are the Czechs, but this is not attributable to political reasons, but to the impossibility of getting land to cultivate in a country where so much property is yet in the hands of the nobility and the monasteries.

**GOOSE LAKE.**—The Marysville Appeal says that a party of some twelve or fourteen is making preparations for prospecting the country near Goose Lake, in the eastern part of Siskiyou county, where they expect to strike good diggings.

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

Patent dated April 16th, 1867.



For Grinding and Amalgamating Charges of Ore.

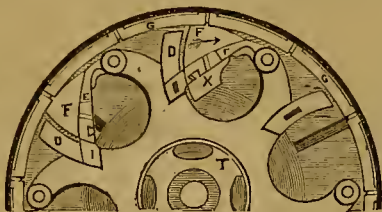
Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, the pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a live stamp battery, with No. 4 or 6 screens. A "slimmer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each muller separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconvenience, as the arms may freely pass each other.

It is more readily cleaned up than any other pan, as each muller can be lifted out separately by hand, and there is no necessity for lining the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side dies are easily removed at any time, or when worn out, and an extra set of mullers is furnished with each pan sold. It is also adapted for grinding cement, sniupurets, roasted ores, etc.

**EXPLANATION.**—E, muller-batter; F, muller plate or shell; G, side die; H, supporting lip; D, bearing surface; T, feeder; X, weight to counter-balance wear of muller plates, or shoes. U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or muller made for the same purposes, and claimed to be equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of mullers, about 3000 lbs. Price, as above, completely fitted and ready for use, either way, \$500, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 543 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMSALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE and CHARLES S. CAPP, Patentees, 543 Clay street, San Francisco.

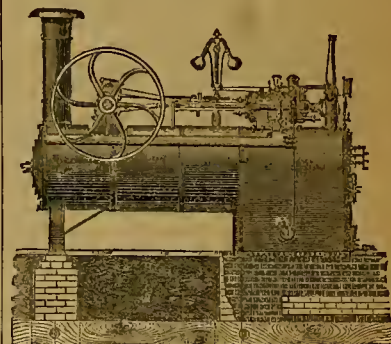
**Portable Steam Engines!**

"Hoadley's" and "Hittinger's" Make,



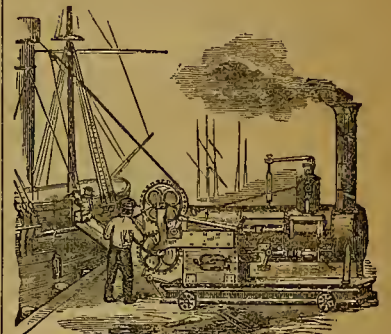
HOADLEY'S.

FOUR SIZES, 8, 10, 12, and 15-Horse Power,



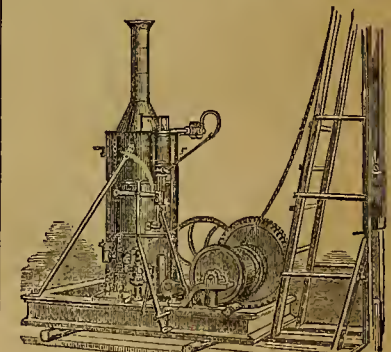
HOADLEY'S.

3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES, 5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES, 5 and 7-Horse Power,

**The Commercial Herald**

— AND —  
**MARKET REVIEW**

Will be issued early on  
**EVERY STEAMER-DAY MORNING,**  
(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets,  
Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

**The Letter Sheet Market Review,**  
Containing selections from the COMMERCIAL HERALD, printed on issue paper, for transmission abroad, will be published simultaneously with this paper. Also, publication office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**CUT NAILS.**

2,000 KEGS ASSORTED SIZES,

For sale in any quantity, to close invoice, at the very

Lowest Rates, by

**THOS. H. SELBY & CO.,**

116 and 118 California Street,  
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**Our Patent Agency.**

The PATENT AGENCY of the MINING and SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of this Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

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MADE TO ORDER  
And Shipped to all parts of the Coast.

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**STAIR BUILDER,**  
No. 49 Beal street,  
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**Newel Posts and Balausters**  
CONSTANTLY  
On Hand and for Sale.

**THE CENTRAL PARK OF THE PACIFIC.**

**Woodward's Gardens,**  
ART GALLERY,  
MUSEUM, GYMNASIUM,  
—AND—  
ZOOLOGICAL GARDENS.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.  
The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.  
To all departments new attractions are being constantly added.  
These Gardens are accessible by the Howard, Folsom and Market street Cars.  
Entrances on Mission and Valencia streets, between Thirtieth and Fortieth. OPEN EVERY DAY.  
Admission to all parts, 25 Cents. Children, under 12 years, half price. 2v14qr

**THE WILCOX & GIBBS**

IMPROVED NOISELESS  
**Family Sewing Machine**  
Challenges the world. It has beaten the Florence badly. Come and see it, or send for Report of trial.  
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203 Kearny street, near Sutter.  
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**Pratt's Abolition Oil.**

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Hoax, aches, Pothaeh, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Folds and Muscles, Cramps, Colic, Diarrhea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 25 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 524 Sacramento street, opposite What Cheer House, San Francisco. 10v14-ty

**GOVERNMENT HOUSE,**

Corner of Sansome and Washington sts.  
SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes.  
The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels.  
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**GLASGOW**

**IRON & METAL IMPORTING COMPANY,**  
Nos. 25 and 27 Fremont street, near Market,  
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Barand Sheet Iron; Boiler Plates and Tubes; Gas and Water Pipes, Cast Pittings, Anvils, Cast Steel, etc. 18v14 2m

**COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.**

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes.  
Steam can be gotten on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises), in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost corners of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.  
All sizes on hand from 3 to 30 horse power, with and without carriages.  
Also, Portable Saw and Grist Mills.  
For sale by  
**TREADWELL & CO.,**  
Corner of Front and Market streets. 9v14-6m15p



The Central Pacific Railroad.

OPENINGS FOR ENTERPRISE.

Mr. F. M. Shaw writes from Camp 20, Central Pacific Railroad, as follows: "As this great artery of commerce nears completion to this point and beyond, it may be interesting and profitable to take a brief survey of some of the various legitimate openings for enterprise and capital which it presents. The first paying business, and the one that will strike the observer most forcibly, is the timber and lumber production, and the facility with which it is convertible. The unlimited water-power of the Truckee and its tributaries offers unusual inducements for embarking in this branch of business. Who will doubt, for a moment, the profitableness of this business conducted by organized experience and capital, when we consider the demand that already exists for the product of the forest and saw mills throughout the entire mineral regions for two hundred miles eastward—entirely destitute of timber suitable for any purpose except fuel—and the increased demand which cheap transportation must inevitably create? The unlimited amount of water-power afforded should induce the manufacture of every article of utility capable of being produced from the pine, cedar and tamarac, such as all the varieties of finishing materials for buildings, furniture, sash, doors, blinds, buckets, staves, clapboards, shingles, laths, moldings, paneling, flooring, etc., to say nothing of fencing, logging and cheap lumber.

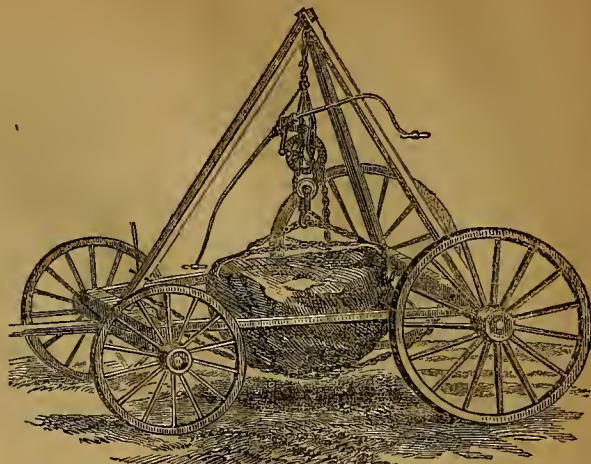
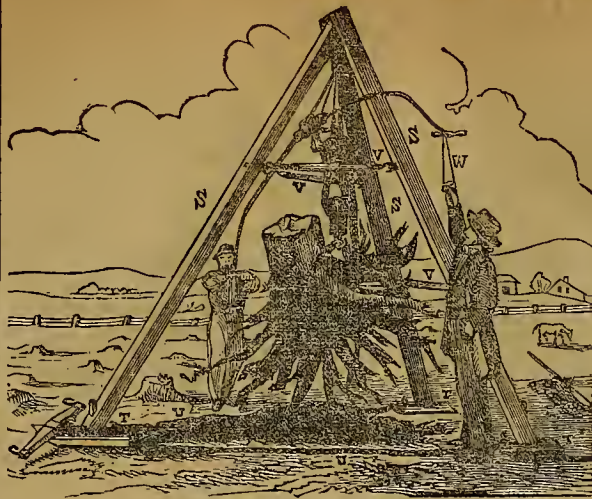
Next in magnitude and importance will be the getting out, sorting and reducing to shipping order the rich copper and silver ores so abundant in the Peavine and Humboldt districts. Already far-seeing and moneyed men are preparing to take advantage of these unequalled opportunities for enriching themselves, and it would be well if many more should come and take a share in the harvest which so surely awaits the enterprising."

**THE QUESTION OF LONGITUDE.**—The interesting and important question of the difference of longitude between this city and New York, which, it was thought, would have been definitely settled by the aid of the telegraph, ere this, will probably be postponed fully another year. This important question will doubtless be decided under the direction of Mr. George Davidson, in charge of the observations at this station; but not until after the completion of his present mission to Alaska and a return to the East for the instruments necessary for so delicate and difficult a determination. It may not be improper that we should mention the fact in this connection that Mr. Davidson, who has long been a most able and efficient member of the U. S. Coast Survey, will probably be assigned to permanent duty on this coast. His presence will be most welcome here, as he will be found a valuable acquisition to the rapidly increasing circle of scientists in this city.

**A LINE OF STEAMERS TO THE SANDWICH ISLANDS.**—The California, Oregon and Mexican Steamship Company, having secured a ten years' contract for carrying the mails between this port and Honolulu, with a \$75,000 per annum subsidy—service to commence on the first of January next—have signified to the Government their willingness to commence the service forthwith if duly authorized to do so. The propellers Montana and Idaho have been designated for the purpose. In the event of the proposed reciprocity treaty with the Hawaiian Kingdom, this line of steamers cannot fail to be of great commercial importance to the trade of this city and coast.

**PIANOS, ORGANS,**  
All kinds  
**MUSICAL INSTRUMENTS,**  
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231 Montgomery street, San Francisco.

Crawford's Stump and Rock Extractor and Elevator.



**STUMP AND SNAG PULLER.**  
**PRICE OF MACHINES:**—No. 1, 10 tons, \$200; No. 2, 15 tons, \$275; No. 3, 20 tons, \$350. Small Model Machines—weight 30 pounds—lift 1 1/2 to 2 tons, \$75; other sizes to order.  
These Machines are adapted to all kinds of work, and where labor is scarce they are invaluable. Two men can work the machine. A few of their uses are: Loading boilers, granite, heavy ordnance in casemate, or any heavy body. For mountain teamsters they are of great value. Single Machines, or Right of City or County, and full information can be obtained by letter, or otherwise, by application to  
San Francisco, April 17, 1867. [16v14cowlm] Office California Steam Navigation Company.

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**O. P. Truesdell**, having this day become associated in the business of the MINING AND SCIENTIFIC PRESS JOB PRINTING OFFICE, the same will hereafter be conducted under the firm-name of "Truesdell, Dewey & Co." at the old place, No. 505 Clay street. With additional new material and the best of workmen employed, we can guarantee entire satisfaction to all old and new customers.  
TRUESDELL, DEWEY & CO.  
San Francisco, April 15, 1867.

**MECHANICS' INSTITUTE.**  
Resources of California.

THE MECHANICS' INSTITUTE of San Francisco, hereby offer a PREMIUM OF ONE THOUSAND (\$1,000) DOLLARS for the best Essay on the "RESOURCES OF CALIFORNIA, AND BEST METHOD OF DEVELOPING THE SAME," under the following conditions: One-half of the premium in cash on the certified award of the Committee of Judges, and the balance from the first proceeds of sales of the successful work, which is to belong to, and will be published by, the Institute.  
The Essays are to be handed in to the Librarian of the Institute on or before the FIRST DAY OF JUNE, 1868, and the award will be made by the Judges at the opening of the Industrial Exhibition, which is to be held in August or September following. The Essay should be divided into three great heads, viz.: Mineral, Agricultural and Industrial Resources, with proper subdivisions of each subject. It should be sufficient in quantity to form a duodecimo (12mo) volume of from 250 to 300 pages long primer type, solid.  
Writers will sign their articles in cipher, and send their names and address in sealed envelopes, which will be kept in a secure place by the Institute, and only be opened when the award is made. The manuscripts of unsuccessful writers will be returned to them without publicity.  
The Committee of Judges have the right to reject all Essays in case they do not consider them worthy of publication or the premium. No further instructions than are contained in this advertisement will be given to this Committee, nor will they be subjected to any advice from the officers or members of the Institute in regard to their proposed action. All manuscripts submitted must be in clear legible writing, so as to admit of easy reading.  
The following named gentlemen, who have been selected for their well known ability, public spirit and integrity of purpose, will compose the Committee of Judges:  
Hon. Fred'k P. Low, Maj. Gen. H. W. Halleck, U. S. A.,  
Prof. J. D. Whitney, S. A.,  
James Oils, Prof. W. B. Ewer,  
Wm. Government Morris, B. N. Bugbey.  
By order of the Board of Directors. D. E. HAYES, Secretary.  
San Francisco, June 12, 1867. 24v14c2m

Golden City Chemical Works.

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Corner of Seventh and Townsend Streets.  
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Corner of Montgomery and Bush Streets.  
CAPITAL STOCK, - - - \$500,000

Trustees:  
H. P. WAKELEE, THOS. H. SELBY,  
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CHAS. E. McLANE.

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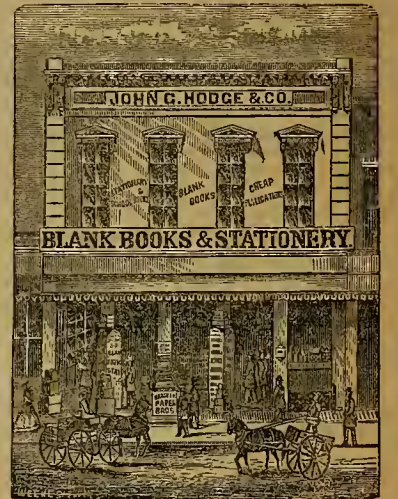
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SAN FRANCISCO, SATURDAY, AUGUST 3, 1867.

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## The New Merchants' Exchange Building.

The history of commercial enterprise will be searched in vain for a parallel to the growth of the mercantile interest of San Francisco. The peculiar circumstances attending the early commercial growth of this city, appear to be fully equaled in their beneficial effects, by the remarkably favorable position which it occupies—a position which utterly precludes any possible rivalry

spirit and energy which animates them, while it presents an unmistakable index that the shaping of the high destiny which awaits the future of our city, has not been committed to inappreciative or unworthy hands.

San Francisco, a city of hut yesterday, can point to a structure for the daily rendezvous of her merchants, which, for extent, appointment, beauty and symmetry of construction, will compare favorably with any edifice of the kind which can be found, even

15th of July, 1867—a period, a few days only, in excess of a year—a most noteworthy instance of dispatch, aptly in keeping with the energy and enterprise of the pioneers of civilization on this distant quarter of the globe.

The building occupies a frontage of 126 feet on California street, and has a depth of 137½ feet on Leidesdorff street. It comprises two separate edifices, front and rear, connected by a covered court in the center, roofed over with glass. The front building is three stories high, with basement; the rear has two stories, with cellar and attic.

The latter is used by the merchants and the Board of Brokers; the former is devoted to offices exclusively, from basement up. The first floor of the rear building is divided into an Exchange and Reading Room, measuring 82 feet by 52½ feet, and a restaurant, 40 feet by 51½ feet; both are lofty, being 25 feet from floor to ceiling. In the second story the Board of Brokers have a chamber 42 feet by 51½ feet, and 20 feet high, and the Chamber of Commerce an apartment 40 feet by 54 feet, and 22 feet high. Both are provided with ante-rooms for telegraph and Secretaries' offices. There is an attic over the Board of Brokers' Room. The entire building is well lighted and ventilated, and supplied with water and gas throughout. The principal story of the front building comprises four spacious offices, 58 feet by 25 feet. There are seven offices in the basement, suitable for brokers—four of small dimensions on Leidesdorff street and three on California, 25 feet by 38 feet. The second and third stories are divided into 32 offices, for general business purposes. The basement is 10 feet in height; the principal floor 17 feet; the second story 15 feet, and third story 14 feet. There is a general entrance on California street, with four lesser ones, exclusive of entrance to basement offices, and one private entrance on Leidesdorff street. In addition to full supplies of gas and water, the apartments are provided with ventilating flues; water closets are convenient on every floor.

The building on California street displays a bold and open front; the Doric, Ionic and Corinthian orders are respectively to be seen in the first, second and third stories. The fourth story is Composite. The tower in front is 120 feet above the sidewalk. The tower contains a clock with four separate dials.

The building is surmounted by a balustrade, the pedestals on which are finished with cast iron vases. Two projecting cornices are embellished with prominent turrets, covered with lead. The dome of the tower is covered with the same metal. The building has cost something over \$170,000. The chief materials used are brick, wood and iron—the large amount of \$25,000 having been paid to Messrs. Hinckley & Co., of the Fulton Foundry, for the metal. Messrs. S. H. Williams & Son were the architects.



THE NEW MERCHANTS' EXCHANGE BUILDING.

Mt. Hood, Again.—The following communication explains itself:

EDITORS PRESS:—May I request you to be so good as to correct a slight error in your last week's "Press." I did not ascend Mt. Hood, but measured it trigonometrically from its base. It was my intention to make the ascent; but ascertaining that Col. Williamson, of the U. S. Engineers, was going to do it next August, and knowing that the measurements made under his direction would be thoroughly reliable, and would perhaps inspire more confidence than mine, gave up my idea of ascending the mountain, which indeed I was the more willing to do, as it was rather early in the season to make a thorough geological examination around the base. My observations were sufficient to settle the question whether the mountain is or is not lower than Shasta. It is much lower, nearly 2,000 feet, as I think Col. Williamson's observations will clearly demonstrate.

Yours truly, J. D. WHITNEY.

SUPERINTENDENT OF PUBLIC SCHOOLS.—We would call attention to the card of Superintendent Pelton, which will be found in another column, wherein he offers himself as an independent candidate for the position of Superintendent of Public Schools for another term of two years. We have always held that school matters should be kept aloof from politics, and we think Mr. Pelton will accomplish a good work if he succeeds in establishing a precedent for the election of our public school officers "without respect to political considerations." The opinion that such a policy should be adopted is fast gaining ground among the people, and it would appear especially appropriate that its initiation should be undertaken by one who has devoted the best energies of his life, and all his talent to the education of the youth of this city.

NEW AND EXTENSIVE WAREHOUSE.—The largest warehouse on the Pacific coast is under contract for construction at North Point, in this city. It will occupy an entire block, being bounded by Montgomery, Lombard, Sansome and Chestnut streets. The property is directly upon the water front, and the warehouse will be so constructed that vessels will be enabled to come directly up to it and discharge or take in grain from the very doors—thus saving a large item in cartage. It will be owned by Falkner, Bell & Co. and J. Friedlander, and will be in readiness to receive goods before the setting in of the fall rains. It is intended more particularly for the storage of grain.

in commercial greatness, by any other port on the entire Pacific coast.

If our merchants continue faithful to the high trust which has been committed to their nurture and charge, a future awaits them which will even eclipse in brilliancy the history of the past.

This magnificent Temple of Commerce, a fine illustration of which is herewith presented, is a structure fully in keeping with the present and future greatness of the city. It is an edifice of which we all may well feel proud of, as one that aptly adorns the commercial metropolis of the Pacific, and fitly illustrates its wealth and prosperity. It also affords a notable evidence of the liberality of our merchants, and of the

in the oldest commercial cities of Europe. It is well that such a noble and appropriate edifice should be reared in our midst, and it is most especially gratifying to know that it is controlled by an association worthy of such a home, and one which is doing so much for the benefit of the general industrial interests of the city and State—one whose influence tends in such a manner, to create and keep alive the high tone of feeling, fair dealing and friendly communication among merchants—ono which is so important and so powerful for good in a new and growing city like this.

The work of erecting this structure was commenced on the first of July, 1866; it was completed and formally opened on the



## Facts About Patent Matters.

NUMBER EIGHT.

## MISTAKES OF INVENTORS.

In my previous letter I explained at some length, some few of the many tricks connected with the business of obtaining and selling patents. There are also other evils connected with the system, as at present practiced, to which I desire to call attention.

The first is a blunder into which inventors themselves are very apt to fall, and that is not taking more pains to ascertain before making their application, whether their invention is really new. A person gets an idea that a certain device or improvement upon some device that he is using would be a good thing; and without stopping to make any investigation to ascertain whether or not the same or a similar device is not already in existence, he rushes off to obtain a patent. After having expended considerable time, labor, and \$50 or \$60 in money, he finds that the thing is old, and has long been known, and perhaps used in some other portion of the country. A man should not conclude that because a thing is new to him, therefore it is so to all the world; and he should be careful how he wastes time and money upon a device until he has made a thorough examination to ascertain whether or not it is really new. The patent laws require not only that a person should be an original inventor of the thing, but also the first inventor. No class of inventors are so much deceived in this respect, as our agricultural friends, and this is accounted for by the fact that more than any other class of people, they stay at home and therefore see less of the world and of the improvements going on around them, than most other classes. Another reason is, that they do not read enough. Thousands of ideas relating to inventions and improved machines are daily spread broadcast through the land, which they never see, simply because they do not take the papers. No intelligent farmer should think of trying to live with less than four regular papers—first, his local paper and the best agricultural paper in his region, both of which are identified with, and working for his interests—and next, some metropolitan journal, like the *N. Y. Tribune*, to supply him and his family with the political and general news of the world—and last, but not least, some scientific paper to keep him posted as to the improvements of the day, especially if he is one who ever thinks of success as an inventor. The money wasted upon a single unsuccessful application for a patent, would pay the subscription on four such papers, for half a dozen years! Farmers—inventors—you cannot afford to do without them—and if you can, your children cannot. By all means take the papers—they will yield you a larger and more profitable return than any investment you ever made.

The means for obtaining information as to whether an invention is new, are three-fold—first, by reading the papers as above stated; second, by examining the Patent Office Reports, which are obtained gratuitously from your Member of Congress and Senators. In these reports all the patented inventions are annually illustrated and described. The rejected ones are not described in any publication, nor are they open to inspection to any one, even at the Patent Office, except to the employés and parties interested—apparently a very unreasonable and inconsistent provision and one that ought to be remedied with certain conditions. (It is proper, however, to guard against misapprehension, by stating that the models in all rejected cases are exposed to public view, after the case has been two years rejected.)

## EMPLOY HONEST AND COMPETENT AGENTS.

The last and best means of ascertaining whether an invention is really new, before making an application, is to employ some competent and honest agent, familiar with the business, to make a preliminary examination at the Patent Office. In nine cases out of ten this course will be successful, and very frequently by paying \$5 for this purpose, a party saves the agents and government fee of \$40, which would otherwise be lost. But here, as elsewhere, it is vital that an honest and competent agent be employed. I have now in mind an instance where a western inventor sent \$5 to an agent, requesting him to make a preliminary examination upon one of the simplest of devices, and in a very familiar class. He did so and reported it entirely new and patentable. The inventor made his application through that same agent—his and the government fee amounting to \$40, and was then rejected by the Examiner upon half a dozen references just like it, picked out of the first folio in the class to which it belonged—and thus the inventor lost his \$45, besides his time and labor, and got no patent, all because of entrusting his business with a careless, if not

dishonest or incompetent agent. And yet, I have no doubt, that agent had on his card, as recommendations, the names of at least a half dozen members of Congress! But of this hereafter.

Another error committed by some inventors is, insisting upon applying for a patent on a device, or a particular feature in some device, after their agent has informed them that it is not new or patentable. Such a course is not only absurd, but results in a waste of money and effort. I am aware how difficult it is for an inventor to believe that his invention is not different from and superior to all others—just as each mother believes her baby to be handsomer and smarter than all others! It is but human nature for us all to prefer the things of our own creation to all others, and as the baby is the mother's pet, so the inventor's particular device is his special pet; but he should remember that others look at it from a different stand point—that while his interest and partiality causes him to see in it all that is new and good, and nothing that is old or bad—while it looms up before his excited imagination, until it seems to shut out from his view, mentally eclipsing—all other things, others do not see it in that light. He should remember that at the office it must hear the thorough investigation and scrutiny of those who are not and cannot view with the partiality and favor with which the inventor himself views it.

It is simply foolish for an inventor to employ an agent whom he cannot trust—and it is equally foolish, when such an one is employed, not to trust him. The folios in the Patent Office are filled with rejected applications which would never have been made if the parties had taken pains to post themselves beforehand, or had employed a competent agent to make a preliminary examination, and been guided by his advice. So too, claims to devices "old as the hills" almost, are rejected every day at the office, and which claims were made only because the inventor would not believe his agent when told that it was old? In such cases he loses his case entirely, or pays the agent another fee for obtaining just what he might have had at first, had he chosen to have been guided by him. No one man has yet been created with mind sufficient to know or do all things, and the observation and experience of the world proves that a man always becomes most expert and successful in that business for which he is naturally best adapted, and to which he then devotes his whole mind and energies. Therefore when you need an agent, get one who understands his business, and then let him do your business in that particular line. To see the folly of any other course you have but to imagine yourself employing a lawyer, and then dictating to him how he shall frame his pleadings for court!—or a physician, and then yourself prescribing the medicines he shall use, while not even knowing the nature of your disease!

And this leads me to make another observation, to wit:—Be sure that you make your agent fully understand the nature and operation of your invention. Many are the failures from not attending sufficiently to this point. In the case of one of the most important and valuable inventions of the day, the inventor states in a pamphlet giving a history of his efforts and trials, that the first agent he employed having taken his model apart in order to make the necessary drawings, put it together wrong, and then made his application upon it in that way! Failing to get what he wanted, he then employed another agent, who, not discovering the error committed by his predecessor did the same thing! And he only succeeded after going to the Patent Office himself, at great expense and much trouble, and taking out several patents, and one or two re-issues in securing what was really his invention, and a very valuable one at that. In another instance a party had his case twice rejected upon good references, simply because not having made his agent understand his case, it was not so presented as to show at all the nature of his invention. After going there himself, employing another agent, who, having made his model, knew exactly what the patent was—and then obtaining a special order to have it again examined, he finally obtained the patent for what he wanted, and which has since proven to be of great value to the community, and worth thousands of dollars to himself. In still another instance, and in a device which consisted of but three pieces, the agent not getting the inventor's idea clearly, represented one of the parts upside down, and the patent issued with it in that manner, thereby rendering it entirely useless! And what is stranger still, the party finding that it did not work—in other words that his patent was valueless, made an application for a re-issue, in order to remedy the defect, and employed the same agent, who again made the same mistake!

In each of these cases the agents were the most experienced that practice at the office; and the whole difficulty arose from the fact that the inventors did not make their agents clearly understand their inventions. The inventor having dreamed over his invention by night and by day, each feature has become as "familiar as household words" to him, and he is too apt to take it for granted that because he understands it, therefore others ought to also. The cases I have instanced illustrate the danger and evils of proceeding upon such an assumption. Too much care cannot be used in this respect.

How to ascertain who are competent and honest agents is a much more difficult matter, unless there is one residing in your own locality, whom you may thus know personally; but this, from the nature of the business is not often the case.

In order to conduct the business successfully, an agent must be where he can have access to the office frequently, not only for the purpose of examining the references given, but also to examine the valuable library there, furnishing information on all subjects connected with the business, and which no private individual or library possesses.

Again, it is a great advantage for an agent to be able to have personal interviews with the Examiners, and thereby make explanations in relation to the points of a case, which it would be both difficult and tedious—if not sometimes absolutely impossible, to make by written correspondence. By being at hand, he can also make any required amendments at once, and thus hasten the final decision of the case. By being there, he can also attend in person, to argue cases before the board of Commissioners, on appeal. For these, and similar reasons, most agents reside at the Capital, or in large cities, from whence they frequently visit the office. In this, as in all other businesses, there have accumulated at the Capital, quite a number of agents, some of whom are neither competent nor honest. As a general thing these parties send out cards or circulars, having on them the names of Senators, Members, and other dignitaries, recommending them as competent, and worthy agents; while in fact, some of them cannot even write a sentence grammatically,—spell a dozen consecutive words correctly—and do not know the names of the simplest parts of the simplest mechanism! Others again are absolutely dishonest—their business consisting mainly of receiving the fees sent them, which like the money sent to "confidence" men in our large cities fails to elicit any reply! Both these latter classes, are generally composed of persons who know little or nothing of the business, and who have taken it up in lieu of any other means of getting a living, simply, because their customers, living at a distance, and therefore not likely to make their personal acquaintance, can thereby be the easier deceived and defrauded. In the majority of cases, they obtain the signatures of members and others, by "horing" them, until, to get rid of their importunity, they give their consent—or, through the influence of some family friend. Such cases are by no means rare.

Now for all this, there is but one sure and effective remedy! and that is, for Congress to provide by law, for the examination before a competent and thorough tribunal, of all persons desiring to act as agents; and forbidding any one to act as such until duly admitted by said tribune, the same as is now done in all courts throughout the country. This, if thoroughly enforced, would cut off all dishonest and incompetent agents, and would be of great benefit to one of the noblest and best class of citizens—the inventors of our land. All honest agents would heartily welcome such a law, for they, too, are made to suffer by the acts of the dishonest and incompetent. All that is necessary, is for the inventors of the country to petition Congress for the law, and they can have it. It would be a great benefit to the office, to honest agents, and to inventors. Then why not have it?—*W. C. Dodge, in Prairie Farmer.*

A LARGE POULTRY ESTABLISHMENT is about to be established in the immediate vicinity of New York City. Such establishments have never yet succeeded except in France. The present undertaking will test the practicability of such an enterprise in this country.

HEAVY OAK BARK.—The *California Farmer* acknowledges the receipt of a specimen of oak bark from Albert Smith, Esq., of Coppenopolis, which measures nearly five inches in thickness! This bark is from the ranch of Lafayette Bates, about four miles from Coppenopolis.

## Reese River Mines.

The following is from the Reese River Reveille of July 26th:

We give below the returns of mines in Lander county which have produced bullion during the quarter ending June 30th, as compiled from the books of the County Assessor. With the exception of those mines which have had less than a ton of ore worked (fifteen in number, which are omitted) the table is complete. The exhibit will be found very interesting, and is worthy of attentive examination and comparison with the returns of previous quarters:

Names.	Tons	Lbs.	Ac. T.
Amigo.....	2	320	\$56 19
Black Lodge.....	21	9 6	104 09
Buel North Star.....	127	331	163 63
Bonner Lodge.....	2	832	324 45
Carter and Grabe.....	2	1,096	111 13
China.....	2	1,096	111 13
Clayce.....	3	359	314 81
Croft and Brown.....	2	221	43 47
Diana.....	57	936	101 60
Elkhorn.....	1	1,145	635 41
Empire State.....	6	740	101 38
Flint.....	18	1,303	741 67
Florida (New York and Austin Co.).....	173	3,854	206 16
Farrell and Hixon.....	6	825	266 77
Oreat Eastern.....	35	1,233	70 91
General Cochran.....	1	220	272 72
General Siegel.....	2	1,412	322 56
Guadalupe.....	4	1,130	155 43
Livermore.....	6	173	21 84
La Plata.....	2	1,300	73 33
Liberty.....	9	1,582	50 23
Magualla.....	63	391	120 25
Moses Scramlin.....	1	95	50 53
Monark.....	1	1,420	272 73
North Star (Manhattan Co.).....	507	1,567	149 40
North River.....	19	1,555	211 39
Oleander.....	2	354	113 40
Oregon (Golla Hill).....	2	1,200	123 90
Patton and Monroe.....	1	926	143 74
Perkins.....	3	962	24 44
Quartz Hill.....	2	1,200	123 90
Rough and Ready.....	2	100	123 90
St. Louis (Cortez District).....	21	1,250	225 93
Storey.....	1	170	253 79
State of New York.....	2	1,300	165 26
Seminole (New York and Austin Co.).....	9	630	94 14
Silver Cord.....	1	1,400	313 85
St. Louis.....	2	195	73 73
Union Pacific.....	1	1,250	77 24
Social and Steptoe (Egan).....	150	900	90 00
Troy (N. Y. S. M. Co.).....	38	495	87 06
Timoke.....	96	1,416	241 49
Virginia.....	1	1,420	208 21
Vulcyard.....	9	124	230 57
Washington.....	3	1,055	447 69
Wah and Ishballa.....	14	1,800	137 07
Whitely and Finon.....	1	500	305 73
Whitlach No. 2.....	9	1,450	187 18
Young America (Mt. Hope).....	1	168	80 11

The whole number of tons of ore reduced during the quarter was 1,438, which produced the sum of \$232,335.57. The average yield of the 1,438 tons was \$161.56 per ton—a result that fully maintains the character of Lander Hill, from which it was chiefly obtained, for yielding uniformly a high grade of ore. On comparing the present table with that of the previous quarter, notable fluctuations and uniformity will be observed. For instance, the North Star mine of the Manhattan Company produced during the last quarter 508 tons of ore, which averaged \$149.40 per ton, against 384 tons, averaging \$141.37, in the former quarter; the Florida produced 173 tons, which averaged \$206.10 per ton, against 101 tons, averaging \$351.96, of the former quarter; the Buel North Star produced 127 tons, which averaged \$163.63 per ton, against 31 tons of first-class ore, averaging \$182.56, and 16 tons of second-class ore, averaging \$51.52 per ton, of the former quarter; the Timoke produced 97 tons, which averaged \$241.49 per ton, against 100 tons, averaging \$276.59 per ton of the former quarter; the Fuller produced 14 tons, which averaged \$741.67 per ton, against 4 tons, averaging \$349.34 per ton, of the former quarter; and the Diana produced 37 tons, which averaged \$103.60 per ton, against 195 tons, averaging \$94.30 per ton, of the former quarter. The most marked fluctuation is that of the Great Eastern, which produced during the last quarter only 34 tons, which averaged \$70.91 per ton, against 137 tons, with the remarkable average of \$345.93, for the quarter ending 31st of March. Considerable exploration has been carried on in the Great Eastern during the last three months, the result of which we have not learned. Several mines, which produced bullion in the former quarter, are not included in the above table; and others again which were not mentioned then, appear in the present return. The most noticeable of the latter is the Gilligan mine of the Social and Steptoe Company, in Egan Cañon, which appears in the present table with the good product of 150 tons, averaging \$90 per ton, which is scarcely 60 per cent. of the silver contained in its peculiar ore. The returns of the last quarter are generally very encouraging.

A ONE IDEA MAN.—A man has recently died in Germany, whose sole idea for a lifetime has been to collect a specimen copy of every edition of "Don Quixote." There were found in the library of this bibliomaniac, 400 editions of the work in Spanish, 200 in English, 160 in French, 96 in Italian, 87 in Portuguese, 70 in German, 13 in Swedish, 8 in Polish, 6 in Danish, 5 in Latin, 4 in Greek and 4 in Russian—in all, 1,061 editions.



## Mechanical.

## Minute Mechanism.

There are numerous forms of manufactures of iron which are worth many times their weight in gold; but perhaps in no branch of mechanism is that cheapest of all the metals so much increased in value as in some of the more minute portions which go to make up the machinery of a watch. A gentleman who recently visited the Waltham (Mass.) watch manufactory, writes that he was shown a small vial, such as homoeopathic pills are usually put up in, but which was then filled with what appeared to be small grains of blue sand. On examination with a microscope, he found them to be minute but perfectly formed screws, made of the finest blue steel—so small that it required 300,000 of them to make one pound in weight! Little bits of steel were also shown, with points exquisitely polished, which required about 25,000 to the pound. These latter were valued at \$20,000 per pound; how high the former were valued, we are not told. Their value must be equal to that of the most precious of diamonds.

All these minute specimens of mechanism, as well as every other running portion of a watch, are made by machinery, and so accurately finished that though a thousand watches were taken to pieces, and their component parts mixed helter-skelter, the thousand watches would go together again as well as though every piece, in all that vast number, was elaborately fitted to its fellows. It may be interesting, in this connection, to state that watches and firearms were first made by machinery in this country, in such a manner that any part of one will fit its proper place in any other. In the manufactories of Europe, each watch, to this day, is carefully fitted, piece by piece, without any reference to its fitting in any other watch than the one for which it was especially made. The following is the description given by the writer above alluded to, of the process of the manufacture of the minute screws for the Waltham watches:

"What you see at a first glance, is a thin thread of steel, finer than the most delicate of pins, slowly pushing its way through a little hole in a machine, and being grasped by a tiny tool which runs around it, as if embracing it; and then, presto! change! out comes a knife and cuts off its head. All this is done so quickly that you have to wait and watch the operation, after you know what it is all about, before you can see the process I have described. The bits thus beheaded with a hug, look exactly like little grains of powder. But they are screws. You notice that when you take a microscope and examine them. They are complete—almost. Not quite, yet. A girl picks them up, one by one, with a dainty tool, and places them in rows, one in every hole in a flat piece of steel. This little plate, as soon as it is filled, is placed under another machine, and it would do any Irishman's soul good to see it work. It beats Doneybrook Fair "all hollow." I never had a more convincing proof of the superiority of mechanical over manual labor. For while a good hearty man with a stout bit of shillalah may break half a dozen heads of a day—with fair luck—this machine, without so much as saying "By yer lave," comes out of its hole, and runs along each row, quietly splitting the head of each one of them exactly in the center. And now the screw is made.

**A POWERFUL ENGINE.**—A locomotive has just been built for the Camden and Amboy railroad, which is about as powerful a machine of the kind as has ever been constructed. It is a ten-wheel engine, having six drivers four and a half feet in diameter. The cylinder is seventeen inches in diameter, with a stroke of twenty-four inches. It will be finished in a short time. It is intended that it shall have sufficient strength to draw 100 cars, laden with coal, in one train.

**IMPACT.**—With respect to the impact of projectiles, Howard Douglass has said: "No additional weight of projectile will increase the effect of its impact, the charge of powder remaining unchanged. The ignited powder is the primary force—not the shot."

## To Preserve Stakes and Posts.

Enquiries are often made for some simple and cheap manner of preserving fence posts and stakes from rotting when set in the ground. Of course, charring is a very good preventive, but very inconvenient to be done thoroughly, and after all, not very effective, as the moisture penetrates the indestructible surface, and soon rots the inside. The following is perhaps as convenient a method as any which can be fully relied upon. It is especially convenient in gardens and nurseries, where great numbers of stakes and other wooden supports are employed, which are driven into the ground, and which, unless in some way protected, soon require renewal:

Take one pound of blue vitriol (sulphate of copper) and dissolve in four quarts of boiling water; pour the solution into a metal or kayed wooden vessel of convenient dimensions and add to it fifteen gallons of cold water. Let the ends of the stakes or posts be placed in this liquid as deep as you propose to put them in the ground, and allow them to stand four or five days for small supports for plants, or ten days for 6-inch posts. Shingles may be made almost indestructible by an immersion of three days.

An iron vessel is preferable to any other, for the reason that this liquid, unlike most others, shrinks instead of expands wood. If wood is used, it must be a kayed vessel, so that the keys can be driven up—if a barrel, the hoops must be occasionally driven, or you will lose your solution.

This is, in fact, kyanizing; but in a simple manner, within the reach of all, and so cheap, that when timber and labor is as expensive as it is in California, the wonder is that something of the kind is not in more general use. Stakes for supporting vines, prepared in this manner, have been found as sound below as above ground, after being in constant use for twelve years.

In this connection, it may be well to recall a statement which we saw given in the *Genesee Farmer*, some eight or ten years ago, and which we do not recollect to have seen contradicted by the experience of any one since. If it is correct, it should be known and practiced by every person who ever builds a fence, and does not see fit to employ any other means for preserving his fence posts. The fact was communicated by a correspondent of the *Farmer*, as follows:

About thirty years ago, to test the thing, I split two bar posts, side by side, out of a chestnut log. They were eight feet long, eight inches wide, and three inches thick. One I set butt down, the other top down. At the end of ten years the one set butt down was rotted off, and I reset it in the same hole. At the end of six years it was rotted off again, and I put in a new one. The other lasted four years longer, when it got split in two, and I took it out, and it was about two-thirds rotted off. Sixteen years ago I set six bar posts, all split out of the butt end of the same white oak log. One pair I set butt down. Another pair, one butt down and the other top down; the others top down. Four years ago those set butt down were all rotted off, and had to be replaced by new ones. This summer I had occasion to reset those that were top down. I found them all sound enough to reset. My experiments have convinced me that the best way is to set them top down.

**INCREASE OF POPULATION.**—Some one has remarked that the generality of people never stop to think how fast America is being filled up by immigration. The *Missouri Republican* presents the subject in the following practical form. It says:

Half a million of Europeans will have immigrated to this country before the end of the year, and more, probably, will come next year. In twenty-four months a population in numbers equal to that of Missouri reaches our shores; in twice that time they could fill a State with a population twice as large as that of Illinois, and (their descendants included) an immigration of six years is more than sufficient to fill the United States with a population as great in number as that which our country had when it declared its independence.

The food crisis at the South has passed, and the cry of distress is being hushed by the in-gathering of early crops.

## Scientific Miscellany.

Snow is vapor, upheld in clouds and freezing in its descent. A very cold current of air coming in contact with a warmer current highly charged with vapor, occasions the precipitation of that vapor in the form of snow. In very cold latitudes, artificial snow-storms are sometimes formed in large rooms. A case occurred last winter in a ball room at St. Petersburg, where a cool current of air was suddenly let into the room by opening an upper window, for ventilation; the result was that the moisture of the room was precipitated upon the floor and the dresses of the fair dancers in the form of snow. The whiteness of snow is due to the multiplicity of the minute particles, loosely held together, which form a "flake." Hail, and all crystallized ice, is transparent and solid. Pulverized ice, or the ice particles separated, is as white as snow. Snow will sometimes evaporate, even when the general atmosphere is above the freezing point—hence its frequent perceptible diminution without rain or any noticeable thaw, and when the thermometer in the immediate vicinity is below the freezing point. Such evaporation produces the "rimo frost" frequently seen on the windward side of twigs and weeds when there has been no rain. "Hoar frost" is frozen dew.

**AUTOGRAPHIC RECORD OF SOUND.**—Strange as it may seem, it is nevertheless a fact, that sounds may be made to record themselves, whether they be the sounds of musical instruments, or sounds emitted by the human vocal organs in talking or speaking. The manner of accomplishing this was discovered by an Englishman—Mr. M. L. Scott. The record is made upon paper, and the mark produced by a particular note is invariably the same. When a person speaks, the tone of voice is faithfully recorded; but as yet the apparatus has not been made sufficiently delicate and rapid in working as to record a spoken sentence; although Mr. Scott is very sanguine that, in the course of time, he will so far improve his apparatus as to make it capable of printing an entire speech as fast as it drops from the lips of the speaker. Prof. Whetstone, of England, and the Abbe Moigno, of Paris, have both taken quite an active interest in the discovery.

THE "ARCUS SENILIS" is the scientific name of a ring or bow or segment of a circle which shows itself on the edge of the corner or dark part of the eye of a person advanced in age. *Arcus senilis* is the Latin of "old man's bow." This appearance is a fatty degeneration, and a never-failing symptom of bad health or a failing constitution. Mr. Canton, President of the Medical Society of London, has written quite a volume upon the *arcus senilis*. It is proper that its appearance should be watched for, and when observed it should be regarded as a symptom of decay and a notification from Nature that the person should pay more attention to his health. If attended to in time, says Mr. Canton, the cause of its appearance may be removed, and perhaps many years of life added to the individual.

**IMPROVED REFLECTING TELESCOPE.**—Silvering glass by Liebig's process has recently met with a most successful and practical application by the well known optician, Mr. John Browning, in its use for reflecting telescopes. It is said that the instruments made with this process of silvering, compared with ordinary reflectors, possess the following advantages: They need be only half the length, are of greater dividing power, are quite free from chromatic aberrations, more convenient in position to the observer, and are furnished at one-fifth the cost. The silver surface, if tarnished, may be readily brightened by being rubbed with a piece of soft buckskin, or, if seriously injured, can be replaced at a trifling expense.

THE LIGHT OF FIRE-FLIES.—The commonly received opinion as to the source of light emitted by fire-flies is, that it is due to the slow combustion of phosphorus. An English chemist, Mr. Henpath, however, has carefully examined into this matter, and failed to find, on the application of the most delicate test, the smallest trace of phosphorus in the composition of these interesting and curious insects. His opinion is that their luminosity is produced by the burning of a peculiar compound of carbon and hydrogen, in a special gland exposed to view.

**ARTIFICIAL MEERSCHAUM** is now prepared for commerce, according to the *Chemical News*, by mixing 100 parts of silicate of soda, at 35°, with 60 parts of carbonate of magnesia with 80 parts of native meerschaum or pure alumina—the mixture to be carefully pulverized, finely sifted, boiled with water, and placed in porous molds. We presume the "silicate of soda at 35°" means silicate which, when in solution, would stand at 35° Beanné.

**ANIMAL ELECTRICITY.**—In most animals with a soft fur, sparks may be produced by rubbing it, especially in dry weather. This is familiar to most persons in the case of the domestic cat; but the electricity thus produced seems occasionally to accumulate in the animal, as in the Leyden jar, so as to produce a shock. If a cat be taken into the lap, in dry weather, and the left hand be applied to the breast, while with the right the back is stroked, at first only a few sparks are obtained from the hair; but after continuing to stroke for some time a sharp shock is received, which is often felt above the wrists of both the arms. The animal itself experiences the shock, for it runs off with terror, and will seldom submit itself to a second experiment.

**PLANT PAINTING.**—Very pretty pictures of plants may be obtained by observing the following directions: "Take half a sheet of fine-wove paper and cover the surface with sweet oil; after it has stood a minute or two, rub off the superficial oil, and hang the paper in the air; when sufficiently dry, move the paper slowly over the flames of a candle or lamp until it is perfectly black; lay the plant or leaf thereon, place a piece of clean paper over, and rub it equally with the finger about half a minute; take up the plant and place it on the paper or scrap-book where it is desired to have the impression; cover it with a piece of blotting paper, and on repeating the rubbing, the representation of the plant will appear.

**TRANSIT OF VENUS.**—The transit of Venus over the sun's disc, which last took place on the 3d of June, 1769, will again happen on the 8th of December, 1874, and is already engaging the thoughts of astronomers. It affords a direct observation of the planet's node, or points where its orbit cuts the elliptic, an element which is of great value for the correction of astronomical tables; but it is chiefly important for the determination of the sun's parallax (or angle under which an observer, situated in the center of the sun, might see the earth's radius).

THE RUSSIAN OBSERVATORY at Poulkovo is said to be the finest in the world. It possesses the largest refractor in the world, meridian circles, vertical circles, clocks sunk deep in the earth to preserve their rate, masses of masonry, some of them thirty feet below the floor and forty feet long by fifteen broad, to support the instruments, preservation of a constant temperature through a Russian summer and winter—everything that man can think of to render observation perfect is here to be found, and now for five and twenty years has been employed with unvaried success. The celebrated Strove is at the head of this establishment.

**STRUCTURE OF GRANITE.**—Upon a close microscopic examination of granite, ground and polished so thin as to be transparent, and then cemented with Canada balsam between two glass plates, Mr. Sorby has discovered that this rock contains an immense number of cavities, holding water and saline solutions, which must, therefore, have been in the liquid state when the rock was in process of formation. It must therefore be concluded that granite is not simply an igneous rock, but that it has been formed by the joint action of fire and water.



## The Paris Exposition.

The Sacramento *Bea*, of July 30th, contains a letter from its Paris correspondent, from which we quote a few paragraphs:

## CALIFORNIA WINES.

"We have labored under disadvantages in bringing American wines before the jurors. The United States was not allowed a juror to speak for them, nor would the French jurors willingly hear a word, but treated the whole matter of wine-making in any other than a European country as only an experiment. Another disadvantage: the wines on arrival here were arranged on shelves, the bottles all standing corks up, and within six feet of three large sheet-iron chimneys from the kitchen of the grand restaurant directly beneath. In this position from their first arrival they have been exposed to a continued heat, varying from seventy to ninety degrees. As a consequence, when we first examined them (June 2d) the corks were flying from the bottles, or bottles bursting at the rate of three or four a day; and in this condition Commissioner Beckwith allowed California wines to pass to the test of French jurors. Of the unfairness of the jurors in testing the wines, a single illustration will suffice: from each of the five exhibitors a single bottle was taken, without reference to the age of the wine, some of it being two years, some ten years old."

## CALIFORNIA HOPS.

"Resting upon a table in the midst of other American products, is a single bale of California hops. It bears no label or mark except this: 'F. Scherr, San Francisco, California.'" \* \* "Not a day passes that we do not see from one to five paper bags, each holding from a pint to a quart, filled with these hops, for the purpose of testing their quality; and gentlemen who have taken them one day come with two or three others the next, all of whom take in their turn the accustomed quantity for renewed trial, and thus far all are surprised that the quality fully equals their fine appearance. "Now, whoever the person may be that sends this bale of hops to the Exposition, we can inform him that though he will lose his hops, he will do more for the agricultural interests of California, by increasing the foreign demand for California hops, than many others will do who came to the Exposition, making far greater pretensions."

## COMMISSIONER BECKWITH.

"Long and deep are the mutterings heard on every side in relation to the action, or, rather, the imbecility of the head Commissioner for the United States. Not only does he seem totally incompetent to the trust confided to him, but he seems not to recognize the necessity of treating his own countrymen with the courtesy due even to strangers. All Americans whom we have met, including Marshal P. Wilder of Boston, W. J. Flagg of Cincinnati, both Commissioners of the United States to the Exposition, and Dr. Thompson, who represents the State Agricultural Society of New York, are loud in their denunciation of the inefficiency and want of gentlemanly courtesy of Commissioner Beckwith."

## EXHIBITORS AND AWARDS.

The total number of exhibitors at the Paris Exposition is about 60,000; the total number of awards, 23,000—60 grand prizes, including several large sums of money; 9,000 gold medals; 3,600 silver medals; 5,000 bronze medals and 9,000 "honorable mentions." The American Exhibitors obtained more than their portion of awards, in proportion to the number of exhibitors; our countrymen having obtained 262 awards for 524 exhibitors—1 in 2; while European exhibitors obtained but 23,660 awards for 59,476 exhibitors, or 1 in 2.54. The American awards were made up as follows: 4 grand prizes, 14 gold medals, 59 silver medals, and 89 bronze medals. Two silver medals were awarded to Californians—to Prof. W. P. Blake and Dr. Pigné-Dupuytren, of this city, each for collections of California minerals; and a bronze medal to the Mission Woolen Mills of this city.

The decoration of the "Legion of Honor" has been conferred on no less than nine Americans—N. M. Beckwith, U. S. Commissioner, has been created an officer of the order; and Messrs. Charles Perkins, Lawrence Smith, Samuel B. Ruggles, Goodwin Birney, Elias Howo, Frank Chickering, Mr. Kennedy and Mr. Mulet, have been made knights.

## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## RECENT INVENTIONS.

**A HAND SPINNING MACHINE.**—Mrs. Huln, a lady living near Indianapolis, is the inventor of an improved hand spinning machine. It is made with any number of spindles, from three to twelve, and a farmer's wife or daughter can run a machine with six spindles with more ease than the old fashioned wheel with its single spindle. Mrs. Huln whittled out the model with her own hands.

This looks like reviving the old-time industry of our grandmothers, when more woolen and less street yarn was spun than at the present time. The above invention is most opportune, and it is especially appropriate that it should have been the brain and handiwork of a lady. It would be well for the world if it could come into as general use as the old-fashioned spinning wheel, which modern invention has so effectually put out of sight.

**CONDON'S IMPROVED CAR COUPLING.**—Joseph Condon, of Meadow Lake, has invented an arrangement for coupling cars; by which contrivance one car can be fastened to another while the train is in motion, and with perfect safety—a very decided improvement over the present method of attaching railroad cars, and would prevent many accidents of a serious character.

**WARREN'S IMPROVED WAGON MAKING MACHINE.**—Mr. W. T. Warren, near Virginia City, Nevada, has invented a new machine, for the use of wagon-makers, which is thus described in the *Virginia Tresspass*: It is built in the shape of the letter L, running by crank motion, for use in a wagon-maker's shop, and is so arranged that a person can bore any sized holes desirable in the hardest timber and bore them perfectly straight; it tenons spokes of wheels; has benches arranged so as to change to a turning lathe or a circular saw, in a half minute's time; and is all and all a most economical arrangement for use in a wagon maker's shop.

## PATENTS RECENTLY ISSUED.

66,217.—MITER BOX.—E. C. Cheek, Placerville, Cal.:

I claim, 1st, An adjustable miter box composed of a bed or frame, A, to which are secured the swinging-arm, B, the permanent stops, H, H, and the movable stop, I, all constructed and operating substantially as described and for the purpose set forth.

2d, The movable stop, I, to hold the work close to the saw-cut and on either side of the same, and operating substantially as set forth.

66,327.—SUSPENSION BRIDGE.—A. S. Halliday, San Francisco, Cal.:

I claim, 1st, The cables, C, C, in combination with the suspension-rods, D, D, and girders, E, E, all made and operating substantially as herein specified and described, and the rods, D, being made adjustable, as set forth.

2d, The combination of the adjustable cables, C, C, posts, A, rods, D, girders, E, and adjustable braces, G, with each other and with the flooring, F, all being made substantially as herein specified and described.

66,382.—WATER WHEEL.—Thomas Pattinson, Little York, Cal.:

I claim the construction and arrangement in the case, C, of the water wheel, A, provided with the buckets, c, whose under sides, d, are beveled, the penstock, E, having supply pipe or tube, F, and provided with the gate, H, operated by the screw, I, the removable discharge-tube, G, attached to its under side, whereby the water under static pressure is delivered in a perpendicular column upon the buckets, c, substantially as herein shown and described.

**OIL CAKE.**—It is gratifying to perceive that our dairy and stock men, generally, are beginning to appreciate the valuable food for stock, which has recently been introduced into this market in large quantities, in the shape of oil cake from the Pacific Oil Works, in this city. The great Millbrae Dairy, near the Seventeen Mile House, are feeding it to their cows. Oil cake sells for \$50 per ton in Liverpool and for \$40 in New York; and yet the dairymen near this city, allow it to be shipped from hence, when it is offered to them at the low price of \$30.

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,  
AUGUST 3, 1867.

## CITY STOCKS.

We have to report continued apathy in this class of investments, the transactions for the past week having been comparatively light. One hundred shares Fireman's Fund Insurance Company realized 93  $\frac{1}{2}$  cent.; 50 shares National Insurance Co., \$67 per share; 20 shares Spring Valley Water Co., \$66.75; and California Steam Navigation Co. opened at 71  $\frac{1}{2}$ @71  $\frac{1}{2}$  cent., then sold at 70  $\frac{1}{2}$  cent., and at the close is offered at 70  $\frac{1}{2}$  cent. The San Francisco Gas Co. paid its usual dividend of  $\frac{1}{2}$  cent. per month on its capital stock on the 1st inst. We quote this stock at \$64 bid and \$64.50 asked.

The sales in the Stock and Exchange Board in the month of July for the past four years compare as follows:

July, 1864.....	\$1,907,557	July, 1866.....	\$1,553,374
July, 1865.....	4,721,193	July, 1867.....	6,822,200

## MINING SHARE MARKET.

The Mining Share Market has been seriously depressed during the period under review, a demoralizing influence having manifested itself in nearly every share on the list. This sympathetic feeling has produced a very changeable market, and has, for the moment, materially lessened the volume of transactions. Speculators hesitate under the depression, and legitimate purchasers are not so numerous; however, as regards the yield of the different claims on the Comstock Lode, we are of the opinion that the aggregate receipts of bullion for the month of July will not be less than the amount received in June.

**SAVAGE**—has been in the market to a limited extent during the past week, but has been well maintained at an advance, opening at \$4,375@4,400, then selling at \$4,500, and closing yesterday at \$4,475. We are informed that on the seventh level, north mine, at the north end of the breasts, the ore has widened out to nearly sixty feet, being of a good quality and with more first-class ore in it than has yet been found in this claim. Neither the middle nor south mines on this level show any change. The south drift from the third station is now in better ore than was at any time obtained from points above in this part of the mine. On the 27th ult., the drift from the fourth station was fifty feet from the shaft, and rapid progress continues to be made. Work in sinking the shaft will be resumed in the course of a week. During the week ending July 27th, 2,339 tons of ore were taken from the mine, showing an approximate yield of \$95,234, or \$40.41 to the ton. Of this amount, 22 tons were first-class, 307 tons second-class, and 2,010 tons third-class. At the meeting of stockholders, on the 30th ult., it was decided to increase the capital stock to \$3,500,000, and the shares to 16,000 of \$200 each. The new stock will be ready for exchange on next Monday or Tuesday.

**HALE & NORCROSS**—remains out of the market and in strong hands. At the close, this stock is offered at \$3,000. The aggregate returns of bullion for the month of July will be considerably more than they were in June, showing an average yield of about \$41 to the ton. We learn of no material change in the mine. The shaft was 566 feet in depth on the 27th inst., a gain of eight feet in five days.

**CROWN POINT**—sold at exceedingly fluctuating rates during the period under review, opening at \$1,350@1,400, falling to \$1,020, rising to \$1,375, receding to \$1,050, and closing yesterday at \$1,060. The telegraphic report of the 31st July—that good ore had been found in the face of the drift on the 600-foot level, 125 feet from the shaft—was contradicted by a dispatch of the next day, saying that they were running in quartz and encountered very little pay ore. The deliveries of ore during the week ending July 26th compare as follows with the previous week: 617  $\frac{1}{2}$  tons, showing an approximate value of \$21,826.61, or \$35.33 per ton, against 589  $\frac{1}{2}$  tons, valued at \$20,223.34, for the week ending July 19th. Of

the former amount, 418  $\frac{1}{2}$  tons were extracted from the 400-foot level, and 199  $\frac{1}{2}$  tons from the 500-foot level.

**YELLOW JACKET**—has been quite active, manifesting the same unsteadiness as most other descriptions of mining shares, advancing from \$925 to \$1,080, receding to \$980, then selling at \$1,145, buyer 3, dropping to \$1,050, and closing at \$1,050. It is said that the general appearance of this mine is favorable, both in the north and south mines. From the report of this company for the fiscal year ending June 30th, 1867, we obtain the following statement of the receipts and expenditures:

Receipts.	
Balance at credit of Company June 30, 1866.....	\$142,815 33
Bullion proceeds.....	2,676,214 47
Morgan Mill, net profits.....	75,203 05
Ore sold.....	1,243 19
Other receipts.....	9,132 29
Total.....	\$2,904,608 38
Disbursements.	
Dividends paid, Nos. 4 to 12 incl' ve.....	\$900,000 00
Crushing ores at outside mills.....	435,005 26
Wine labor account.....	425,533 62
Crushing ores at company's mills.....	354,989 48
Legal expenses.....	67,503 20
Assay fees, discount and Federal tax on bullion.....	100,832 03
Other expenses.....	305,928 26
Total.....	2,783,811 84

Balance over all liabilities June 30, 1867..... \$116,086 54

The ore reduced during the year amounted to 84,340 tons, showing an average yield of \$31.73 to the ton.

**GOULD & CURRY**—has been well maintained since our last reference, selling within a range of \$720@690, and at the close realizing \$690. Nothing of importance has come to our knowledge regarding this claim.

**KENTUCK**—rose from \$385 to \$397.50, declined to \$370, rallied to \$398.50, receded to \$345, and closed yesterday at \$360. We have it from good authority that a dividend of \$40 per share will be paid this month.

**CHOLLAR POTOSI**—has been less active, declining from \$447.50 to \$415, and closing at \$421. The second Santa Fé level has been opened through the center of the body of ore some 160 feet, averaging sixty feet in width, and producing a much larger quantity of ore than was anticipated. The west drift on the third level from the new shaft, which is now in 38  $\frac{1}{2}$  feet, shows no change since our last report. The shipments of ore from July 19th to 25th amounted to 2,210  $\frac{1}{2}$  tons; previous week, 2,318 tons. The ore "slip" of July 29th shows that nine different mills were supplied with ore on that day.

**IMPERIAL**—has been well maintained within a range of \$210@200, closing yesterday at \$200.

**OVERMAN**—has been in the market to a large extent, over 2,000 shares changing hands at greatly declining rates, dropping from \$205 to \$100, and closing at \$106. Since the 24th ult., the receipts of bullion amounted to \$9,500, making \$51,558 from June 6th to date. It is reported that the mine is not looking as well as it did some time ago, the ore being more mixed and requiring greater care in assorting.

**EMPIRE**—has continued to be well maintained, selling at \$180@185.... **OPHIR** declined from \$150 to \$105, and closed at \$115. Preliminary steps have been taken relative to the sinking of a new shaft. An assessment of \$3 per share (\$36 per foot) was levied on the 29th ult.

**ALPHA**—A few feet changed hands at \$440@425.... **GOLD HILL QUARTZ** sold within a range of \$175@155. The receipts of bullion in July will fall short of the yield in June.... **BELCHER** sold at \$280@265.... **CONFIDENCE** is not in much request, selling at \$57.50@60.

**SIERRA NEVADA**—has been quite active, some 400 shares changing hands at \$18@25, closing at \$24. An assessment of \$10 per share was levied on the 26th ult.... **BULLION** declined from \$28 to \$19, and closed yesterday at \$19.... **DANEY** realized \$23.... **JUSTIS AND INDEPENDENT**, \$10@6.... **SEREGATED BELCHER**, \$11@7.

The aggregate sales of stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,337,524.

**GRAIN RECEIPTS.**—The new grain crop is beginning to come forward in large quantities. Between 500 and 600 tons were shipped from Stockton last week, and, according to the *Independent*, wheat is being piled up on the new levee, as fast as room is made by the construction of that work. There will soon be as large a quantity accumulated in that city as at any time during last summer. Similar reports reach us from Sacramento. The great grain flow is now fairly under way, and the store houses of this city will soon be filled to overflowing with the accumulation from all parts of the State, awaiting shipments to the East and foreign ports.



Foundry and Machine Work.

FULTON FOUNDRY—REMOVAL.—The rapidly increasing business of this establishment has rendered it necessary that the proprietors, Messrs. Hinckley & Co., should remove their works to a location where more room and better conveniences can be had for carrying on their business.

The agency for Palmer's Artificial Leg has been removed from 629 Washington street to 218 Montgomery street, at which place Mr. Jewett will be prepared to supply the unfortunate.

INCREASE OF CAPITAL STOCK.—The stockholders of the Gold Quarry Co. held a meeting on the 29th ult., to take into consideration the increase of the capital stock from \$600,000 to \$2,400,000.

THE STAR SPANGLED BANNER MINE, located some three miles from Nevada City, is now being vigorously and successfully worked. Recently a new and fine development of free gold has been made in the lode in the last, 220-foot, level.

THE OREGON IRON WORKS, of Portland, which were recently destroyed by fire, are soon to be put into operation again. The Directors have purchased the old penitentiary building, at a cost of \$6,000, and intend to have their machinery in it and to work before the expiration of the present month of August.

THE DOWNVILLE MESSENGER.—This interior journal is one of the oldest, as it is one of the oldest newspapers in the State, and enjoys a circulation double at least that of any other within a radius of sixty miles.

MAXIMILLIAN is a name which, just now, occupies a large share of the world's attention. The signification of the name may be of interest to some.

NITRATE OF SILVER.—There are few things more essential to the daguerrean artist than a pure article of nitrate of silver; and yet it is a difficult thing to find it in that condition.

ADDITIONAL FROM ARIZONA.—The San Bernardino Guardian of July 27th, says that the Wickenburg mill worked 21 days in June, and turned out \$27,000.

AMUSEMENT WITHOUT TEMPTATION.—Parents will find Woodward's Gardens free from the temptations too often presented at public places of resort; while the gymnasium, the birds and animals, and the meandering walks around the trees, flowers and shrubbery of the ground, cannot fail to delight both parents and children.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Table with columns: NAME, LOCATION, AMOUNT, AND DAY DELIVERED, DAY OF SALE. Lists various mining companies and their share details.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table with columns: MISCELLANEOUS STOCKS, RAILROADS, BANKING INSTITUTIONS, INSURANCE COMPANIES, MINING STOCKS—WASHOE DISTRICT. Lists various stocks and their prices.

San Francisco Market Rates.

Table with columns: Wholesale Prices, Groceries, etc. Lists various market goods and their prices.

Table with columns: Retail Prices. Lists various food items and their prices.

San Francisco Metal Market.

Table with columns: Prices for Invoices, Jobbing prices rule from ten to fifteen per cent. higher than the following quotations. Lists various metal prices.

ESTABLISHED [MAY, 1860.]

VOLUME FIFTEEN

Mining and Scientific Press,

COMMENCING JULY, 1867. DEWEY & CO., Publishers.

Issued every Saturday, at our Book and Job Printing Office, 505 Clay street, corner of Sansome, San Francisco.

THE MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast.

DEWEY & CO., Proprietors, Mining and Scientific Press Patent Agency, Newspaper, Book and Job Printing Office, 505 Clay street, San Francisco.

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Delinquent Sales, per square, two weeks, 2 50. Delinquent Sales, per square, three weeks, 3 50.

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Advertising law blanks, circulars, and advice, Free. One copy, one year, by mail, in advance, \$5 00.

One copy, six months, by mail, in advance, 3 00. One copy, one year, by express, 6 50.

One copy, six months, by express, 3 50. Five copies, one year, by mail, in advance, 20 00.

By city carriers, per month, 50. Single copies, 15. Monthly Series (or parts) one year, by mail, 5 50.

Monthly Series, per monthly copy, 65. THE CIRCULATION of the Press, already extensive, is rapidly increasing, and substantial tradesmen who can profit by widely disseminating information of their business amongst the most influential and industrial classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

DEWEY & CO., Proprietors, Patent Agency and Job Printing Office, 505 Clay street, San Francisco. [Jan 1867.]

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

CO-OPERATIVE UNION.—San Francisco, July 25th. Capital stock, \$50,000; 2,500 shares, \$20 each. Trustees: Henry F. Williams, B. H. Freeman, C. S. Hobbs, Wm. McKibbin and Gardner Elliott.

GOLDEN HOMESTEAD ASSOCIATION.—San Francisco, July 26th. Capital stock, \$45,500, 91 shares of \$500 each. Trustees: Aaron Holmes, Wm. Monahan, J. M. Parker, Isaac Wilson, James Atkinson, John Regan and Thomas Reynolds.

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the Mining and Scientific Press Patent Agency.

We offer applications reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

From the *Miner* of July 27th: The workmen in the Mowyer tunnel struck quartz again this week. The vein is small but of good character.

The Mountain Co. No. 1, are still running in soft rock and making fine headway.

The Rippon Co., owning the old Mammoth ground at Silver Mountain, resumed operations.

Prospects in the Tarshish are encouraging.

## Amador County.

From the *Ledger*, July 27th: A recent run of 150 tons of rock from the Kennedy mine, worked at the Atelison mill, averaged about \$30 per ton. This was not as good as the last clean up, but pretty good, considering the size of the vein.

## Calaveras County.

From the *Chronicle*, July 27th: Henry Seeman, of Independence Flat, sold one-half of his claim, last week, for \$1,600. Mr. Seeman has been engaged for a number of years past, in cutting a ground sluice, through solid bedrock, and has just got his claim in a condition to work.

Lamphear & Co. are putting pumps into their claim.

Fairview correspondent of same, dated July 15th: The Wild Goose claim at Douglas Flat, struck the blue lead on Thursday last, the 11th inst.; pay dirt abundant and prospects two bits to the pan. The influence of the strike is felt already; it has given backbone to old claims and induced the location of new ones. Everybody is jubilant and predict a speedy return to the activity and prosperity of olden times. A new era is about to dawn. Hundreds of claims in Mariposa, Tuolumne and Calaveras, will be visited and reported upon this summer, for even San Francisco capitalists are sending agents to examine, with a view to purchasing.

## Colusa County.

From the *Sun*, July 27th: We learn that the copper smelting works of the Liou Co. have been completed, and that 500 lbs. of copper was run through this week.

## El Dorado County.

*Courier*, July 27th: We were shown two or three very rich pieces of rock from the State of Maine ledge on Thursday last. The ledge is located at Henry's Diggings, and owned by Hoffman, Foster & Co. They have a tunnel in 90 ft., which strikes the ledge at a depth of 30 ft. The company have erected a mill, and will commence crushing next week. A short time since Jacob Grubler, of Sacramento, purchased one-half of it for \$10,000.

Correspondence of the *Democrat*, July 23d: Good rock is coming out of the drifts from the 90 ft. shaft in the Epley claim. About 100 tons of rich ore has been taken out of this mine and piled up for crushing as soon as a mill is erected. From 30 or 40 tons of this ore crushed at the Harmon mill, sufficient was realized to cover within \$200 the entire expense of sinking the shaft and working the claim. In the Muller ledge, three miles south of Placerville, a tunnel 210 ft. in length run into the hill from Scott Ravine, strikes the ledge at the depth of 80 ft. At the point struck it is 18 ft. in width, and its average width as far as developed, cannot be less than 15 ft. From about two lbs. of rock crushed in a mortar I saw a prospect of not less than \$1.50. A shaft has been sunk from the surface 30 ft. in depth. A mill is being erected, which the proprietors think will be in running order in 30 days. On the Lone Star ledge, a shaft has been sunk 15 ft. The lode is so far only six or eight in. wide, but is rich. The Dangerfield & Elliott claim has a 3½ foot ledge. The shaft is 50 ft.

## Inyo County.

The Gold Hill (Nev.) *News* says: Mr. C. H. Duval, of this city, who some months since went to Lone Pine Dist., Cerro Gordo mines, not far from the fabulously rich Kearsarge, returned last evening. He brought back 46 lbs. of bullion, taken from claims located by himself. The bullion was extracted by smelting.

## Nevada County.

From the *Transcript*, July 25th: Mull, Evans & Co., at Buckeye Hill, Bridgeport township, after a run of a month, cleaned up \$22,000. This is about an average yield for these claims.

Same of 26th: Flash's quartz mill at Boston Ravine, which has been idle for several years, started up yesterday.

27th: We saw a lump of gold from Binsley & Co's claims, Kentucky Flat, yesterday, which weighed \$56. It was found a day or

two ago. These specimens are getting quite common in these claims.

31st: A Mr. Tew has taken hold of the old Osceola ledge, near Rough and Ready. His incline is already 50 ft. deep.

Weight & Co., on Columbia Hill, cleaned up after the last run of 13 days, \$7,150 in gold. They work 15 hands and use about 800 in. of water per day. Pickel & Co. and J. Woods & Co., working adjoining claims, are doing equally well. Nichols & Woodward, on Kennebec Hill, are also doing first rate, on the surface. Columbia Hill is located on one side of Spring Creek and Kennebec Hill on the other. On these ranges the gravel is now being washed to the depth of from 80 to 100 ft. A company is now being organized for the purpose of consolidating the interests of the two hills, and opening an outlet to Spring Creek for working the ground to a much greater depth.

*Gazette*, July 25th: The crushing of rock at the Pennsylvania mill, cleaned up on Monday last, yielded some \$50 a ton.

30th: At Eureka, the last run of the Black and Young mill, on rock from their ledge, yielded better than anticipated. A hundred tons of rock from the Bramberry ledge, lately crushed, also yielded well and the ledge is some three ft. in width. The owners of the Powell and Veatch ledge have all the machinery on the ground for their mill, the work on which is progressing rapidly.

Grass Valley *Union*, July 26th: We have encouraging news from Yon Bet. The cement claims of Necce & West, Collins & Son, Mallory, Brown and Hydelauf, at Yon Bet, are paying well; this being the first time in the history of Yon Bet that all these claims were paying at the same time. The old Cozzens & Garber claim, on Missouri Cañon, is now being worked with favorable indications.

The *National* says immensely rich rock is now being taken from the bottom of the shaft in the old Empire Co's works at Ophir Hill. The new shaft is down 580 ft., being 90 ft. deeper than the lowest level on the mine.

EXCELSIOR.—From the Meadow Lake *Sun* of July 27th: The mill of the California Co. after having been completely overhauled, has again started up, and this time upon ore from their own mine. They intend running through their batteries 100 tons of ore before stopping.

We were shown yesterday some very strange looking rock from the Camp Co's claim, on the shooting Star ledge. The specimen shown us was from the bottom of the shaft, which is about 60 ft. deep. It assays immensely gold, silver, and copper.

A partial clean-up made at the Mohawk and Montreal mill a few days since, gave a result of about \$21 per ton. They are now taking out a very superior class of ore.

The rich body of ore recently struck in the Gold Run mine still continues.

The same paper alludes to its report on the Green Emigrant (named after the rich ledge in Placer county), and says that the figures were understated. The mill returns show that the ore worked paid over \$27 per ton. The gold is .891 fine.

## Placer County.

The Dutch Flat *Enquirer* of July 29th, says richer rock has been struck in the lower level of the Redstone mine. Permanent water power is to be obtained by a ditch of about a mile in extent. The company are enthusiastic.

## Sierra County.

Downville *Messenger*, July 27th: We noticed, last week, the finding by some Chinamen, at Kanaka Flat, Kanaka creek, in the southern portion of the county, of a piece of gold weighing 45 lbs. This week we learn that another piece, weighing 41 lbs., was recently discovered by some Chinamen at Kanaka Flat, on the South Yuba.

Whisky Diggings correspondence of same: Mining is being prosecuted with vigor and success by several companies. The Nevada, North America and Swift Sure companies are washing out splendid pay. Several of the owners in the Nevada and North America sold out and left for the States this spring, with from \$8,000 to \$20,000 each.

Messrs. Bona & Co. have struck a very rich and extensive quartz ledge in the immediate vicinity of town. An average specimen of the rock assayed in San Francisco \$200 a ton. The northern extension is owned by Murphy & Co. Both companies are preparing to erect mills. The southern extension is owned by McNally & Co.

Editorial correspondence of the *Atlas*, July 16th: The Big Blue lead is not producing much now compared with its former yield. The large ditch which supplied Forest City, Allegheny, Chips' Flat and Minnesota with water, a few years since, is now in ruins, because there was not enough

demand for water to pay for keeping the ditch in order. . . . W. S. Sherwood, formerly of San Francisco, has managed, with the assistance of capitalists, to buy up a number of old claims, which were worked without drainage or system. He is now running a large tunnel that will enable him to drain the whole tract (80 acres) . . . The Consolidated mill, belonging to San Francisco capitalists, cost them \$90,000. They could not find any mine on their claim, and the mill has now been taken down, and is to be set up six miles above Forest City. . . . The Sierra Bnttes, or Reis mine, still continues its wonderful yield. It has paid, without interruption, for 16 years, and not less than 90,000 tons have been taken from it, and it now has 45,000 tons of pay ore in sight. The total production last year was \$224,000; the dividends, \$144,000; the expenses, \$70,000.

## Sierraville County.

Yreka *Union*, July 27th: We learn that about 20 men are engaged in mining on Hazel creek, a stream that runs into the Sacramento from the east, about half way between Soda Springs and Dog creek, and that they are doing well. One piece has been found there worth \$250. Other nuggets weighing 5 and 6 ozs. have been found.

Mining is flourishing on Humbug. Water bids fair to continue abundant for some time to come. On the North Fork and on Little Humbug, rumors prevail of the claims paying rich, and over on Barkhouse and vicinity more mining is carried on this season than ever before.

## Shasta County.

*Courier*, July 27th: Times are reported lively at Dog Creek and Portuguese Flat. The claim owned by Robert Pitt, on Portuguese Flat, is considered the best on the upper Sacramento. The gravel is from 20 to 30 ft. deep, and contains gold throughout. Several claims have lately been opened on the lower bars along Dog creek, which are yielding excellent pay.

A company was recently organized to search for the continuation of the old Fifer Hill lead at Pittsburg, and a tunnel has been run 50 ft. into an adjoining hill for that purpose. At last accounts the workmen had struck into a chanel, which they believe to be the lead. Six pans of the gravel taken out and washed yielded \$15.

## Trinity County.

Shasta *Courier*, July 27th: Fred Deiner, of Minersville, owns the richest paying claim in the State. It is located on a small stream called Digger creek, which was partially worked in early times and afterwards abandoned. In one week recently he picked up \$3,000, and in one day last week picked up 150 ozs., and every day not less than 20 ozs.—all picked up from the ground in coarse pieces. It is supposed there is as much more in the sluices.

## ARIZONA.

From the *Miner*, July 13th: Except at Wickenburg and Big Bng, the mills are idle.

To sulphurets, poor machinery, but most of all a want of capital, may be attributed this general and depressing stoppage of operations. The process as tried at the Sterling mill was considered a success, but the worthy parties lacked the means requisite to prosecute the work as they would, and so have suspended operations.

It is evident that until the price of living here is reduced it will require large capital to operate in quartz, especially where it is found only in sulphurets. At Wickenburg, the Vulture mine, which continues to furnish free gold, is paying finely. We hear that 174 tons worked last week returned \$13,000.

The water arastras on Lynx Creek and the upper Hassayampa are doing well.

Same of 18th: Reports from the mining districts are not encouraging. Most of the works on Lynx Creek are closed. On the Occidental, work is being pushed steadily. A. L. Johnson, who has a lease of 300 ft. of the ledge for one year, is opening it up. A considerable quantity of very rich rock has been taken from the upper shaft. The upper tunnel is in 75 ft. The rock has yielded on an average, \$85 to the ton. Out of this tunnel ore yielding \$4,000 has already been taken.

## COLORADO.

From the *Times*, July 9th: The Gold Rock Mining Co's mill started this morning on ore from the White Cloud lode, for Capt. Whiteher.

Mr. Hinds has hired 12 stamps in the Lexington mill, to crush from the Adeline on behalf of the company. He has a large lot of second quality ore out, which pays well. Last week he obtained \$410, as the week's run.

Col. Tennatt has commenced work on the Fiske lode.

Potter & Co. are putting a new style of desulphurizer in Ward Dist. The cylinder is 22 in. by five ft. in length. Several tests

have been made, and one from 90 lbs. of ore from the Arizona lode, yielded \$9 in gold.

*Miner*, July 11th: The Trowel Mining Co. commenced work on the Bazaar lode last Monday. This vein is on Saxon Mountain.

The Silver Creek Mining Co. are developing a lode, near the summit of Democrat Mountain, the ores from which are astonishingly rich in silver.

We understand that Mr. Rockwell yesterday made a sale of one-half of the New Boston lode to a couple of gentlemen from Vermont.

Dr. Johnson, Supt. of the Georgetown Silver Smelting Works, on Tuesday morning last took off 1,212 ozs. of silver bullion, the coin value being \$1,636.20.

Denver *News*, July 10th: S. H. Butler has located a new discovery within 40 miles from Denver. Water is plenty, and it is thought that from \$10 to \$20 per day to the hand can be made.

Mining operations in the southern counties—Park, Summit and Lake—are at last fairly commenced.

At Fairplay, five or six companies are at work; employing from 10 to 25 men each, and the average yield is reported at something near \$10 per day to the hand.

In Summit county, nearly all the ground that has ever been worked will be worked again this season.

In Lake county the gulches and bars of known richness, are being actively worked. The Cash Creek flume is reported as yielding \$25 per day to the man. At the mouth of Lake Creek they have \$10 diggings. Richey's patch, Colorado and California gulches, are paying about as in former years. Work in Lost Cañon was to begin on the 1st inst.

Work on the lodes in Red Mountain Dist. was to be commenced on the 1st inst. La Plate has been opened for two or three weeks, though but little was done toward mining until the last of June. In Granite Dist. a good deal of prospecting is going on, both in gulches and for lodes.

## IDAHO.

From the *Avalanche* of July 20th: The ore now coming from the Oro Fino to the Morning Star mill is richer than at any previous time this season. That the ledge is large and of rich average quality there is no doubt.

A large number of claims on Nappies and other creeks, after having been worked from two to six weeks, are for sale cheap.

On the Poorman extension works, the lower shaft is temporarily stopped on account of water, but the upper shaft and tunnel are going into the mountain as fast as night and day work can drive them. The Baxter in the ridge south of Wade's Gulch, is unquestionably a true vein, and at the present depth of nearly 50 ft. is two ft. wide and of fine appearance.

Lewiston *Journal*, July 11th: At Florence and Warrens, the claims are generally yielding well. The quartz veins are promising well. The new ditches on Salmon river, of White & Shissler, and the French Co. are in full operation. The French Co. washed off the top sand from a small portion of their diggings and saved 36 ozs. of good gold dust in their sluices, without shoveling in any of the gravel.

Same of 18th: The mill for Warrens, which was to come from Portland, is a fizzle. The Miners' Quartz Mill Co. will order machinery at once from San Francisco, and if possible have it in operation by the last of September.

On the Rockfellow lead, they now have a tunnel of about 600 ft. in length, tapping the vein at the depth of 175 ft., and the vein so opened as to materially reduce the cost of extraction. The vein is from three to four ft. wide at the terminus of the tunnel. The ore is hard, but exhibits in places remarkably rich veins of thread gold.

Further openings have been made upon the *Hic Jacet* vein, and the ore still grows richer.

A new discovery has been made on the divide between Warren and Slaughter creeks. The vein is christened the Black Hawk. It is 13 in. wide, and exhibits rich silver ore.

On account of the failure of water, the arastra of Morton & Long will suspend operations next week.

A letter from Florence, July 15th, says: There will double the amount of gold taken out this season that there was last. The Harper & Liddle tunnel is progressing finely.

## MONTANA.

Diamond City correspondence of *Helena Gazette*, July 10th: Messrs. Tylor & Allen have a drift on the Ballarat a distance of 135 ft.; this has a well-defined crevice of 3 ft. in solid walls, and assays \$120 per ton. On the Star & Bobtail, the quartz looks



well. An Eastern company will erect a mill on these lodes at an early day.

King & Gillette are constructing a bed-rock flume in Confederate Gulch. They are employing 24 hands, working day and night.

Dennis Shobe & Co. are working Boulder bar by hydraulic and ground-sluicing. They are obtaining an excellent yield of coarse nugget gold. Mr. Shobe showed over \$300 in beautiful nugget gold that was picked up from the bar in a few minutes' time.

Good pay has been struck in the main gulch on No. 70 by Mr. Spearing, obtaining \$90 to the set of timbers.

Montana Post, July 13th: At the confluence of Sawmill and Brown's Gulches, the Golden Gate Co. is preparing for the erection of a 15-stamp mill. Timber is being taken out, the lumber prepared, and everything will be far enough advanced to put the mill in operation 40 days after the arrival of the balance of the machinery from Benton. The mill will be run on custom quartz until the leads of the company are developed.

The Louane has, at a depth of 20 ft., a crevice of 4 1/2 ft., with 2 1/2 ft. of rich rock, smooth, perfect walls, and assaying from 20 tests an average of \$192.21, about 80 per cent. of which is silver and 20 per cent. gold.

Ore from the True Silver lead shows globules of silver in nearly every piece when smelted in an ordinary furnace. The Osceola and Minniska also prospect finely. Stanton & Co., on the Black ledge, have a 3-ft. crevice of good ore.

The California Co. have commenced constructing a flume to their ground. . . Hedge & Brown have erected a hydraulic on the point immediately below Brown's Guleh, and are taking out \$25 per day to the hand. . . The Davis & Patton flume is a perfect success. . . Donagan is working ground on the hill opposite Nevada, and is taking \$20 per day to the hand.

The ditch to El Derado bar has now become a fixed fact. The bar is three miles long, and runs back from the Missonri river two miles. The ground has been pretty extensively prospected, and with water to ground-slucice will pay from \$25 to \$30 per day to the hand. The capital stock of the ditch is \$35,000, divided into shares of \$100 each. The estimated cost is \$44,000.

Democrat, July 18th: The Gold Mountain lode has been purchased by the Gaston & Simpson G. M. Co. for \$23,000, cash.

Messrs. Blackman & Co. are now working the ores of the Rush lode, Junction Dist., in an arastra, and will clean up this week.

In Madison county, there are 23 quartz mills and five arastras completed or in process of erection.

**NEW MEXICO.**

The *New Mexican* learns from parties direct from the Pinos Altos mines, that there are now in and about these mines nearly 1,200 miners, and the number is continually increased by arrivals from Arizona, California, Colorado and Texas. The Pinos Altos Mining Co. has commenced work with their new quartz mill, and the result has exceeded their most sanguine expectations. One of the firm refused \$25,000 for his interest in the lode.

**NEVADA.**

**Reese River.**  
From the *Reveille*, July 22d: We were shown to-day a magnificent specimen of antimonial sulphureted ore, taken from a depth of 260 ft. on the Fortuna ledge on Lander Hill. The ledge at this depth is of good size. The machinery is arriving for the fine mill of the Combination Co. to be erected in the Silver Bend Dist.

Same of 24th: Mr. S. P. Roberts appears to have struck it rich in his great Silver Mountain ledge in Ophir Cañon, Twin River Dist. In an opening a few feet below the surface he obtained ore assaying as high as \$500 per ton.

Mr. G. B. Montgomery called at our office this morning with a grand specimen of ore from the Old Dominion ledge at Hot Creek. The specimen was of large size, and the rich purplish brown horn silver extended through the mass. Some two tons of the ore were brought in and delivered to the Keystone mill for reduction.

Same of 25th: Work has been resumed upon the Savage mine, with every prospect of being continued under favorable circumstances. A level is being run to the westward—from which almost no ore had been hitherto extracted—in which a large vein is developed, and the ore though not of a high grade is of a good milling quality.

We learn from Cortez Dist. that the mill of the Mount Tenabo Co. is working finely, and that several hundred pounds of bullion had accumulated. The bullion will be

melted and assayed at the mill, and furnaces are being erected for the purpose. The first shipment of silver bars will be made about the 1st of August. Vigorous and systematic work is going ahead upon the Cortez Giant mine of the company, attended by encouraging developments. The St. Louis mine continues to yield an abundance of high grade ore.

The "Goose Creek Rangers" have returned. Although the party left Austin for Goose Creek, they did not get within 100 miles of its waters. Before they had fairly prospected their discoveries, they were obliged to return hither for provisions, but they believe they have found the "richest thing" or the "biggest bilk" in the country. Gold was discovered some five days' journey from this city, 60 or 70 miles northeast of Gravelly Ford, on the Humboldt river, in a gulch which they named McCaun Gulch, in which there is a stream running about 1,500 in. of water, emptying apparently into the Owyhee. They also discovered quartz ledges in the vicinity, organized the Tuscarora Dist., and adopted regulations similar to those of the Reese River districts.

Same of 26th: The Keystone mill will be closed in a few days, for enlargement and general improvement. The mill will now be furnished with two additional roasting furnaces, making eight in all; and its pans will be increased to 14 and its settlers to six. The pans will be entirely new; the battery will be repaired; and the gearing machinery overhauled and put in the best condition. These repairs will be completed in about three weeks.

Silver Bend Reporter, July 20th: A few tons of ore from the Northumberland ledge, in the district of that name, were recently reduced, and yielded about \$85 per ton. The ledge is about 6 ft. thick, and this is said to be only an average of the ore throughout its entire width.

We understand that at a depth of about 25 ft. upon the Silver Queen location, just north of the Silver Champion, a splendid body of ore has been found about 4 ft. in thickness. Also, that at a depth of 80 ft. upon the Mountain Queen, lying between the Transylvania and Quintera, a ledge has been developed which shows a stratum of good milling ore 4 ft. wide.

In regard to the suspension of work on the La Plata mill, at Park Cañon, we have received a note from the Supt., G. B. Montgomery, which says: "The inability of the Supt. to get the mine properly opened is, I presume, the principal cause of the temporary suspension of work on the mill. The adamant hardness of the rock has made the progress much slower than was expected. In vindication of myself, I may say I have employed none but the best miners, have had as many on night and day as could be worked to advantage, and will continue to push the work just as fast as it can be done in such rock. I presume work will be resumed on the mill as soon as the mine is penetrated in the second level and opened to some extent."

Same of 27th: We learn that Messrs. Coffee & Robinson, who have been inspecting the mines of this district, will immediately remove to this place from Esmeralda county the Bodie mill, of eight stamps, owned by them. It will be used as a custom mill.

Several loads of ore from the McAleer mill will arrive to-day, via Austin.

**Pahranaगत.**  
From the Silver Bend Reporter of July 20th: Times here are dull, but we are all waiting for something better, which yet seems a long way off. Mr. Ostram is pushing the work along on his 10-stamp mill. It will probably be ready to run by September next. Mr. Island is developing his mines.

Same of 27th has a letter from Hiko, July 19th. We quote: All of the money expended upon the mines of Pahranaगत has been under the direction of confident and overweening inexperience and extravagance, and therefore there have been no very beneficial results to this section, nor can we hope for any until a radical change occurs throughout our entire system of mining operations. Our mines are unsurpassed, but we must have men to develop them who are practical, and will not be blinded in their judgment by obsolete theories.

*Reveille*, of 25th: We received, the other day, a sample of coal from Mr. Henry Raymond, of Pahranaगत, which is said to have been discovered about 15 miles from Hiko, the county seat of Lincoln. It is a good-looking article of anthracite coal, and was found in a vein 15 inches thick on the surface.

**Washoe.**

[In the Stock Circle, in another portion of this paper, will be found late mining news from this district.]

From the *Trespass*, July 27th: During the past week there has been dispatched from the office of Wells, Fargo & Co., in this city, 5,114 lbs. of assayed bullion, valued at \$124,260.63; from their office in Gold Hill, 4,241 lbs., valued at \$121,674.66.

The heavy cog wheel and pump crank for the Gould & Curry Co. have arrived, and will shortly be put in position at the Bouncer shaft.

Messrs. Janin & Parks are building a mill in the cañon below the Gould & Curry, which will be used entirely for the working of concentrated tailings. The mill is 80 ft. in length and 40 in width, is located close by Paine & Stevens' new separator and sulphuret-saver, and will work its concentrations.

In the north mine of the Savage, a considerable vein of water was penetrated Thursday. The first winze, better known as the middle winze, has been passed, and the drift is now being pushed for the north winze, 235 ft. distant, with a probability of running in good ore the entire distance.

In the new Hale & Norcross shaft, a large body of water has been encountered and has become somewhat troublesome. The lower levels of the mine are looking well.

Repairs on the Bullion shaft are nearly completed.

The Overman ore now averages \$45 per ton. Four mills are engaged in reducing it.

*Territorial Enterprise*, July 27th: At the south shaft of the Yellow Jacket two new 60-horse power engines have been erected for hoisting, while the old Corliss engine, which formerly did all the work, will be used for pumping only. New rails have been put in, all the car tracks on the surface have been reconstructed, and the mine is now in a shape to be easily and profitably worked.

The frame of the main building of the new hoisting works of the Crown Point Co. is now up, and the machinery will be put in position as soon as possible. The new works will be first class in every respect.

The new hoisting works of the Sierra Nevada mine are nearly completed, and the machinery is being placed in position. The new plunger for the big pump is at the works, and the pump will be ready and work recommenced in the mine about the 1st of September.

**OREGON.**

From the *Sentinel* of July 13th: There are continued good mining prospects in Jackson county. More diggings have been struck in the vicinity of Pleasant creek. A continuation of an old channel has apparently been found, richer than ever. The gold obtained is coarse and heavy, being worth \$16.50 in this market. Pleasant creek, heretofore, has been considered one of the best mining camps in the country, and if this new discovery proves to be as rich as it is now thought, it will firmly establish its reputation for rich diggings.

Another lump of gold has been picked up in Jackson county, which is large enough to awaken some of the buried recollections of '49ers. It weighs 146 ozs.

A letter from Canyon City to the *Mountaineer* says: We expect to have our quartz mill up and in running order before the middle of next month, on Elk creek, when Grant county will show the world that she is rich in gold-bearing quartz. The L. X. L. Co., at Prairie Diggings, four miles from here, also contemplate putting up a mill this season. Their prospects are very flattering for large returns.

The *Oregonian* says parties are trying to procure a quartz mill in Portland, to be located in a newly-discovered rich quartz district on the middle fork of John Day river.

**UTAH.**

The *Vedette* of July 20th, says of the mines on Strawberry: We have not yet such information as we consider reliable, in relation to the extent and richness of these new mines. Rumors of all kinds are afloat and persons in business and out of it are rushing out there wildly. It is said that a few persons came in from there very quietly, flitted about town so noiselessly that they were not "shadowed," and suddenly disappeared.

Col. Bright, Special Postal Agent, has arrived in town. He is said to report that the new mines are good; that the quartz lode discovered is a rich thing, and the placer diggings, as far as opened, were paying from \$15 to \$30 a day. On the strength of the late accounts numerous other parties will start for the new El Dorado to-morrow and next day.

The Reese River *Reveille* says the excitement grew out of some new developments on Willow Creek, at a point some 15 miles from the telegraph station at the South Pass, and about 260 miles east of Salt Lake city.

The Salt Lake *Telegraph* of the 19th inst. says, that a Mr. Gilmore returned from the

mines of South Pass, and called at its office with a few specimens of the gold. There were about 50 persons there when he left, but hundreds were on the way. He reports the diggings as near the headwaters of the Sweetwater, four miles from Lander's Oregon cut-off, eight miles from the Lander junction with the South Pass, and about 12 miles from the Pacific Springs. The travel from Salt Lake city passes through Bridger, over Ham's Fork at Granger's ferry on Green river, and thence to the first crossing of the Sweetwater by the old emigrant road.

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A BOY PREACHER has appeared in Wales who, according to his admirers, is to surpass Mr. Spurgeon. This promising youth is Master Enoch Probert, who has just completed his eleventh year. A local paper says of him: "He has a sweet and powerful voice, which he manages well. His delivery is remarkably distinct, and his hearers were astonished at each remarkable truth from a boy of such tender years."



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. L. W. Felton, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1865.

Dr. L. C. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. Alfred H. Nahor, is our duly authorized traveling agent for Amador and El Dorado counties. July '68.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

## San Francisco:

Saturday Morning, Aug. 3, 1867.

## Notices to Correspondents.

NUMULUS is desirous of knowing the date of the earliest coinage, and also the order in which the metals were first formed in the shape of coined money, as is recognized in the present age. We have already, in part, explained one part of this query, which will be found in our "Notices to Correspondents" of the first of June. There can scarcely be a doubt but that the Greeks were the first inventors of a proper coinage; nor a single coin, or the mention of a single coin, of any other nation is banded historically down to us prior to the earliest known Greek coin. As a means of exchange, but precedent to the coinage of proper money, antiquarians generally concur that silver was first employed for this purpose in the shape of pins, or pieces of wire, of which a certain conventional number was termed a bandful. Marco Polo describes a similar currency in gold as being used in some of the Chinese provinces which he traversed. The gold was formed into small rods, from which were cut certain lengths, which passed according to their weight. It is supposed that about six or seven centuries before the Christian era, solid bands of silver, corresponding to the "bandful," came into use at Aegina, which, as a pledge of their value, was impressed with a stamp or public seal. Herodotus, however, supposed that the coinage of money was first attempted by the Lydians; and some gold and silver coins found around its ancient capital would tend to place the introduction of coinage as early as the time of Croesus. The age of these is, however, problematical. After silver, a small kind of copper coinage was introduced, which, however, only circulated as a species of token. The gold coinage at the time of Aristophanes (430 B. C.) consisted of darics. About four centuries before Christ, Pericles enumerated amongst the resources of Athens gold and silver in the form of bullion and minted silver, but no minted gold.

THEOLOGIAN.—Genesis and geology are respectively in many points discordant with each other when examined in minute detail, especially if taken in a literal sense. In one, and that the most important respect of all—namely, the Genesis of Creation—the revelation of Holy Writ and the speculations of the most brilliant scientists the world has produced are completely accordant. "In the beginning, God created the heaven and the earth. And the earth was without form and void; and darkness was upon the face of the deep." With the words italicized, the Bible and the opinions of philosophers perfectly agree. Constantly and accumulating observations corroborate the description given.

NEW QUARTZ MILL.—A large engine and quartz mill was shipped from this city, on Friday last, for the Eureka mining company at Grass Valley. The machinery was manufactured at the Vulcan Foundry.

## The Central Pacific Railroad.

Having recently passed over this grand thoroughfare, we propose to offer a few observations, which have been suggested by the trip. The present terminus is at Cisco (a badly-named town), ninety-four miles from Sacramento. Fare, \$9.50. The managers of the road have ever shown exceeding liberality to excursionists, and now offer tickets to pleasure-seekers to go and return at half price.

Our train of two well-filled cars started at 6½ o'clock A. M., drawn by the California-built locomotive, "A. A. Sargeant." Breakfasted, fifteen minutes, at the "Junction," seventeen miles from Sacramento, where our Marysville friends took the Northern California Railroad, leaving us plenty of elbow-room during the rest of the trip. At Rockland, twenty-five miles from Sacramento, we passed the granite quarries which are supplying excellent material for the State Capitol and the Fort Point fortifications of San Francisco harbor.

From Rockland to Colfax, some thirty miles, we have the changing scenery of California foothills and mountains, pleasant and common-place to old mountain rovers, but of a brightening interest to the amateur beholder. Beyond Colfax, we pass "Cape Horn," describing a three-fourths of a mile circle, as of a race-track, viewing from the inner side a steep ravine and deep, gorges scenery. Almost the entire road from this point upward is an ever-varying system of curves, around which our train seemed to meander as easily and gracefully as a fairy waltzer. Suddenly we are overlooking (almost overhanging) the buff-colored bed of the American river and its forks; the precipice below our track being 1,500 feet high. Rarely has it been our privilege to view so grand and picturesque a landscape, even in the most inaccessible and wild recesses of our famous California mountains.

For four or five miles above Emigrant Gap the track is laid upon a bed of hard lava cement, after which we abruptly strike upon the clear, solid granite, forming an immense belt four miles in width, and extending to the present terminus. It is here this great work shows in all its stupendous magnitude. From point to point the rails appear as mere pencil marks upon the white granite, laid upon a track grooved out of the adamantine sides of an almost continuous precipice, while the locomotive follows the firmly-imbedded rails, with its shrill whistle echoing from a thousand reverberating, rocky points, grand, towering, rugged peaks, and jagged, deep-mouthed cañons. Acres of as fine and true blocks as ever entered into the construction of a palace have been thrown down on one side by the powerful blasts, and now lie in different piles, supporting the embankment of the road in some places to the depth of hundreds of feet. The altitude of the road here is about 6,000 feet. Upon the granite range rests innumerable lakes, in basins beautifully fringed with fine foliaged firs and pines. Looking west, the railroad overlooks one of these crystal sheets and the tops of its surrounding pines.

Just above the grade, two miles below Cisco, is situated Crystal Lake, with an area of over 100 acres. No grander location or truer name could be chosen for it. Climate cold and bracing, exceedingly favorable for invalids. The air (especially to those who climb the surrounding hills) is decidedly appetizing. Mr. Fogg keeps a comfortable house, and Crystal Lake is destined to become an extensive resort.

The morning train arrives at Cisco at 11.30, making ninety-four miles, with an ascent of 6,000 feet, in about five hours, averaging, exclusive of stoppages, some twenty-five miles per hour. This train connects with the stages (three in number) for Virginia City, State of Nevada. On its return, the train leaves Cisco at 1.30 P. M.,

taking the morning passengers from Virginia City, arriving at Sacramento at 6.40 P. M. Another train goes east from Sacramento at 3.30 P. M., returning from Cisco at 7.45 the next morning. The conductors of these trains are obliging men.

For days, the novelty of seeing and hearing the movements of the locomotives and trains amid such gigantic rocky masses and remote mountain scenes, failed to lose its impressive greatness upon one's mind.

We shall next week speak briefly of the grade, tunnels, workshop, etc., of this road.

A CALIFORNIA MINE OF GRAPHITE.—We condense the following from the correspondence of the *Bulletin*: The Messrs. Macomber, of Tennessee Gulch, near Wood's Creek, about a mile and a half from Sonora, Tuolumne county, discovered in 1853 a well-defined vein of plumbago, of 18 to 20 feet in width. But little was done towards developing it until within the past year or two. The Messrs. M. commenced the working with a primitive barrel-churn arrangement of their own construction, by means of which the graphite was separated from the sand and other impurities, and suspended in water, was run into shallow tanks and settled. The water being then drawn off, the sediment was dried in the sun, and was ready for market. A considerable quantity, prepared by this means, was sent to New York and to England, where its excellent quality created a demand for it at \$100 per ton. The Messrs. M. are now prepared to work the mine in a systematic manner. Iron cylinders, moved by water power, took the place of the wooden barrel turned by hand. By this means, from 25 to 30 tons per week were prepared. But the demand increasing, improvements were introduced by which nearly that quantity is prepared daily. Instead of the cylinders, a sort of arastra or puddling machine, 20 feet in diameter, is used. A tank 200 feet in length capable of holding the proceeds of 30 days' work, receives the water which runs from this, holding the black-lead in suspension.

The total cost of production, including bags, freight to this city, and freight to Liverpool or New York, is not more than \$50 per ton; leaving a profit of \$50.

THE MARTINEZ FLOUR MILL.—The new flour mill of Coffin & Standish, which we have already noticed as in progress of erection at Martinez, is rapidly approaching completion. It is intended that this mill shall be one of the most complete in the State. It has a large capacity for storage, and the wheat which will be handled entirely by machinery, will be cleaned in the most thorough manner, passing through suction fans and blowers, and compound screens, at least five times. Captain Coffin is one of the earliest pioneers, and no man stands higher than he does as a man of probity and correctness in all matters of business. His partner, Mr. Standish, is a thorough master of the flour business, and we predict for their brand a reputation which will be excelled by no other of the kind on the Pacific coast. Captain Coffin is not the man to do anything loosely or by halves.

NEVADA COUNTY.—A recent brief visit to this county afforded us much pleasure. Its mines show plain evidences of permanent thrift. Sections which will permit the combining of mining with agriculture, horticulture and domestic manufactures, are destined to increase in popularity in every part of our State. Nevada City has steadily improved. Its handsomely-improved homesteads prove that its fortunate citizens are content to remain in the land which gives them wealth. Grass Valley has increased its proportions beyond all precedent in the history of mining towns. Business at present is dull in both places. This dull in affairs, we trust, however, is only the forerunner of a healthy re-action. We regret not having been able to make a more extended visit in the county.

## A Bread-Making Machine.

We have often wondered, as we have witnessed the slow process of kneading, weighing and molding the dough for bread, that some genius has not, long ere the present time, in this inventive age, devised some kind of machinery by which this tedious and simple labor may be abbreviated; especially in our large baking establishments, where the great length of time required for so much manipulation often seriously affects the quality of the bread itself. These considerations having often been forced upon us, we were not a little surprised, a few days since, at receiving a polite note from Mr. John DeArcy, corner Third and Perry streets, in this city, to call at his bakery and witness the operation of a "Bread Machine." Having availed of the opportunity, we were shown into a room, one corner of which was filled up with wheels, shafts, boxes, etc., which Mr. DeArcy assured us were the remains of condemned bread-making machinery, which he had been at work upon for the past three or four years, until the result of his experiments had finally culminated in a simple and effective machine which, with two assistants, he immediately commenced to put in operation.

The "sponge," or dough, was placed upon a long table or bench, such as is generally used by bakers for such purposes. A workman cuts off a piece large enough to make about six or eight loaves; this mass of dough is then placed in an inclined trough, from which it slides down between a pair of wooden rollers, by which process it is drawn out and worked. After passing three times between these rollers it is removed to another set of rollers near by, which are accurately ganged, according to the weight of loaves required. As it passes through these, it is received upon a revolving apron, by which it is taken away from the rollers in a long ribbon-like sheet, of uniform thickness and width. As this sheet moves along, a revolving knife is made to cut it into equal lengths, each length being of the precise weight for a loaf. Precision is arrived at by the dough being brought to a uniform density by being repeatedly passed between the rollers as described. As the loaves are thus laid out on the apron, an attendant quickly folds them up into a proper shape for baking, and places them into suitable receptacles in which to "raise" and be taken to the oven.

By the aid of this machine, the work of two and a half hours, by the usual hand process, is readily accomplished in thirty minutes. Besides the saving of time, a great improvement is effected in the quality of the bread. It is well known to all bakers and good housewives, that when bread is fermented by yeast or leaven, the flour undergoes a change, or partial decomposition, giving off carbonic acid; and that, if the fermentation is not arrested at the proper time, by baking, the resulting bread is sour. Housewives endeavor to correct this acidity by adding soda, or saleratus, thus producing a compound unfit for a human stomach.

In large baking establishments it is found impossible, with the ordinary force of hands employed, to weigh and mold the loaves after the dough is ready for that operation, before the fermentation has proceeded too far; and the consequence is sour bread. The baker cannot help it—he has too much manual labor to perform, and which must be done to avoid it.

Now this machine of Mr. DeArcy comes in just here, and relieves the baker of this annoyance by the speed with which it works, and enables him to be always sure of his "batch," and his customers need never be troubled with sour bread. All this is in addition to the saving of time, and consequently of money, which is the equivalent of time.

Mr. DeArcy has made application for a patent for his invention through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, and will soon be prepared to furnish his important improvement to the trade generally. In the meantime, he will be happy to show the working of the machine to such as may feel interested in its merits. It may be seen at work every day about 11 o'clock A. M. We look upon this as one more addition to the really meritorious inventions of the Pacific Coast.



**THE NEW MARKET.**—The new California Market was opened for business on the 1st inst. The public were admitted on the previous evening, and the institution was pronounced a "success." The building has a front of 175 feet on Pine, and 75 feet on California street. It is 275 feet in depth, and 21 feet in height to the ceiling. The large and convenient basement has a height of 10½ feet, and everything necessary to be done about a market, which might offend the senses of sight or smell, is done there. The arrangements for drainage are very complete. All offal is at once disposed of by the way of the spacious sewer. The floor of the basement is of asphaltum, and is so inclined that water flows at once into the drain. The stalls are in rows with wide passage-ways between; and those devoted to the different kinds of provisions are systematically arranged, each class by itself.

The cost is given at \$260,000, including the amount paid for a portion of the old Washington Market, purchased by the proprietors of the new structure. The rent for stalls is about \$50,000 per annum.

**RAILROAD INVENTIONS.**—We were shown, last week, several inventions of Mr. I. H. Graves, master mechanic of the C. P. R. R., at Sacramento. His device for reducing the friction on car wheels while turning curves, appears plain and practicable. Its saving of power has been demonstrated by the application of a dynamometer of his own construction, which measures the force of resistance of a car ascending grades or turning curves. Another invention of Mr. Graves' consists in a new method of confining the sparks and fine cinders in the smoke stack of a locomotive without obstructing the draft. Another important one is that of enlarging and contracting the size of the steam exhaust pipe—changing it readily and gauging it accurately—by which means considerable fuel is saved.

These improvements are all in the line of Mr. Graves' business, and their merits have been tested by practice. At a proper time we shall be permitted to give a full description of the inventions.

**MINING SUITS.**—Three important suits against the Union Copper Mining Co. were tried at the recent session of the District court held in San Andreas, Calaveras county. The amount involved is over two millions of dollars. The first was that of the Inimitable Mining Co., claiming that the Inimitable and Union were two different leads. Verdict for defendants. The second was that of Mortimer Phelps, to recover one-thirteenth interest in the Union mine and property. Verdict for the plaintiff. The third was that of Estella May Reed, (daughter of Wm. K. Reed, the discoverer and locator of the mine,) for two-thirteenths interest in the mine. This suit was continued, and testimony ordered to be taken in San Francisco. Patterson and Storme for the plaintiffs, and H. & C. McAllister for the defendants in each and all of the three cases.

**THE GRAPE CROP** appears to be equally as promising as the grain crop. From present indications it will largely exceed that of last year, and the wine presses will soon flow with new wine, while the delicious fruit of the vine will everywhere abound to nourish and invigorate the system with its health giving qualities.

**THE SEA WALL.**—A. H. Houston has the contract for constructing two sections of the sea wall, for \$280,000, with the probable addition, at the end of six months, of \$70,000; the completion of a portion of one section being contingent upon the condition of the treasury. The spaces included are those between Union and Vallejo, and Pacific and Washington streets. Work will be commenced in about two weeks.

**COMMUNICATION RECEIVED.**—Number two from our Paris correspondent will appear next week.

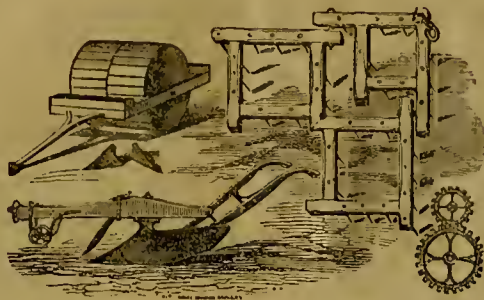
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**CAPT. CHAS. H. POMEROY**, Clerk of the Supreme Court of this State, died at his father's residence, San José, July 29th, aged twenty-three years. He commenced his responsible duties in the Clerk's office at the early age of nineteen, rendering efficient service. We have known him for nine years as a youth of bright talents, kind disposition and remarkable promise. He leaves parents and three brothers, who must keenly feel their sudden loss. They will receive the sympathy of all who knew the deceased.

**NEVADA FOUNDRY.**—This establishment, at Nevada City, under the proprietorship of Messrs. Hough & Thom, performs a wide range of work to suit the wants of the mining and mechanical community in which it is located. New machinery is now on the way from the East for extending and improving its stock of tools. The works are soon to be enlarged by the addition of a new machine shop 40 by 80 feet, and a blacksmith's shop 40 by 40 feet, to be constructed of stone or brick in a permanent manner. A thirty-five horse power engine is a sample of the work turned out. The manufacture of castings for quartz mills, and other machinery in local use, forms a specialty of this foundry. Some \$50,000 worth of work is done annually.

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**CONTRIBUTIONS FOR OUR CABINET.**—We have received several rich samples of silver ore from Mr. A. J. Rigby, which we shall describe in a future number. Also several fine specimens from Grass Valley.

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5v15gr B. F. HOWLAND, Artist.

**Gold Bars**, of whatever size. If well cast, assayed for two dollars, at A. P. MOLLER'S Assay Office, 611 Commercial street, opposite United States Branch Mint.  
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**JACOB SHERW**, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new "Cabinet Photographs," which he is taking to perfection.  
10v14tr

**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler-repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to  
5v14-1v AUSTIN A. WELLS, Agent.

**Perry Davis' Vegetable Pain Killer.**

A CERTAIN ANTIDOTE FOR POISON.—REV. T. Allen, writing from Tavoy, Burmah, says: "Within the past four years I have used and disposed of about five hundred bottles, but am now out. Please send me a fresh supply as soon as you can—say two hundred bottles. I dare not be without it myself, and there are endless calls for it, both by Burmahs and Karens. I always take it with me in the jungles and have frequent occasion to use it, both on myself and others. One night, while sleeping in an open Zayat, I was awoke by a most excruciating pain in my foot. On examination, I found I had been bitten by a centipede. I immediately applied the Pain Killer, and found instant relief. In less than an hour I was again asleep."  
Rev. Mr. Hibbard, writing from Burmah to his father, says: "I have used Davis' Pain Killer for Coughs, Colds, Summer Complaints, Burns, and for the Sting of Scorpions, with uniform success. We always keep it where we can lay our hands on it in the dark, if need be."  
Sold by all Medicine Dealers everywhere. 5v15-1m

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OFFICE IN THE BUILDING OF THE  
CALIFORNIA SAVINGS BANK, California  
street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 10v149ppr

**MARKET STREET HONESTY ASSOCIATION.**—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty.  
Call and examine the work. Finest quality of artificial work also manufactured. 16v14-1f

ROOT'S  
Patent Force Blast Blower.

Adapted for Smelting, Foundry, Mining  
and Steamships.

Requires 50 per cent. less power than any Blower now in use. For further particulars, address KEEP, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15tr10p

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The PATRONS of this Institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California.

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The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided.

Throughout all the various departments, great attention is given to the study of the Modern Languages.

For further information, or Catalogues, address,  
I. H. BRAYTON, Principal.  
OAKLAND, California. 5v15gr9p.

SANTA CLARA COLLEGE, S. J.

SANTA CLARA, CAL.

Conducted by the Fathers of the Society  
of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 28, 1857.

TERMS.—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

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5v15-1m REV. A. MASNATA, S. J., President.

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HINCKLEY & CO.,

Fulton Foundry and Iron Works,

Have removed their works to the

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Hydraulic Press.

FOR SALE AT A BARGAIN—USED TO PRESS OIL Seeds—in perfect order. Diameter of Cylinder, 7 inches. For further particulars, apply to

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City Iron Works, No. 28 Fremont st.,  
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5v15-2w

LINSEED OIL.

The Pacific Linseed Oil & Lead Works

Are now prepared to furnish dealers and consumers

Pure Linseed Oil,

Raw or Botted, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market.

Orders from the country will have prompt attention.

Address,  
Pacific Linseed Oil and Lead Works,  
Care of L. B. BENGHLEY & CO.,  
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Rolling Mill and Forge Co.,  
SAN FRANCISCO, CAL.

Established by the Manufacture of

RAILROAD AND OTHER IRON

Every Variety of Shafting

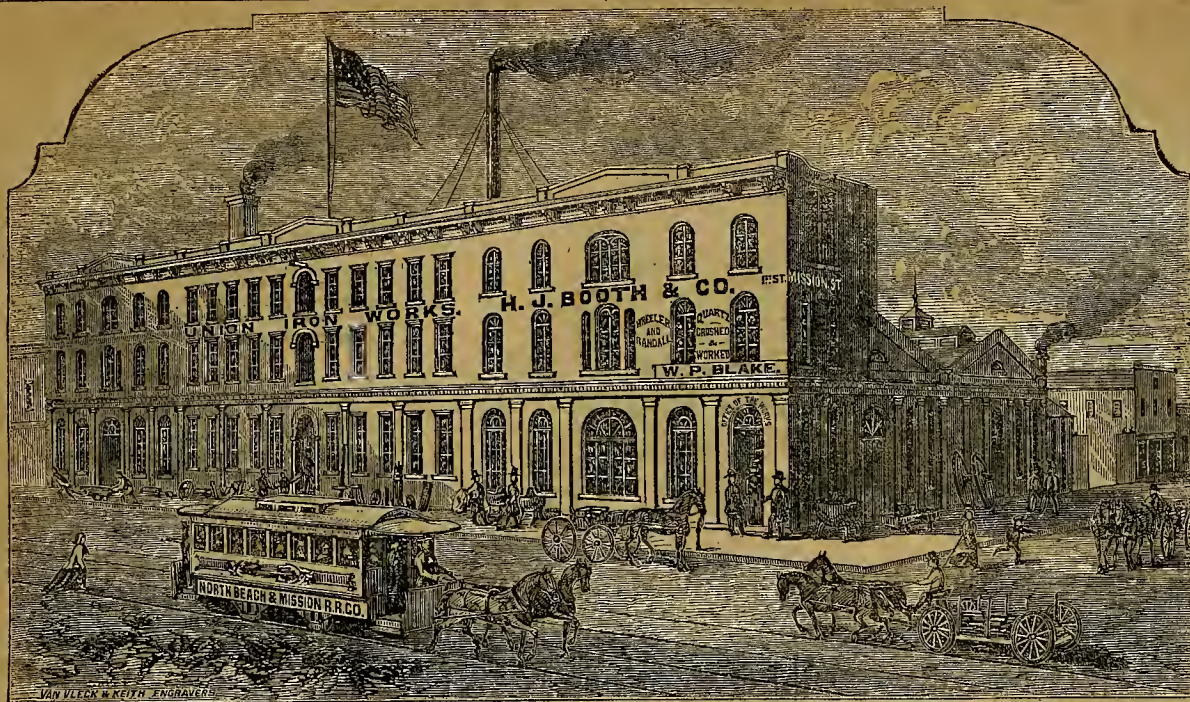
Embracing ALL SIZES of  
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Of every description and size.

Orders addressed to PACIFIC ROLLING MILL and FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention.  
The highest price paid for Scrap Iron. 9v143m9p





Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Works, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, Screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

**BOILERS.**—Locomotive, Flue, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Wakle's pans, Beers' pan, German Barrels, Arastra Clearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

**OIL BORING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT  
24v12 H. J. BOOTH & CO.

THE CATHEDRAL OF MEXICO is the most capacious house of worship in America. It is 500 long by 420 feet wide, and capable of holding 30,000 people. The edifice has been described as follows: "The building is not in conformity with any order of architecture, although remarkably imposing. The walls are built of unhewn basalt, but the front is covered over with the most laborious carving, while massive pillars rise up against the wall for the support of its lofty towers. The interior is gorgeous almost beyond description, though the decorations are more remarkable for costliness than taste. The choir is formed of rare carved woods, and elaborately covered with gilded images; the high altar, raised from the floor on an elevated platform, exhibits a profusion of candlesticks, crosses and other ornaments, of solid gold or silver, and is crowned by an image of the Virgin, decked in jewels, estimated at the value of more than \$2,500,000; and all other parts of the church are a perfect wilderness of columns, statues, shrines, fountains, etc." Such was the description before the late civil war. Most probably some of the more costly ornaments have been "borrowed" by some one of the numerous needy chieftains who have, from time to time, had possession of the city within the past three or four years.

TIN IN MISSOURI.—The telegraph of Saturday last announced the discovery of immense deposits of tin in Madison county, Pilot Knob, Missouri. These deposits are said to be the most extensive ever met with in any part of the globe.

CODRISH are caught in paying quantities outside the bar of Yaquina Bay, Oregon. Flounders and other saltwater fish are also caught in large quantities.

Machinists and Foundries.

**PALMER, KNOX & CO.,**  
Golden State Iron Works,  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
STEAM ENGINES AND QUARTZ MILLS  
DUNBAR'S IMPROVED  
Self-Adjusting Piston Packing,  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S  
NEW GRINDER AND AMALGAMATOR  
HEPBURN & PETERSON'S  
AMALGAMATOR AND SEPARATOR,  
Knox's Amalgamators,  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13v10y-1f

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.  
Steam Engines, Boilers,  
SAW AND GRIST MILLS,  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
13v13-1y One block north of Couch's Wharf.

**UNION IRON WORKS,**  
Sacramento.  
WILLIAMS, ROOT & NEILSON,  
MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,  
STEAM ENGINES, BOILERS,  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old Cylinders, manufactured to order.  
Front Street, between N and O streets,  
14v11 SACRAMENTO CITY

**Pacific File, Reaper and Mower Section MANUFACTORY,**  
No. 53 Beale Street, between Market and Mission, SAN FRANCISCO.  
Files recent and warranted as good as new, or no charge. The only establishment in the State. We also manufacture Reaper and Mower Sections.  
1515f DUNNING & RIDDELL, Prop'rs.

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Foundry and Machine Shop,  
STOCKTON, CAL.  
KEEP, BLAKE & CO.,  
MANUFACTURERS OF  
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed. 13v13-1y

**GEORGE T. PRACY,**  
MACHINE WORKS,  
Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.  
STEAM ENGINE, FLOUR AND SAW MILL  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. 13v13-1y

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Foundry and Machine Works,  
N. E. Cor. Fremont and Mission streets, Manufacturers of  
Marine and Stationary Engines  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.  
—ALSO—  
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.  
STEAM ENGINES AND BOILERS,  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
Dunbar's Improved Self-Adjusting Piston-Packing, requires no springs or screws; is always steam-tight; and never gets slack or leaky.  
MACHINERY OF ALL DESCRIPTIONS Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
6v11-1y DEVOL, DINSMORE & CO

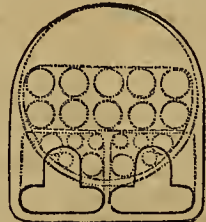
LEWIS COFFEY. J. S. RISDON  
**LEWIS COFFEY & RISDON,**  
Steam Boiler & Sheet Iron Works.  
THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna, SAN FRANCISCO.  
ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE.  
V. KINGWELL. 13v13-1y J. H. WEED.

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**Etna Iron Works!**  
Southeast corner Fremont and Tehama streets, SAN FRANCISCO.  
Practical Machinists and Iron Founders,  
MANUFACTURE  
STEAM ENGINES,  
QUARTZ MILL MACHINERY OF ALL KINDS,  
SAW MILLS, FLOUR MILLS,  
Dunbar's Improved Self-Adjusting  
PISTON PACKING,  
Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
HANSCOM'S CRUSHER,  
The best of the kind now in use in this State or anywhere else  
Wheeler & Randall's New Grinder and Amalgamator,  
Which only needs examination to be appreciated.  
Tyler's Improved Water Wheel,  
Giving greater power, at lower cost than any wheel in use. Send for one of our circulars, giving full tables.  
All Wheels warranted to give the power as set forth, or the money will be refunded.  
Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
13v12

**FULTON**  
Foundry and Iron Works.  
HINCKLEY & CO.,  
MANUFACTURERS OF  
STEAM ENGINES,  
Quartz, Flour and Saw Mills,  
Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Minloe Pumps, Amalgamators, and all kinds of Machinery.  
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 5-97.

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets, SAN FRANCISCO.  
MARINE,  
Locomotive,  
And all kinds of  
HIGH PRESSURE  
Steam Boilers  
MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
Old Boilers Repaired  
D. CAMERON.  
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Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices  
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**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgom'y,  
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TOOL AND FILE FACTORY.  
Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
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P. CLERC, B. KLEINCLAUS, W. DEBRIE.  
**CLERC & CO.,**  
Iron Founders, Steam Engine Builders, and Makers of all kinds of Machinery.  
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**SOUTH BEACH IRON WORKS,**  
Near corner of Beach and Third streets, San Francisco.  
MARINE ENGINES,  
AND ALL KINDS OF  
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All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed.  
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Steam Engine Works,  
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STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.  
HOISTING AND PUMPING ENGINES,  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the  
Superior Workmanship  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular  
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If the United States and its Territories were as thickly settled as Great Britain, they would contain 750,000,000 of people—a number nearly equal to the whole population of the globe.

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**Fine Custom Made Clothing**

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**AT PRICES THAT DEFY COMPETITION.**

**Our Stock of Clothing Consists of ALL THE LATEST STYLES**

BOTH OF MATERIAL AND FINISH.

A Large Assortment of **Trunks, Valises, Carpet Bags, Blankets, Etc.,** AT EXTREMELY LOW PRICES.

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**BLASTING POWDER.**

**PRICE, \$3.00 PER KEG.**

—ALSO—

**PORTING, CANNON AND MUSKET**

**POWDER,**

Of superior quality.

**FUSE AND SHOT,**

Always on hand and for sale at the office of the

**CALIFORNIA POWDER WORKS,**

No. 318 California Street.

**JOHN F. LOHSE, Secretary.**

25v11qr

**PACIFIC POWDER MILL**

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MANUFACTURED

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**California Steam Navigation**

**COMPANY.**

Steamer CAPITAL.....CAPT. E. A. POOLE  
 " CHRYSOPOLIS.....CAPT. A. FOSTER.  
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 " CORNELIA.....CAPT. W. BROMLEY  
 " JULIA.....CAPT. H. CONCKLIN  
 One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Office of the Company, northeast corner of Front and Jackson streets.

**JOHN BENSLEY,**  
 President.



**THE PACIFIC IRON WORKS,**

**First & Fremont Sts., between Mission & Howard, San Francisco.**

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

**Bryan Battery, Vurney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.**

**GODDARD & COMPANY.**

A. S. CHURCH. S. D. CLARK.

**CHURCH & CLARK,**

IMPORTERS AND DEALERS IN

**Mediterranean and California FRUITS, NUTS, CONFECTIONERY, Etc.,**

AND MANUFACTURERS OF

**FIRE WORKS**

Of every description, at No. 407 Front st., San Francisco. 15v14-6m12p

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Nos. 635 and 637 Commercial Street,

WILL INTRODUCE

On Saturday, February 9, 1867.

An Entirely New Style of

**Cloth Cashmere Hat**

**"YACHT HENRIETTA,"**

Which are the most dressy Hat ever introduced on the Pacific Coast.

Call and see them.

8v14

**NEW YORK PRICES.**

**C. E. COLLINS,**  
No. 603 Montgomery street, San Francisco.

**EXCLUSIVE AGENT**

—FOR THE—

**AMERICAN WATCH FACTORY.**

A large assortment of these

**Superior Watches,**  
**In Gold and Silver Cases,**  
Constantly on hand, and sold at Factory prices. Also,

**ENGLISH AND SWISS WATCHES,**  
Imported directly from the Manufacturers.

The American Company are now making

**VERY FINE WATCHES FOR LADIES.**  
A large assortment of Gold Chains and Jewelry. 25v10-6m

**NEW YORK PRICES.**

WATCH REPAIRING AT NEW YORK PRICES.

**HAYWARD & COLEMAN,**

IMPORTERS AND REFINERS

**Illuminating, Lubricating,**

**PAINT OILS!**

CONSISTING OF

KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS' NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

**SPIRITS OF TURPENTINE & ALCOHOL**

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

**Lamps and Lamp Stock!**

An elegant and complete assortment on hand. 15v13-3m

414 Front street, San Francisco.

**Engraved to Order.**—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.

**DEWEY & CO.,**  
Patent Agents, Publishers and Job Printers, 505 Clay st. 12v13-1y

**Machinists and Foundries.**

**Miners' Foundry**

**MACHINE WORKS,**

Nos. 245 to 255 FIRST STREET, San Francisco.

**HOWLAND, ANGELL & KING, PROPRIETORS,**

**Manufacturers of Machinery for**

**QUARTZ MILLS, FLOUR MILLS, SAW MILLS, SUGAR MILLS, POWDER MILLS, PAPER MILLS,**

**Steam Engines of all Kinds, Amalgamators of all Kinds.**

**MINING PUMPS, HOISTING WORKS, OIL WELL TOOLS, ROCK BREAKERS,**

**Machinery and Castings of all kinds, either of Iron or Brass.**

**Boilers and Sheet Iron Work in all its Branches.**

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable of any Engine in use.

**W. H. HOWLAND, E. T. KING, H. B. ANGELL, CYRUS PALMER.**  
13v14-qr



**JAMES MACKEN, COPPERSMITH,**

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

**Dr. Hufeland's Swiss Stomach Bitters.**

THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will all once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator. As a purifier of the blood, acting surely, yet gently, on the secretions of liver and kidneys, they are unsurpassed and a most agreeable drink.



For sale at all wholesale and retail stores on the Pacific Coast, and at the depot of TAYLOR & BEEBE, 413 and 415 Clay street, between Sansome and Battery, San Francisco. 20v14-6m

**Piles! Piles! Piles!**

NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of

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It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. THE SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.

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To Those Whose Interests We Represent.

While there is every reason for gratification at the circulation which this journal has already reached, we are yet well aware that there are great numbers of miners, mechanics and lovers of science to whom it might be made a source of much usefulness and profit.

New subscriptions will be received at all times by mail or otherwise. Those who have friends that they think might be interested or benefited by the paper, will confer a favor both upon them and us by calling their attention to this matter, and at this time by so doing they will place us under still greater obligations to themselves, and enable us by its increased receipts, to add still more to the value of the paper.

We trust that it is needless to urge upon our readers the necessity of promptly renewing their subscriptions. The two indexes for volumes XII and XIII, which we have already published, and the 500 ample pages of reading matter, apart from advertisements, to say nothing of our numerous engravings and illustrations, speak more for the value which we give for the price of a year's subscription than we can say in this connection.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States.

Mineral Land Blanks FOR SALE.

We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866: I. Applicants' Declaratory Statement. II. Diagram, Description of Diagram and Boundaries, and Notice.

New Mining Advertisements.

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like Camp, James, Drinkhouse, J. A., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, by Jones & Bendixen, Auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco, Cal.

Lady Hill Copper Mining Company, Low District Mining District, Del Norte County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like G. Schieper, K. Schieper, R. Knowler, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Monday, the nineteenth day of August, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. au3

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

DAVID E. JOSEPH, Secretary. Office, 641 Washington street, San Francisco, Cal. au3

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like Allen, H., Camp, James, Drinkhouse, J. A., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, Auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco, California. au3

To Capitalists.

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Mining Notices—Continued.

Chilonea Molor Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, 318 California street, San Francisco, California.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco. jy13

De Soto Gold and Silver Mining Company—Location of Works: Star District, Humboldt County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two dollars (\$2) per share was levied upon the capital stock of said Company, payable immediately in United States gold coin, to the Secretary, at the office of the Company, No. 58 Exchange Building, northwest corner Washington and Montgomery streets, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventeenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fourth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN M. BURNETT, Secretary. Office, No. 58 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California. jy13

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

Gold Quarry Company. Location of Works: Placer County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like Orden Hoffman, Edmund Wertemann, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., Auctioneers, at the office of the Company, No. 706 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 706 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. jy27

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like Auer, Isaac, Bruders, Mary C., Blasdel, H. G., etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., Auctioneers, at the office of the Company, 418 and 420 Clay street, San Francisco, Cal., on the fifth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

FRANK H. HAMILTON, Jr., Secretary. Office, 418 and 420 Clay street, San Francisco. jy20

Lyoce Mill and Molor Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of July, 1867, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, 5 Government House, corner of Sansone and Washington streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the fifth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansone streets. jy13

Lady Franklin Gold and Silver Mining Company—Silver Mountain Mining District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like John Barsley, John Barsley, John W. McAnally, etc.

And in accordance with law, and an order of the Board of Trustees, made on the second day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at 925 Montgomery street, San Francisco, on Tuesday, the sixth day of August, 1867, at the hour of 1 o'clock, P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary. Office, 925 Montgomery street, Rooms 5 and 6, San Francisco, California. jy20

Neagle & Corcoran Silver Mining Company.—Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary of the Company.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the third day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. P. GREENE, Secretary. Office, Room No. 11, 333 Montgomery street, San Francisco, California. jy13

Neagle & Corcoran Silver Mining Company.—Location of Works: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary of the Company.

Any stock upon which said assessment shall remain unpaid on the twelfth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the third day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. P. GREENE, Secretary. Office, Room No. 11, 333 Montgomery street, San Francisco, California. jy13

Neagle & Corcoran Silver Molor Company.—Location: Storey County, Nevada.

The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 333 Montgomery street, on MONDAY, the 19th day of August, 1867, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc.

A. P. GREENE, Secretary. jy20

Nuestra Senora de Guadalupe Silver Mining Company. Location of Works: Taylorita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1867, an assessment (No. 28.) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. FERRIS, at the office, No. 210 Post street, or to the Treasurer, A. H. MELLMAN, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the third day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. FFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. jy13

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco, California. jy27

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco, California. jy27

Seatoe Mining Company.—Location of Works: Drytown, Amador County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Includes names like Wm Ashburner, Peter H. Burnett, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIOTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets San Francisco. jy13

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. VERDENAL, office, 22 Court Block, 636 Clay street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of August, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the thirty-first (31st) day of August, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco, jy13

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible. n10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired. This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. This it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR.

For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer of wood. By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procure, some time since, a rolisue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they who appropriate the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

QUARTZ MINERS, MILLMEN,

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

First Class Mill,

In all respects, with Pans and Separators complete. The Mill is adapted for 24 or 40 Stamps.

Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or J. B. HITCHCOCK, Millwright, Russ House.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

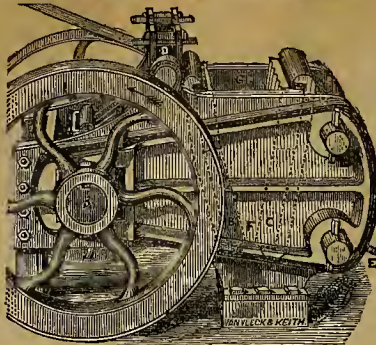
WM. P. BLAKE, Corner First and Mission streets, or Box 2,077

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, Orman, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 310 and 321 Pine Street, Between Montgomery and Sansome, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Crushing Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms: No. 1—10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600

No. 2—15 inch Crusher, capable of similarly putting through five to six tons per hour. \$850 No. 3—18 inch Crusher, will in a similar manner crush from seven to eight tons per hour. \$1,200 EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is held in a wooden frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to crush the size to which it is intended the quartz shall be crushed. O represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of my desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866.

JAMES BRODIE, Esq., San Francisco: My Dear Sir: I have much pleasure in informing you that for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATOR BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1865. Further particulars will be afforded on application to the subscribers.

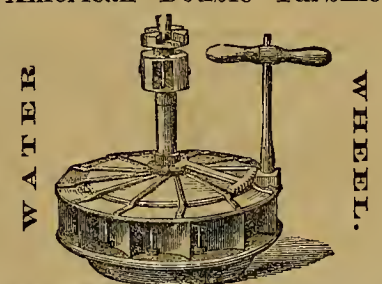
Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st No. of the month of October, 1866, the same will be valued to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found to be most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

BRODIE & RADFORD, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested in this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REPRESENTS:—E. Stockton, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Moran & Gille, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GLENT, Agents for California, 310 Washington street, San Francisco.

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working mills with double quartz operators. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. For particulars, apply to E. M. SHEAF, San Francisco, care Mining and Scientific Press. 26v133m

Notice to Miners, Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Staves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbings, down to 12 inch diameter. M. PRAO, 8v13 1y Stove Store, No. 125 Clay street, below Davis.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.



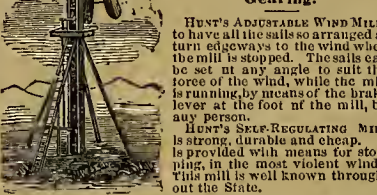
Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burner cotton must then be withdrawn, and a fresh piece of stout cotton, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 2v1543m

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to suit all the sails so arranged as turn edgewise to the wind when the mill is stopped. The sails can be set in any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State. Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. No. 28 Second St., and 106 and 110 Jessie St. 2v1544y San Francisco.

Golden City Chemical Works.

LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets.

CAPITAL STOCK, - - - \$500,000

Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNING, THOS. BELL, CHAS. E. McLANE.

H. P. WAKELEE, MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muratic Acids of superior quality, in quantities to suit. Orders will be received at the office only for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14 3m

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM for sale only by E. F. FERRIS, 2v15 4y 417 Washington street, opp. Post Office, S. F.

Assayer and Chemist.

A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given. Inquire at this office. 3v157f

Workshop Surroundings.

There are but few workshops that may be said to be attractive in their surroundings. The majority of them are but dark and dreary places, where a stated stint of labor is performed according to a pre-arranged agreement; and when that agreement expires, or the stint is performed, then the stipulated price is paid. Beyond this there is but little in the majority of our workshops, and were it not for the daily calls of want, there would be no incentive to labor. We have seen workshops that were dark and damp, destroying the health and buoyancy of the spirits of the operatives, when a small sum, perhaps, would add not only light and warmth, but would fill the place with pleasant surroundings. By so doing, the morale of the workmen there employed would be improved, and, with improvement, much more work, and work of a better quality, would be produced. The surroundings of the workshop have more influence upon the operative than many are aware of. Give a mechanic clumsy tools to work with, a rough, dirty bench to work upon, an imperfect light to do the work in, and but little care exercised if he have proper ventilation and warmth, and he will become careless and heedless, and his work will partake of the surroundings in which it is performed. He will care but little if he ever completes his work or not, and perhaps his only thought will be that he gets his wages at a certain time. It is a general rule that he has no further care of his work than to get away from it as soon as possible when the hour of labor closes, and be as tardy as the rules will permit in commencing it in the morning. A few years of experience like this will spoil almost any mechanic for doing nice work, no matter how good a workman he may be. But give a workman good tools to work with and a nice place, suited to his wants and comfort, in which to perform his labor, and his work will be better done, and he will insensibly take more pains with it, than he will in a bad and ill-arranged apartment. In a pleasant room, he will, of his own accord, keep his tools and work in order, and will more cheerfully perform the task assigned to him. A kind of magnetic influence of the surroundings of the workshop will infuse itself into the operative, and his work will partake of that nature, and will go forth from his hands stamped indelibly with the impress of the influence thus created. If any doubt this, they have but to take a tour of but a few factories, and they will be convinced of the truth of the assertion. Where the proprietor of a shop commences a systematic order of arrangement of tools, for instance, by having a place for them and keeping them in their places, the spirit is soon caught up by the employes, and they insensibly have a system and order in their several labors. Their tools will be better made and better kept; more work will be done and of a superior quality. Order is said to be the first law of Heaven, and it ought to be the first law in the workshop and in all its surroundings.

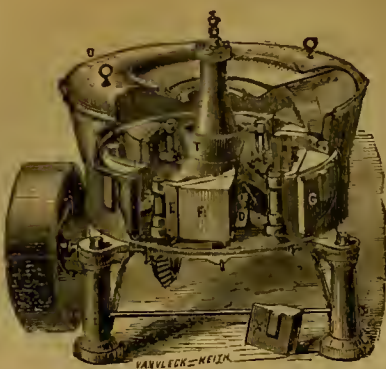
Man is formed with a soul alive to the beautiful and a system of order; and it is only necessary that it should enter into all things except the workshop?—the place where thousands spend the best part of their existence. Why should not the manufacturer take some little pride in surrounding his shop with the elements of beauty, such as lawns and shade trees, as well as the mansion in which he lives? The shop is certainly the mine from which he draws his wealth, and might he not spare a small sum to make it attractive to others and to himself also? A few shade trees, planted at an expense of but a few shillings each, will soon be developed by Dame Nature into a cooling retreat from the heated walls of the factory when the work hours are over. A little disposition upon the part of owners in respect to the comfort of those who look to them for employment will create a tie of interest that will be reciprocal, and each will feel that the other is necessary to his support, and that they cannot well succeed if separated.—American Artisan.

MAGIC PICTURES are not altogether a new thing under the sun, although those known by that name and taken by modern photographers may be. The books tell us of magic pictures which, when viewed in a certain point through a lens, exhibit an object perfectly different from that seen by the naked eye. Nicoron tells us that he executed at Paris, and deposited in the library of the Minimes, a picture of this kind. When seen by the naked eye it represented fifteen portraits of Turkish Sultans; but when viewed through the glass, it was a portrait of Louis XIII! This is as wonderful as the stereoscope.



**HINKLE & CAPP'S  
CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

Patent dated April 16th, 1867.



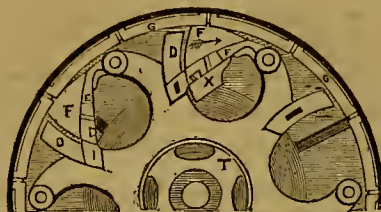
For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 500 lbs. each, doing its work rapidly, thoroughly and effectually.



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 6 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller. There is no strain upon any of the parts, and no liability to breakage or disarrangement, and in wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pebbles or iron, accidentally introduced with the crushed ore, as these can readily pass such mullers separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconvenience, as the mullers play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each muller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side

dies are easily removed at any time, or when worn out, and an extra set of mullers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or muller made for the same purposes, and is claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 500 lbs. of ore, also with extra set of mullers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$500, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco. 25v14-1f

**Portable Steam Engines!**

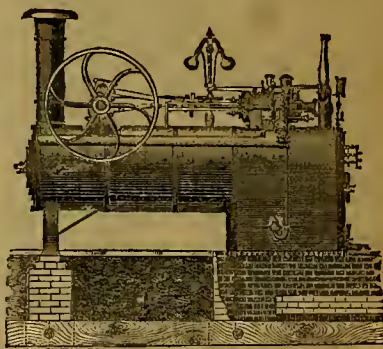
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

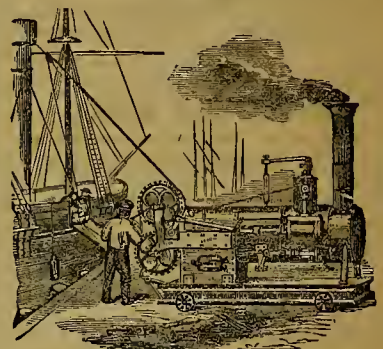
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

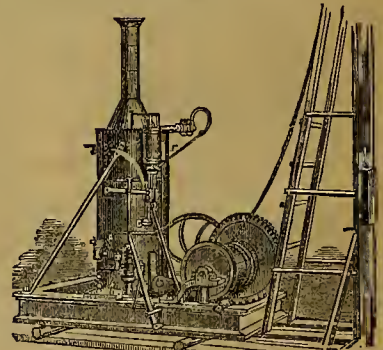
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes.

Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the remotest confines of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with and without carriages.

Also, Portable Saw and Grist Mills. For sale by TREADWELL & CO., 9v14-6m15p Corner of Front and Market streets.

WHAT MAKES A MAN?—A man never knows what he is capable of until he has tried his powers. There seems to be no bound to human capacity. Insight, energy, and will, produce wonderful results. How often modest talent, driven by circumstances to undertake some formidable looking work, has felt its own untried and hitherto unconscious powers, rising up to grapple and master it; and afterwards stood amazed at its own unexpected success!

Those circumstances, those people, enemies, friends, that provoke us to any noble or manly undertaking, are our greatest benefactors. Opposition and persecution do more for a man than seemingly good fortune. The sneers of critics develop the latent fire in the young poet. The anathemas of the angry church inflame the zeal of the reformer. Tyranny, threats, fagots, torture, raise up heroes and martyrs, who might otherwise have slept away slothful and thoughtless lives, never dreaming what splendid acts and words lay buried in their bosoms. And who knows but the wrongs of society are permitted by Heaven, because of the fine gold which is thus heated out of the crude ore of humanity?

Here is a truth worth considering. Are you in poverty? have you suffered wrong? do circumstances oppose you? are you beset by enemies? Now is your time! Never lie there, depressed and melancholy. Spend no more days in idle whining. Up like a lion! Make no complaint, but if difficulty fights you, roar your defiance. You know not what is in you. You are at school, that is your necessary discipline, poverty and pain are your masters—but use the powers God has given you, and you shall be master at last. Fear of failure is the most fruitful cause of failure. Stand firm upon the rock of your manhood, and in the end you shall not fail.

CURIOUS CUSTOMS.—M. De Chailu gives the following as a very curious custom which prevails among some of the native tribes in the interior of Africa: "When a person dies they cut off his head, and put it in a box, surrounded with clay or chalk, the whole of which is saturated as the head decays. The descendant of the deceased rubs his body with this clay or chalk, praying to his ancestor at the same time to give him luck. When he receives a guest, he goes to the place where the head of his relatives are kept, scratches a bit off the skull of one of his ancestors, and puts this bone powder in the dish intended for his friend, who having eaten of it becomes of one blood with himself, therefore must love him truly, open his heart and give him whatever he desires.

**The Commercial Herald**

—AND—

**MARKET REVIEW**

Will be issued early on

EVERY STEAMER-DAY MORNING,

(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

**The Letter Sheet Market Review,**

Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**CUT NAILS.**

2,000 KEGS ASSORTED SIZES,

For sale in any quantity, to close invoice, at the very lowest rates, by

THOS. H. SELBY & CO.,

116 and 118 California Street, SAN FRANCISCO. 19v14-3m

**AGENTS WANTED.**

ENERGETIC MEN OR WOMEN CAN MAKE MONEY in canvassing for our NEW BOOKS and ENGRAVINGS. The Agent reports thirty three orders for one book in three days. Address, PACIFIC PUBLISHING COMPANY, 4v15q19p 305 Montgomery street, San Francisco, Cal.

**Our Patent Agency.**

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Stair Work of all Kinds, MADE TO ORDER, And Shipped to all parts of the Coast.



N. P. LANCLAND, STAIR BUILDER, No. 49 Neal street, Between Market and Mission, SAN FRANCISCO. 19v14-1y

Newel Posts and Balusters CONSTANTLY ON HAND and for Sale.

**THE CENTRAL PARK OF THE PACIFIC.**

Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, —AND— ZOOLOGICAL GARDENS.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast. The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic. To all departments new attractions are being constantly added.

These Gardens are accessible by the Howard, Folsom and Market Street Cars. Entrances on Mission and Valencia streets, between Thirteenth and Fourteenth. OPEN EVERY DAY. Admission to all parts, 25 Cents. Children, under 12 years, half price. 24v14q1r

**THE WILCOX & GIBBS**

IMPROVED NOISELESS

**Family Sewing Machine**

Challenges the world. It has beaten the Florence baby Come and see it, or send for Report of the trial.

SAMUEL SWIFT, Agent, 13v14-6m 202 Kearny street, near Sutter.

**Pratt's Abolition Oil.**

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak Swollen and Stiff Joints, Contracted Cordis and Muscles, Cramps, Colic, Diarrhea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 722 1/2 Sacramento street, opposite What Cheer House, San Francisco. 19v14-1y

**GOVERNMENT HOUSE,**

Corner of Sansome and Washington sts. SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes.

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A NEW WATER COMPANY, to be known as the San Francisco Water Company, filed its articles of incorporation on Thursday last. Capital, \$6,000,000. The company proposes to commence operations at once, and will obtain their supply from some point in the Santa Cruz mountains; which supply is said to be equal to furnish a city with a million of inhabitants, even at the dryest season. Parties interested think they can bring water into the city within two years. Milo Hoadley, J. T. Boyd and John H. Turney are the Trustees.

To the Legal Voters of the City and County of San Francisco.

Prompted alike by a sense of duty to myself and to the public, and in compliance with the request of several hundred citizens, tax payers and friends of the Public Schools, representing the different political sentiments, religious creeds, nationalities and classes of the San Francisco community, I hereby announce myself an Independent Candidate, at the approaching election, for the office of Superintendent of Public Schools. In so doing, I deem it proper to say that I do not thereby appeal from the decision of any party or convention, but simply think it a matter of right, and, under existing circumstances, eminently fit to refer the subject of my candidacy directly to the people, the parties interested; and I think I may properly solicit, and with reason expect, the continued support of the friends of education, and that of all others who think I have faithfully and usefully discharged my duties during the past two years in the office to which I seek a re-election. I am induced to ask your support, and the more readily comply with the wishes of personal friends and the friends of Public Schools in becoming a candidate, since I am invited to do so "without respect to political considerations, which it is thought should be disregarded in the choice of school officers." Having devoted the best years of my life to the education of the young and to the interests of this city and the State in that connection, I feel it but just to myself and to the public which I have served, if success has attended my labors, that I should not be thrown out of a position of public usefulness and from needed employment, for no better reason than that another, however competent, wants my position, and seeks to be placed on it through preliminary political management and the discipline of a party organization. Such others as think with me in that respect, and believe a change of officers in the position I occupy is uncalculated for at the present time, and that my re-election would subserve the interests of the Public School Department of this city, are respectfully requested to give utterance to that effect by casting their votes for me at the approaching election.

Profoundly thankful for your generous support in a former election, I remain, respectfully,  
J. C. PELTON,  
San Francisco, July 29th, 1867. 5v15-5v

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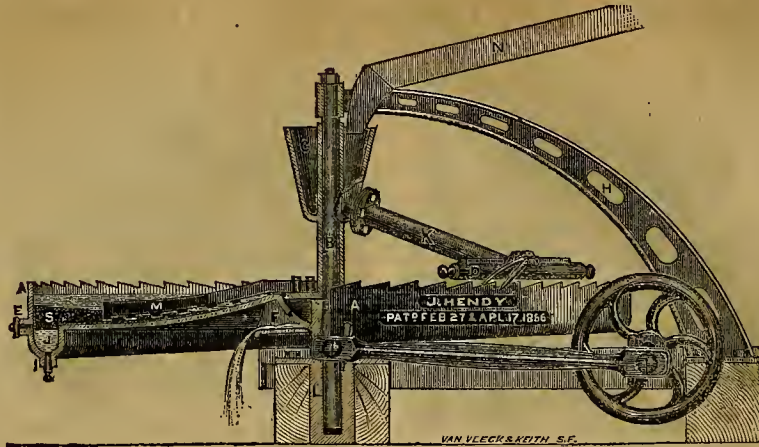
**Foundry for Sale.**

A One-half Interest in the  
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Inquire at the office of the Foundry, or address  
**WILLIAM R. WILLIAMS,**  
Sacramento, Cal.  
26v13qr16p

The Mining Press has entered upon its thirteenth volume. It is a valuable publication in its sphere, and its sphere is a large and important one.—[Marysville Appeal.

**HENDY'S LATEST IMPROVED CONCENTRATORS,**



**FOR GOLD AND SILVER ORES,**  
With Revolving Stirrers and Rotary Distributor.

Can be seen in Operation at the Union Foundry, First St., San Francisco.

**Directions for Operating Hendy's Concentrators:**

- The sulphurets are drawn off while the Concentrator is in motion, in the following manner:  
FIRST—Set the Pan, A, level, by its inner rim.  
SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]  
THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.  
FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in future, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length. The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

**References:**

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:
- FOREST SPRINGS MILL.....Grass Valley, Nevada County.
  - EMPIRE MILL.....Grass Valley, Nevada County.
  - ONEIDA MILL.....Jackson, Amador County.
  - SPRING HILL MILL.....Amador, Amador County.
  - GOLDEN GATE MILL.....Volcano, Amador County.
  - GOLDEN RULE MILL.....Stewart Flat, Placer County.
  - BENTON MILL.....Bear Valley, Mariposa County.
  - LOUISIANA MILL.....Coulterville, Mariposa County.
  - PEOPLE'S MILL.....Alleghany, Sierra County.
  - TYRON & CO'S MILL.....Prescott, Arizona.
  - WOOLSEY & CO'S MILL.....Prescott, Arizona.
  - NOYES & CO'S MILL.....Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.

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- VEATCH, VALENTINE & CO, Commercial Mill (4 Concentrators).....Nevada County.
- GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
- VULTURE CO. (4 Concentrators).....Prescott, Arizona.
- MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
- PLYMOUTH ROCK MILL CO. (2 Concentrators).....Mariposa County.
- B. F. BROWN (1 Concentrator).....Melbourne, Australia.
- MOREY & SPERRY (1 Concentrator).....New York.

And in use in many other parts of this coast.  
These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."  
Orders or letters of enquiry, address,  
**JOSHUA HENDY, Patentee,**  
Union or Fulton Foundry, San Francisco.

March, 1867.

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**STEAMSHIPS FOR**  
**NEW YORK, JAPAN AND CHINA.**  
LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.  
On the 10th, 18th and 30th of each month that has 30 days.  
On the 10th, 19th and 30th of each month that has 31 days.  
When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.  
Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.  
Departures of 18th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America.  
Departure of 10th connects with English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America.  
The following Steamships will be dispatched on dates as given below:  
August 10th—CONSTITUTION.....Capt. Jos. Sutton, Connecting with OCEAN QUEEN, Capt. Conner  
August 19th—SACRAMENTO.....Capt. J. M. Cavarly  
August 30th—MONTANA.....Capt. E. S. Farnsworth  
Connecting with ARIZONA, Capt. Murray.  
Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult.  
An experienced Surgeon on board. Medicine and attendance free.  
These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.  
Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.  
For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.  
The Steamship GREAT REPUBLIC, Capt. S. Deane, will be dispatched September 3d, at noon, and will be followed by the CHINA, Capt. George H. Bradbury, October 14th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONKONG, connecting at Yokohama with the steamer COSTA RICA, for SHANGHAI.  
For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorf streets.  
**OLIVER ELDRIDGE, Agent.**

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Respectfully,  
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SAN FRANCISCO, SATURDAY, AUGUST 10, 1867.

VOLUME XV.  
Number 6.

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illustrate in our columns inventions having for their object improvements and modifications of agricultural labor. We are enabled in the present issue to describe one of these useful inventions, designed to supply machinery to a most tedious and important part of the farmer's labor. This machine has been highly spoken of at the East, and is known as

### CONOVER'S PATENT POTATO-DIGGER.

This invention consists in an inclined carrying wheel so combined with the share or shovel plow of a potato-digger as to convey the potatoes back and upward from the plow preparatory to depositing them upon the surface of the ground in the rear of the machine. The carrying-wheel is constructed

which is supported by means of a transverse axle, upon which are two drawing-wheels, which communicate a rotary motion to the axle by means of pawls attached to the wheels and ratchets secured to the axle. The rear end of the main frame of the machine is sustained by two castor-wheels. A supplemental frame is connected with the main frame by upwardly-projecting braces, which pass through holes in the main frame in such a manner as to hold the supplemental frame in a parallel position with the main frame, and the supplemental frame is also braced against the backward strain exerted by the action of the shovel-plow.

The shovel-plow, B, Fig. 2, is made with two forward projecting share-points, A, A, and is firmly attached to the forward end of the supplemental frame. Secured to the lower end of an inclined shaft and just be-

square and passes through a square slot formed centrally in a bevel pinion, the circular hub of which is fitted into a suitable bearing formed in an arm fixed upon the main frame; the shaft is thus left free to move up and down, as the supplemental frame is raised or lowered, without interfering with the rotary movement of the pinion. This bevel-gear receives its motion from a larger bevel-wheel, to the shaft of which motion is communicated from the rotating axle through the agency of two intermediate spur-wheels. Secured upon the supplemental frame is a screen-guard, D, which extends across the wheel, C, and effectually prevents the dirt from passing to the opposite side of the wheel. Another screen-guard, E, extends from the shovel-plow around a portion of the circumference of the carrying-wheel, C, preventing the

potatoes from being thrown off by the rotation of the wheel, and at the same time allowing the escape of the dirt. At F is a vertical plate of steel, which acts as a scraper to keep the wheel clean, and at the same time discharges the potatoes and vines from the wheel, C, and throws them upon the screen, G.

Projecting downward from the supplementary frame, over and beyond the points of the shovel-plow, are two deflecting arms or colters, the office of which is to turn or deflect inward the potato-tops or vines, so that they will pass over the central part of the shovel-plow to the carrying-wheel without clogging the action of the machine.

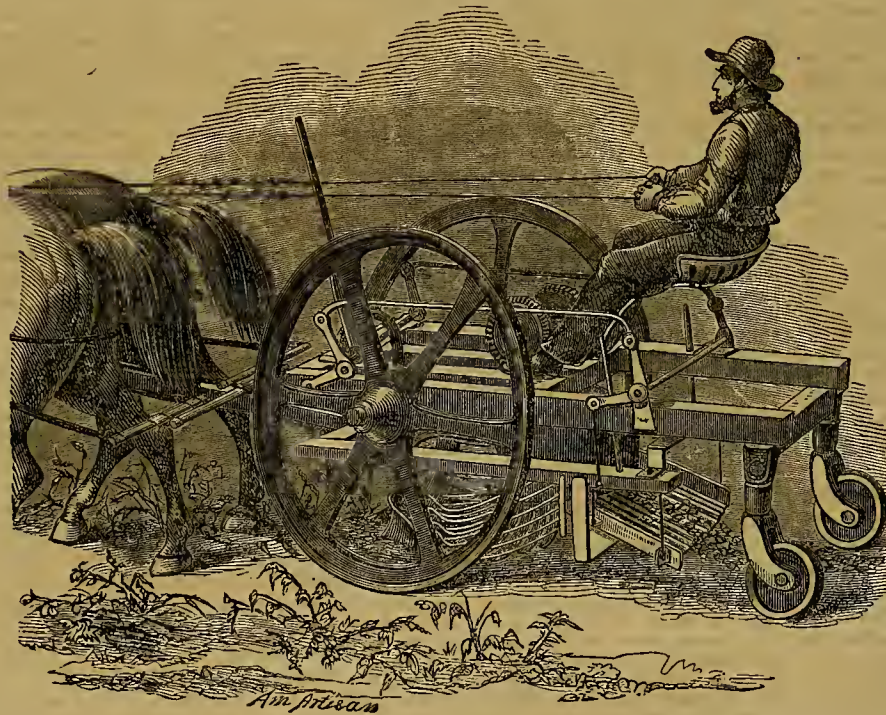
As the machine is drawn along over the field to be dug, the shovel-plow passes through and under the row of potatoes at any required depth sufficient to take up all the potatoes, which, together with the vines and dirt, are carried back from the plow and fall upon the carrying-wheel, C, and are carried between the guards, D and E, to the shaking screen, G, from the rear of which the potatoes fall to the ground. As the machine passes along, the greater portion of the dirt mingled with the potatoes as they pass from the shovel-plow is shaken through the openings

of the carrying-wheel, and what remains with the potatoes after passing to the shaking-screen, G, is effectually shaken from them through the spaces between the bars of the screen.

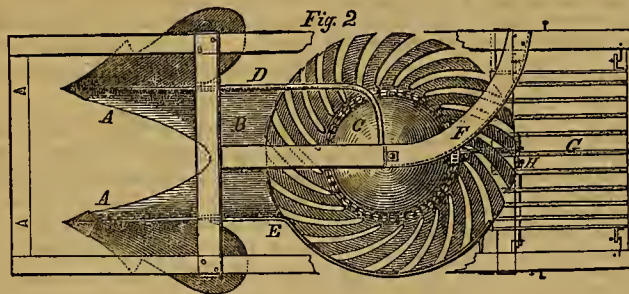
The working of the machine is completely under the control of the driver, and the shovel-plow can be set to work at any required depth, or raised out of the ground so as to clear any obstructions, such as rocks or stumps. It is claimed that this machine will take out from three to four hundred barrels of potatoes per day, and leave them clean and on the top of the ground ready to be gathered up.

This machine has been patented by S. B. Conover, of New York City, and was first illustrated and described in the *American Artisan* of March 28th, 1867.

ONE of Paine & Stevens' separators has been put up to work tailings for the Gould & Curry mill, Nevada. The Virginia City *Trespass* says its success is such that two more are to be built forthwith.



CONOVER'S PATENT POTATO-DIGGER.



with radial teeth or arms, so that the dirt may be sifted or separated from the potatoes previous to their leaving the machine. Suitable guards or fenders are combined with the carrying-wheel, whereby its most efficient operation in carrying the potatoes from the shovel-plow is secured.

Fig. 1 represents a perspective view of the machine, and Fig. 2 is a horizontal section, showing the principal working parts of the apparatus. The machine is constructed with a horizontal main frame,

bind the shovel-plow, B, is the carrying-wheel, C, the upper surface of which is made convex in form, with radial teeth or arms. A screen, G, is suspended immediately behind the carrying-wheel, C, the forward edge of which extends a little distance under the edge of the wheel. A shaking motion is communicated to the screen by means of a crank and pinion, H, turned by a toothed rim formed upon the under side of the carrying-wheel, C; the upper portion of the carrying-wheel shaft is made

## Agricultural Inventions.

Numberless are the machines which the inventive genius of the last twenty years has supplied for heavy operations in agriculture, as substitutes for human hands and muscle; and in no part of the world has activity in this direction been more successful, or accomplished more for the purpose intended, than on the great prairies of the Mississippi Valley. Some of the most wonderful results of human ingenuity have been displayed in these inventions. The fame of our reapers, our thrashers, our cultivators of various kinds, etc., has become world-wide, and their value in adding stimulus to the great leading industry of agriculture is beyond human calculation.

The work of the inventor has not only blessed the farmer by rendering his labor easier, but it has also enabled him to find leisure, by a reduction of bodily exertion, for storing his mind with useful knowledge, and thereby taking a higher rank in the scale of humanity.

Without the aid of machinery it would be utterly impossible to cultivate and gather in the immense crops which are now being produced in our extensive agricultural districts. Without such aid we should be compelled to either reduce our crops at least one-half or double our agricultural population, and at the same time increase, in like ratio, the cost of our leading agricultural productions. It is only by the aid of machinery that we can carry our breadstuffs to foreign markets. The superior intelligence of our people, by which we are enabled to bring the arts and sciences more fully to bear than can the less intelligent agricultural classes of other nations, is what enables us to supply the markets of Europe and Asia with the products of our soil.

It is only by reflections such as these that we are enabled to form anything like a proper estimate of the value of agricultural inventions to us as a people. Agriculture is the great interest upon which all other interests are based: and as ours is mainly an agricultural people, it becomes highly important that we should keep fully posted with regard to such improvements, and study well their significance. We shall endeavor to make the *PRESS* useful in this direction whenever opportunity offers; and to this end it is that we from time to time



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

## The Paris Exposition.

BY A. S. HALLIDIE.

## A STEAM BREAD BAKING APPARATUS.

Among the many things which the Paris Exhibition has produced, the machinery for baking bread by steam attracts much attention, and is being examined into by the French Government as to its adaptability for the use of armies on the march. The apparatus consists of a long oven, surrounded by a number of hermetically sealed, wrought iron pipes, half charged with water, and of about  $1\frac{1}{2}$  inch bore, with a fire grate at one end, by which the water in the pipes is heated. The oven itself is of plate iron, having its door at the other end, and is heated in ninety minutes, ready for baking. It is always free from dirt, makes no smoke, requires very little fuel, is evenly heated throughout, and for army or other portable uses, is set up on a suitable carriage frame. The cost of the apparatus, complete on wheels, is about \$1,200.

## A SMALL TELEGRAPH APPARATUS.

I saw a very pretty telegraph machine, for private telegraphy, more especially, occupying a space of about 15 by 18 inches, and weighing about 40 lbs. The letters are arranged in the same manner that a compositor arranges his type—those more frequently used being conveniently together; but in a circle. The keys are like the stops or keys in a concertina. One of these machines has been working very successfully for some time past, at the London District Telegraph office, printing the message on a long strip of paper, and requiring no attendance to receive. It is the invention of Mr. Thompson, and has been improved by Mr. P. B. Jones, who has overcome some difficulties of polarization.

## MALACHITE AND EMERALDS.

A very pure block of malachite, exhibited by Russia, finely polished in places, and weighing about 4,500 lbs., is very attractive; as also is a very beautiful specimen of emerald in rock, which is about two feet high, and dotted over with emeralds. This latter is exhibited in the British department.

## IRON MANUFACTURES.

In French iron manufactures, the Chatillon and Commentry company has a variety of large samples of its make—a piece of rolled iron about 110 feet long, 9 inches high, with upper and lower flange 3 inches wide, web 1 inch thick; also a piece or section 15 feet long, 3 feet high, 12 inches wide at upper and lower flange,  $1\frac{1}{2}$  thickness of web, and rolled to a curve of 300 feet radius; a plate weighing about 7 tons, 14 feet long, 37 inches high and 8 inches thick.

The Creusot Co. also exhibits many samples of its iron work, but not of quite so large dimensions.

Peter Gaudit & Co. exhibit similar pieces of workmanship, and among the display is an ingot of steel, weighing 25 tons, which shows the grain admirably, by being broken across the middle, as well as the beauty of surface of polished parts.

These three exhibitors produce nearly one third of all the iron in France. The Creusot Co. employ 10,500 men; the Chatillon and Commentry Co. employ 8,900 men, and Peter Gaudit & Co. employ 7,500, making 26,900 in all. The Creusot turns out one-eighth, the Chatillon one-twelfth, and Gaudit one-ninth, of all the iron made in France. These firms have lately turned their attention very much to this manufacture, and they are now readily able to roll girders thirty feet long, for heavy bridge work. They also roll girder iron with two flanges, and an additional web above upper flange, almost any size required.

In the French department there are also

exhibited a great many specimens of statutory work, cast in iron, and without retouching. It is really extraordinary how successful they have been in producing these figures in the rough; showing a nicety of molding and perfection of casting which would do credit to any piece of work, with a simple, plain surface; nor do they experience any difficulties attending the successful casting of human or animal figures. Here are groups of animals and of men, in all positions and of all dimensions, drawn from the mold and exhibited, having simply the sand knocked off, which equal many of the finished works I have seen in Paris or London. Mr. Durenne, of Paris, can well be proud of his work, for it really deserves the praise bestowed on it, and forms an important feature of the Exhibition. All the figures exhibited are each cast in one piece.

In big gun work, Krupp, of Essen, has a fine display, as also in large and heavy steel work, showing what can be done on a large scale, when the machinery and appliances are properly arranged, and of sufficient magnitude. There is much difficulty in obtaining admission to these large works, especially by foreigners; but in conversation with a gentleman familiar with the firm and its works, he accounts for the great success of Krupp's steel, more in the rapidity of manipulation, pouring, etc., than to any specially secret mode of treatment, except in the process of annealing, where, I understand, the black oxide of manganese is employed.

During the Luxembourg difficulty, when every one was looking for war between France and Prussia, I remarked, in passing the big gun of Krupp, that it might serve a purpose to the French it was never intended for. My friend (who was a German) suggested that it would be equally convenient for Prussia to find it there on her arrival. However, the Luxembourg difficulty is happily over; and it is to be hoped that the big gun will be stared at and used for no other purposes than those of peace.

## THE DISPLAY OF ARMS.

The British display of arms, sent from Woolwich Arsenal, is very fine. Every thing is there shown you and explained by officers sent over for the purpose; and there is a different spirit shown by the British about their arms, from that exhibited by the French, who have all their weapons in a building by itself, of which you are allowed only to peep in at the door. Whether they are afraid one may steal the guns, or fear that it would be an *expose*, rather than an exhibit, if they allowed the public to pry too closely into these things, is a matter of conjecture. It is a subject of common remark, that Great Britain shows a remarkable confidence in her strength, and her ability to keep up with European nations in the improvements of the age, in defensive and offensive weapons; or else her magnificent exhibition of firearms is a piece of indiscretion and bravado. I am inclined to the belief that, although her exhibition shows a large proportion of guns as far advanced as most, if not all, the European nations; yet they are sent there from the fact that they are more useful for exhibition than for any other purpose; that is, that the expensive experiments, lately made by the British Government, have justified it in letting these guns go on exhibition, having guns of later manufacture, more effective and useful. Great Britain has not failed to take advantage of any practice adopted by the United States, and to improve on it to the best of her ability.

In the manufacture of iron plates, for defensive purposes, Great Britain does not seem to be ahead of France or Germany; but she has so far succeeded in piercing any plates produced—and the contest still lies with the shot a little ahead; although, looking at an 8-inch steel-faced plate, solidly backed, one naturally doubts the possibility of piercing it under ordinary circumstances. In the British arms department, and in other parts of the exhibition, there is, however, too much tangible evidence, in the shape of 8 and 10-inch solid iron pierced by ball, to doubt the possibility of penetrating almost anything.

Every European government seems to be fully alive to the necessity of being well posted on the most improved mode of firearm, and iron-clad defences; and although we do not show much of this kind of thing at the Paris Exposition, it is certain that but a very short time since we had a more serious exhibition of our own; and one in which the minds and muscles of men were bent to their utmost tension, in perfecting these very things, which now attract so much

attention at Paris. Our experience struck the key note, which soon rang with alarming clearness through the various nations of Europe. And, though our experiments were those of the necessities of war, and were made during its conflicts, yet results go far to prove that they are now the starting and stopping points of the experiments of peace. The recollection of these facts, with their practical teachings, are best exemplified by the various efforts of European nations, as exhibited at Paris, and the almost entire absence of this class of exhibits from the United States—however much to the regret of those in the old world, where curiosity would have been satisfied, if nothing more.

**GEOMETRICAL QUERY.**—The following geometrical query has been handed us for publication. Will some one furnish us with the solution?

*Given.*—The area of the segment of a circle—*a*. Also, the cosine (the perpendicular distance from the center of the chord to the center of the circle)—*b*.

*Required.*—The radius *R*, in terms of *a* and *b*—that is, a general formula for finding the radius or height.

**THE BOSPHORUS TO BE BRIDGED.**—A movement is on foot to bridge the Bosphorus. The designs of the work have already been prepared by Austrian engineers. The bridge will measure 3,360 feet in length, and will rest on two pillars, one of the arches being 1,207 feet, and the two others 1,026 feet. The cost is estimated at \$4,200,000. This is one of the natural barriers in the track of the great highways of the world, which must, sooner or later, yield to the triumphs of modern engineering. The Bosphorus, the Mississippi, the Straits of Dover, the Isthmus of Suez and of Panama, the Alps, the Rocky Mountains and the Sierra Nevada, are but a few of the many great natural barriers to intercommunication and the ready exchange of commerce, which must yield to the skill, enterprise and industry of man. All such works are but so much toward the fulfillment of the saying of the prophet of old, who wrote: "Every valley shall be filled, and every mountain and hill shall be brought low; and the crooked shall be made straight, and the rough ways smoothed." Verily, we live in an age of progress.

**THE WOODEN WALLS OF ENGLAND.**—England has lost confidence in her wooden walls, and is selling off her old line warships to private parties, for conversion into peaceful merchantmen. Five line of hattle ships and five first-class frigates were recently sold for \$340,000, the first cost of which was \$10,000,000. Several of them were steamers, in which the boilers and machinery were still in good order, and the average use of the entire fleet was a little over twelve years. A portion of the number will be broken up; others will be converted into merchantmen. Thus the proud supremacy of England's wooden walls is fast falling before the monitors and iron-clads of America; and the rebellion in which she rejoiced as the probable means of our destruction as a power on the earth, has, by a righteous retribution, resulted in the production of an instrument for her own humiliation.

**THE FUTURE OF EDUCATION.**—Our former traveling correspondent, "W. R. B.," now occupying a professor's chair, writes us as follows: "Our college is progressing slowly, as do all such institutions at the west. For my part, I am fully satisfied that State institutions must and soon will take the place of our present colleges and all private schools; and that knowledge, flowing free and costless from the munificence of the commonwealth, will be the common heritage of the poor and rich alike. Then, and not till then, will the superiority of practical and scientific instruction over the jargon of the dead languages, be fully comprehended, and the true position he awarded to those who have devoted their lives to improving the condition and character of the human race."

## The Philosophy of Eggs.

The structure of the eggs of birds offers a certain resemblance to some forms of the galvanic battery, inasmuch as they consist of a fluid enclosed in a porous diaphragm, and in contact with another fluid of a different composition. This circumstance, attracting the notice of Dr. John Davy, he made it the subject of more careful experiments, in order to ascertain whether any galvanic action was exerted by the different constituents of which the egg is composed. The result of his experiments fully justified his expectations, and established the fact that electro-chemical action plays no unimportant part in the changes which the egg undergoes during the process of incubation. He found that this action was sufficient to deflect the needle of a delicate galvanometer fully five degrees, and that in changing the wires the needle was reversed.

Dr. J. V. C. Smith has recently delivered a very interesting address before the American Institute, at New York, on the "Structure of Eggs," which was listened to with great attention, and which contains a statement of many facts which are both new and interesting. The Doctor remarked that in one sense it might be said that all animals, from the mole to an elephant, are the product of an egg, though there are many varieties. In poultry, no food can add to the number of eggs, for they are created with life itself, and lie in an embryotic state. Scraps of meat and like food only furnish the material which forms the fluid part of eggs in the winter season. Young birds, when fed on worms, grow faster for a few weeks than they afterward do when they get grain or seeds.

Dr. Smith then showed a vertical section drawing of an egg, with the germ as a speck on the upper side of the yolk. From the two poles of the egg, what amounts to a cord runs through the center of the yolk, and holds it suspended in the white. In turning the egg, this cord may be twisted any number of times, and yet, such is its nature, that the germ will always be on the upper side. Philosophers have repeatedly tried to make the germ lie on the lower side of the yolk, but they found it impossible. In hatching, the bird turns over the egg frequently, that the white may be equally warmed; but the germ always will be nearest her body.

The eggs of fish also are constructed in this manner, that they may have the advantage of solar heat. The eggs of the skate present some wonderful features, for the cords are so constructed that if they tip over in a storm the heat of the sun will shrivel the side most exposed, when the egg will right itself and get the solar heat.

Around the germ of the egg the white is collected, and forms the body of the bird. A short time before the bird is hatched there is a hole in its breast, and at a particular period the yolk enters into this hole, with a species of spasm, when the orifice rapidly heals over. Then on the end of the bill there is a little sharp horn, which the young bird uses to crack the shell, and to open its way into the outside world. Being no longer of use, it soon drops off.

Now this yolk contained within the crop and body of the young bird, is to furnish it with the nutritious food most proper for it. More than this, it is blind; but, when the yolk has been consumed, then its eyesight is established. The parent is aware of this fact, and at first does not seek for food; but so soon as she thinks its store is exhausted, she scratches, a little at a time, and when its young can see, it will pick up with the bill what is provided. We should be taught by this that great harm can be done by giving food to young chickens while the yolk yet remains in their crops; and perhaps we now understand why so many die young.

**PLASTER OF PARIS**, when mixed with alnm, forms an excellent cement for use in the laboratory and elsewhere. The mixture is an old one, but well worth being occasionally recalled to mind.

**ALCOHOL FROM THE JERUSALEM ARTICHOKE.**—It is said that the juice of these roots, when properly fermented, will yield from eight to nine per cent. of concentrated alcohol.



## Mechanical.

## Hydraulic Presses.

Hydraulic presses are sometimes put to most severe tests. In the manufacture of lead pipe, for instance, it is often necessary to raise the pressure as high as three and three and a half tons to the inch! When this high pressure is reached, great inconvenience is caused by the water passing through the pores of the iron, and appearing like a dew upon the outside of the presses! It has also been observed that the iron is very rapidly deteriorated by this great pressure. This deterioration has been (and no doubt correctly) attributed to the oxidizing action of the water on the interior of the iron during its passage through the pores—the iron becomes gradually oxidized throughout its entire mass, and thereby loses its tenacity, and the presses finally give out.

This same effect has been observed in Bissell's patent air springs for car buffers, etc. The air is forced into these springs under great pressure, sometimes as high as two tons per square inch. The air, under this great pressure, leaks out—probably through the pores of the metal. This passage of the air through the walls of the cylinder appears to have the same effect on the texture of the iron as the ordinary atmosphere does upon the outside of the same, producing a gradual oxidation and consequent weakening of the tenacity of the metal—the same as already noticed in the case of water.

Various experiments have been tried to obviate this difficulty. The metal has been saturated with beeswax, under hydraulic pressure; melted iron has also been tried, as well as various alloys supposed to be less porous than ordinary cast iron. These experiments have all proven more or less beneficial. But the Messrs. Weems, Engineers, near Glasgow, Scotland, acting upon the well known fact that copper is, to all practical purposes, impervious to liquids, or, at least, much more so than ordinary cast iron, conceived the idea of lining their hydraulic cylinders intended for great pressure with that metal. The experiment succeeded admirably. They have used hydraulic cylinders so manufactured for making metallic pipes for several years, without observing any leakage, as heretofore in cast iron, and without any apparent deterioration in the tenacity of the metal composing the cylinders. The indications are that they will continue to work indefinitely. They are using a 33-inch copper-lined cylinder, with a pressure of  $3\frac{1}{2}$  tons to the inch, without any inconvenience; when a pressure of from two to two and a half tons would be the most that an iron cylinder, without the inside copper lining, would bear, and under which an iron cylinder would leak badly, losing a large amount of power, and soon giving out from gradual deterioration, by causes already noted. A very thin copper lining prevents the passage of the water into the pores of the iron. The discovery is one of much practical value.

**A SUBSTANTIAL BUILDING.**—The early builders are noted for the substantial nature of their structures. Witness the ancient Roman, Grecian and Egyptian ruins—especially the pyramids built by the latter. Herodotus, the father of history, tells us of a building connected with the temple of Sanota at Buto, the four walls of which were hewn out of a single rock. The building was in the form of a cube, the superficies of each side of which measured 58 feet eight inches in every direction. The covering of this remarkable structure consisted of a single block, five and a quarter feet in thickness! Can any of our modern engineers tell us how such a rock could be split out and moved into its position by any of the appliances of the present day! The room itself was a square shaft, 58 feet eight inches on each side, sunk to the same number of feet in depth into the solid rock. The rock probably stood above ground.

**WATER POWER vs. STEAM.**—Water power is considered superior to steam for many purposes, especially such as require great delicateness of manipulation. The steam engine unavoidably imparts, with each of its impulses, an eccentric *jerk* to the machinery it moves, which is often found extremely troublesome, particularly in grinding wheat and in spinning very delicate thread. In the broken grain of wheat it is found to create an unevenness in the size of those millions of particles that go to make up a very minute quantity of flour, which often seriously affects the bread. The same fault appears in the delicate thread, by which a coarse and uneven texture is given to the cloth. Still, so convenient and so universally applicable is steam, that it is often found successfully competing with water, side by side. If the principle of the rotary engine could be made to work, on a large scale, with no more drawbacks than are connected with the reciprocating engine, it would doubtless be found far more serviceable than the latter, and would not be attended with the difficulties alluded to above.

**FOUNDATIONS OF HOUSES.**—Too little attention is paid to the foundations of houses. One of the greatest mistakes most generally made is setting them too low. The consequence is the house is damp, and the lower timbers and floor soon rot out. It is rarely the case that a house is set too high. A person inexperienced in building levels up his sills, and if there be a low place on one side it looks quite formidable for either filling up or underpinning. In the country, a house should, if possible, be so set that the water will run from it on all sides, and run quite away from it. One who has had considerable experience in this matter gives a rule like the following: "Place the sills as high as you think they ought to be, and then raise them a foot higher, and you will have them nearly as high as you will wish you had raised them when your house is finished. We have never known a person to wish his sills lowered who followed this rule. No external costly finish, elegant front yards, or any other contrivance, can atone for a house squat on the ground. It is well to cultivate habits of correct taste, even in our humblest dwellings. In other words, it costs no more to do a thing right than to do it wrong."

**AN "IMPROVEMENT" GIVEN UP.**—When the Paris Exhibition was first opened, an English firm in the English department exhibited what was called on the label "An improved Corliss engine." Soon afterwards a genuine Corliss engine was set up in the United States department. This genuine machine, built at the Corliss Company's works, in Providence, R. I., had been running but a few days before the label of the "improved" Corliss in the English department was taken down. The builder of the English improvement has since concluded that he shall hereafter confine himself to building the *unimproved*, plain Corliss engine.

The largest gate in the world has been constructed for the Sanlt St. Mario canal, at Newport, thirty-five miles above Detroit. It is 82 feet wide, (that being the width of the canal,) 21 $\frac{1}{2}$  feet deep, and 32 inches thick. The timber used for its construction, cut into inch boards, would measure 120,000 feet. There were about 40 tons of iron used in its construction. It was built and put together at Detroit, afterwards taken apart and transmitted in pieces to its place of destination.

**WELDING IRON.**—M. Liétar, of Brussels, has described a new method of welding iron or steel, or iron with steel. He calcines and reduces to a fine powder, one kilogramme of iron or steel filings, 100 grammes of sal ammoniac, 60 grammes of borax, and 50 grammes of halsam of Copaiva. One of the pieces of iron or steel to be soldered is brought to a red heat, and after being cleaned with a wire brush, the powder is spread upon it, and the other piece of metal, at a white heat, is brought in contact with it; thus a perfect welding is effected.

## Scientific Miscellany.

## Recent Lunar Discovery.

We have already made several notices of recent lunar observations, developing some important facts with regard to the moon's physical condition, and which appear to be quite at variance with the ideas that have heretofore prevailed. These observations have reference to some undoubted changes which have lately taken place in the volcanic crater known as Lüne. This crater is familiar to most lunar observers, and has heretofore exhibited all the characteristics of other lunar craters. These former appearances and the recent changes are noted as follows by Dr. Schmidt, of Athens, who was the first to note the phenomena, and establish the fact that active volcanoes still exist on the face of the moon. We copy from the *New York Journal of Commerce*:

When seen at the moon's quarter, with the sun's rays striking the side of the crater at an angle of forty-five degrees, the shadow of the elevated edge is distinctly shown inside of the hollow, and can be traced as it passes along the bottom of the crater. By means of delicate micrometers, the dimensions of this shadow can be measured, and from these known data and the angle of the sun above the lunar horizon, it is easy to calculate with great accuracy the depth of the crater and the height of the peak above. By these methods measurements were obtained by Beer and Madler of nearly 2,000 lunar mountains, from which it appears that they are much higher than the Alps and Appenines, on the average, and that thirty-nine of the number would overtop Mont Blanc. The craters are incomparably larger than any we have on this earth, several of them having a known diameter of over 100 miles, and a depth of two or three miles.

In the early part of this year the astronomer to whom we have alluded, directing his gaze at the crater of Lüne at the best moment for its observation, was surprised to find that it no longer presented the crater-like appearance. The familiar black shadow thrown by the lofty and ragged edge into the enormous hole beneath was not visible, but instead the whole crater disclosed the smooth bright surface of the flat portions of the moon. The same remarkable phenomenon was observed soon after by Father Secchi at Rome, and Mr. Birt of England, and is explained by all of them by the hypothesis that Lüne has indulged in an eruption and filled up its crater (about five miles wide) to the brim with lava. Later observations have brought to light a black point in the center of the site of the old crater, which proves to be a mountain about 2,000 feet in diameter, but not over 100 feet high.

These phenomena have been observed through glasses with magnifying powers of not over 800 diameters, and, corroborated as they are by skillful and cautious observers, must be accepted as facts, proving quite conclusively that the lunar volcanoes are not yet extinct, and thus overthrowing at once the favorite speculative theory of the schools, that our satellite is only an enormous graveyard of defunct energies. It is premature to suggest any explanations as to the full significance of this discovery. It certainly will have the effect of interesting many people in lunar affairs who have hitherto confined their thoughts and desires to the planet upon which we live. As ardent and intelligent observers are multiplied, especially if they work together as moon committees, we shall soon come to know pretty accurately what is going on in our soft satellite, and occasionally get our bulletin of news about it (if not from it), which will be quite as accurate we dare say, as some of the terrestrial intelligence telegraphed from the other side of the Atlantic.

**A WINTER LANDSCAPE.**—In Germany materials are put up and sold for making an interesting chemical experiment. They consist of a solution of nitrate of lead, one part; and water, three parts; also of sal ammoniac (chloride of ammonium) in fragments of about the size of small beans. The solution, which is a colorless liquid, is poured into a bottle or glass to the depth of, say, two inches, and then pieces of sal ammoniac are dropped in to cover the bottom. A double decomposition takes place, and a white crust is deposited, forming miniature representations of trees, grasses, and rocks covered with snow. Those who intend to repeat the experiment must bear in mind the fact that the nitrate of lead is poisonous.

**COMPRESSION AND EXPANSION.**—A remarkable instance of the heat resulting from compression and the cold from expansion, is observable in the action of the air tubes employed in long tunnels, for conducting compressed air for driving machinery, as in the Mont Cenis and Hoosac tunnels, and other similar works. The *Mechanics' Magazine* for March, in noticing a similar arrangement at the Ballarat Tunnel, in Australia, where compressed air is thus used in the interior of the mine to drive a pumping engine, and for ventilation, says that the heat is so great for the first 500 feet of pipe, next to the condensing pump, that notwithstanding the pump works within a jacket of running water, the pipe is nevertheless as hot as the steam pipe connecting a boiler with the steam chest of the engine, while on the other hand, the escape-pipe from the air-engine within the mine, is *bearded with icicles*. In addition to the interesting illustration which this affords of the calorific results from compression, and the frigorific consequences of expansion; it also reveals a serious loss—the power equivalent of the heat wasted. Were it not for the incidental advantage derived from the fresh air so introduced into the mine, this mode of operating machinery would be found, from this loss alone, too inferior, to the more common methods of transmitting power to come into general use.

**DIAMAGNETISM** is a term applied to a class of substances which, under the influence of magnetism, take a position, when freely suspended, at right angles to the magnetic meridian—that is, point east and west. M. Chautard, professor of natural philosophy at the faculty of sciences at Nancy, has recently sent to the Academy of Sciences a paper on certain experiments of his relating to the magnetism, and diamagnetism of gaseous substances. He uses a large Ruhmkorff's electro-magnet, arranged for Faraday's experiments, and excited by from twenty-five to thirty Bunson's elements. Taking Plateau's mixture of soap-suds and glycerine (our readers recollect Plateau's liquid membranes, forming polyhedrons with liquid faces), and blowing it through a pipe, so that the bubble formed on one of its extremities may be above the pole of the magnet, at a distance of from two to three millimetres, while at the other extremity of the pipe there is a bladder filled with oxygen, from which that gas may be supplied to the bubble, M. Chautard casts a quantity of light from an oxy-hydrogen lamp on the bubble in question, which then moves to and fro like a magnetic pendulum, its oscillation having, under these circumstances, been seen by upwards of three hundred spectators.

**DRAWINGS ON POLISHED AGATE.**—The curious figures sometimes found on agate may be imitated by drawing the design with a common goose-quill, wet with a strong solution of urate of silver, and exposing it to sunlight. At first the color will be brown, but if retouched two or three times, it will become reddish. If the solution contains one-eighth of common soot and one-eighth of bi-tartrate of potash, it will give a greyish brown color. A violet color is obtained by substituting alum for the two substances last named. A solution of chloride of gold gives a light brown color, and nitrate of bismuth white and opaque appearances. These colors are unaffected by the atmosphere; they will reappear after washing when exposed to sunlight.

**SUGAR IN MUSCLE.**—Dr. Ranke of Munich, has by recent experiments confirmed the discovery made by Meissner, that a true, fermentable sugar exists in the muscle, which is increased by muscular action, (tetanization caused by strychnine or electricity,) and further that the liver has no effect in causing this increase, for the sugar is proved to arise in the muscle itself, and not from muscular substance.

**NEW DYES.**—Messrs. Girard and De Laire have obtained a patent in France for extracting three new dyes from the black residuum formerly thrown away in the manufacture of rosaniline.



## Contributed for Our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

175.—From the Star Spangled Banner mine, three miles from Nevada City, Cal. Dark iron-gray quartz, with fine sulphurets in irregular layers and spots. A specimen of the general character of the ore.

176.—From the same mine, is exceedingly rich with fine gold, so thickly interspersed that the precious metal predominates in a considerable portion of this sample of ore. It is from a new development in the mine, which was noted more particularly in our last issue.

177.—From the Nevada Quartz Mining Company, one mile below Nevada City, on Deer creek. This sample is composed almost entirely of heavy sulphurets, whitish, gray and yellow, with white quartz and galena and probably antimony. These sulphurets are said to sometimes assay \$400 per ton, and work, on an average, by chlorine process, \$150. Wm. M. Ratcliffe is Superintendent of the mine, which was located in 1851, and is now worked with a 12-stamp mill. Four of the stamps weigh 1,000 pounds each.

178.—From the Wyoming ledge, located just below the Nevada mill, mentioned above. Mostly sulphurets, soft, and very much decomposed.

179.—From the Empire mine, Ophir Hill, Grass Valley. Light-colored quartz, thickly spangled with sulphurets. This mine and mill will be more fully noticed in another issue.

180.—Sulphurets from the Eureka mine, 1½ miles from Grass Valley. Deep yellow color, yielding from \$300 to \$400 per ton by chlorine process. Further notice of this mine will be found in a future issue.

**IMPORTANT DEVELOPMENTS IN DEL NORTE COUNTY.**—The superintendent of the Hanscom Copper Mining Co. has recently discovered that the croppings of that mine consist of decomposed auriferous mundie, quite rich in gold. Some two tons of this mineral, which was recently sent to this city, has been worked in small lots by different parties, with very satisfactory results—although the working processes do not come near up to the assay. In opening the mine, some four years since, the miners went down in this mass of decomposed mundie some ten feet, when they struck copper ore of such richness as to warrant the running of two tunnels to strike the vein—one at 160 and the other 400 feet in depth. The upper tunnel has reached the vein, and developed a three or four-foot copper vein, carrying on each side several feet of mundie, evidently identical with that from which the decomposed gold bearing mineral on the surfaces must have been derived.

This development is a very important one, and is almost precisely identical with the deposits known as the Harpending mine, near Lincoln, and that at Quail Hill, near Telegraph City and Copperopolis. Measures are in progress to secure still further developments with the view of eventually putting up machinery for working this newly found auriferous deposit. This locality is in Del Norte county, Low Divide District, about sixteen miles from Crescent City. There are several other copper mines in this district, which will probably be found to possess a similar deposit, as soon as attention is called thereto by this publication.

**ELECTION OF OFFICERS.—GOLDEN RULE M. Co.**—July 25th. Trustees: Wm. Bosworth, R. L. Pasteur, J. H. Turney, J. T. Boyd and E. V. Hathaway. President, Wm. Bosworth; Secretary, J. B. Russell; Treasurer, J. H. Turney; Superintendent, A. J. Pfeiffer. Office, southeast corner Sacramento and Montgomery streets.

**SUMMER G. & S. M. Co.**—August 5th. Trustees: John R. Mead, H. W. Byington, L. P. Peck, Jas. Adams and E. D. Wheeler. Office, Room No. 6, 729 Montgomery street.

## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## RECENT INVENTIONS.

**NEW HOISTING APPARATUS FOR MINES.**—An improvement has recently been brought out in England in the raising of cars, ores and debris from mines, which consists in the arrangement of a hucket or car elevator, in connection with guide wheels and rods operated by means of a hoisting rope or chain, working on a drum or windlass by horse or steam power, in the ordinary way for raising or lowering the hucket or car, so that it shall be steadily supported and discharged by the deflection of the guide wheels from their normal line of travel on to inclined ways, the axis of the guide wheels forming a traverse line of support, upon which the hucket or car is canted or tipped over for the discharge of its load, as it is raised by a lever hall attached to the lower end. By this arrangement no additional power is required to upset and empty the hucket or car containing ore or coal into the shoot at the mouth of the mine, as in ordinary methods of attachment, in which the hucket is suspended at a point between its upper and its lower end, and tipped over by some obstacle which arrests its motion—as, for instance, upsetting it by grasping and upholding the rim with the hands. An obstacle placed in the way of the hucket to tip it over increases the resistance at that point, suddenly producing a shock and strain on the power, which should be avoided, as the power in that case must necessarily be sufficient to overcome the greatest resistance in addition to that employed in the operation of hoisting. This arrangement permits the hucket or car to be loaded with coal or ore, or discharged at various points in the shaft of a mine, so as to be used for a number of drifts or levels at different depths, and also to discharge water into an adit or shoot for carrying it off.

**A NOVEL VESSEL.**—Mr. Wehb, the well-known New York shipbuilder, is now constructing for the inventors, Messrs. Blonquist & Crook, a queer kind of vessel-wagon which it is claimed will do as well on the land as in the water. It consists of a horizontal frame or raft resting upon the axles of three water-tight cylinders, drum-shaped, one forward and two aft; the latter being each half the size of the former, set parallel to each other, with a space between them of two and a half feet. Within this space is a parallel wheel attached to one of the drums, but of smaller diameter. Steam is to be used. The inventors say that in the addition to the advantage of being able to roll over a sand bar if one should "snag" in its progress, a much higher rate of steam can be obtained than with a vessel of ordinary construction, in consequence of the absence of friction, and the reduction of resistance.

**PROVIDENCE MINE.**—Mr. Dingley, discoverer and superintendent of this mine, located a mile below Nevada City, on Deer Creek, exhibited to us a heavy body of sulphuret ore some seven or eight feet wide, on a recent visit to the claims. Workmen were engaged near the surface on the ledge, stopping out ore for the mill, located at the foot of the hill, several hundred feet below. More than \$35,000 has been extracted from this chimney. A portion of the chimney averaged from \$15 to \$20 per ton.

The claims have been worked with more or less success for over eight years. The lower tunnel extends beyond the above mentioned chimney 300 feet, developing another chimney of paying ore. No work has been done below the level for want of hoisting machinery. There are 3,100 feet in the claims. The mill has a powerful engine, twelve stamps, five Knox and one William's pan, blanket sluices, and an Attwood amalgamator. Eight of the stamps weigh 600 pounds, two others 900 pounds. No. 2 screens are used in the battery. Four of Bradford's ore separators will be superadded by rockers for concentrating. Some rich sulphurets have been taken from the rock, which is usually hard to treat. A quantity of ore is accumulating, and the mill will soon be running. We believe the mine to be a valuable one, only needing a proper outlay of capital to render it very profitable. The company is incorporated in San Francisco, J. M. Buffington, Secretary. Mr. Dingley is a large shareholder and a diligent manager.

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, AUGUST 10, 1857.

## Money Market.

We have no material change to note in the money market since our last issue. Capital continues abundant at easy rates—say 1½% per cent. in bank, and 1% per cent. per month as the outside rate in loan associations; less favorable names are negotiable at 1½% per cent. per month. The liberal dividends already announced for August, and others that will yet be made, will add considerably to the present available funds. The requirements for business purposes are far from pressing, and the demand is in the main regulated by immediate local wants.

The Treasury received from the interior, through the principal public channels, from the 1st to the 7th inst., inclusive, amounted to \$1,129,856, showing a very fair increase over the returns for a like period at the close of July. The receipts coastwise have been \$140,000 from Portland, Oregon, \$20,700 from Victoria, and \$8,300 from Crescent City.

Quotations for steamer purposes are as follows: Gold Bars—in rather good supply—rule at 890@900; Silver Bars, from ordinary grades at par to ½% cent. discount, and ¼% cent. premium. Currency Bills on the Atlantic cities are offered at 35% cent. premium; and Sight Drafts, payable in coin, can be had at 2½% cent. premium. Telegraphic transfers are made at 2½% cent. premium. Mexican dollars are quotable at 3¼@3½% cent. premium, nominal.

Sterling Exchange on London, bankers' 60 day bills, 48½d; Commercial do. 49@49½d. Exchange on Paris, 6 francs for 30 days' bills.

## City Stocks.

The stock market, other than mining shares, remains inactive, and the sales during the period under review have been very limited. At the close we note sales of San Francisco Gas Company at \$64 50@64; and Spring Valley Water at \$66 75 per share. North Beach and Mission R. R. is quotable at \$49 60@50 50. This company will in all probability pass its usual monthly dividend. They recently lost the suit pending in the Kearny street widening case amounting to \$20,000 in currency, and the additional track required in this street will involve an expenditure of about \$10,000, besides they are at present carrying an indebtedness of about \$10,000. We hear mention made of the extension of the Front Street, Mission and Ocean Railroad beyond its present terminus. How soon or to what point we have not learned. We quote it at \$15 bid \$20 asked.

## Mining Share Market.

The mining share market, since our last reference, has been exceedingly depressed, most shares falling much below our previous quotations. Want of confidence seemed to pervade all dealers, and during the past week the investments have been mostly made for speculative purposes, though even on this account the demands have not been very pressing. Fear had taken possession of timid holders, and the purchases made one day were sacrificed in many instances at an enormous discount the succeeding day. However, on the contrary, pretty extensive option purchases have been effected in several active stocks with a view of replacing, to some extent, at least, the heavy losses recently sustained under the rapid decline; and we think with some prospects of success. The demand at the close to obtain shares at a low figure, has stimulated the market considerably, and a few stocks have stiffened somewhat—Independent of all other considerations—under this influence. If the least sustaining power is given to this movement a rally may be anticipated throughout the entire list. A number of companies have already announced their usual monthly dividends, and so far as we have been able to ascertain, the bullion product of the companies usually embraced in our statements, which is a true index of the condition of the Comstock Lode, has been \$1,475,000 in July, against \$1,438,387 in the month of June.

**SAVAGE**—Opened at \$4,450 per foot, then sold at \$226 per share, under the subdivision of the stock, equal to \$4,500 per foot, received to \$195, ex-dividend, and closed at \$194. During the week ending August 3d, 2,144 tons of ore were extracted, showing an approximate value of \$78,157, or \$36 45 per ton. This ore is classified as follows: First, 13 tons; second, 255 tons; and third, 1,876 tons. The north mine, on the seventh level, continues to yield the largest quantity, having produced 1,170 tons during the week under review. The mine is reported to look as well as formerly. During the month of July the bullion returns, in round numbers, aggregated \$975,000, against \$970,500 in the month of June. A dividend of \$12 60 per share, equal to \$250 per foot, was payable on and after the 8th inst. At the close we learn that ore on the seventh or second station is in some places sixty feet wide. In the middle drift, on the third station, penetrated ore fourteen feet thick, which is said to be of a fair third rate quality.

**HALE & NORCROSS**—Continues out of the market; offered at \$3,000 per foot. A winze has been started on the 750 foot level, which, at a depth of eighteen feet, carries the same quality of ore as found above; otherwise, no change to note. Work on the new shaft has been suspended for a few days, owing to the strong flow of water. The 65 per cent. assay value of 3,278 tons of ore sent to custom mills during the month of July is \$133,906 17, equal to \$40 35 per ton, against a product of \$117,728 23 in the previous month from 3,302 tons of ore; however, in July the mills did not fully work up to the 65 per cent. extraction, which, in order to show the exact yield, will reduce the above figures a trifle. The usual monthly dividend will be disbursed on the 15th inst.

**CROWN POINT**—Was in less favor early in the week at a decline, gradually receding from \$1,035 to \$900, rallying to \$1,100, and closing at \$1,290. The bullion returns in July show a yield of about \$117,000, against \$77,550 in June. Since the 1st inst. the 65 per cent. assay value of,

400 tons of ore show a yield in bullion of \$14,681, the assays per ton running from \$46 22 the highest, to \$27 63 the lowest. A telegram of the 9th states "that they are down twelve feet on the 600-foot level; ore nine feet wide, and of fine quality."

**YELLOW JACKET**—Has fluctuated considerably, opening at \$1,060, advancing to \$1,110, dropping to \$985, then selling at \$1,075, and closing at \$1,065. It is said that a fair body of ore eighteen feet wide has been developed above the 700-foot level, 180 feet to the north, with good indications as to the probable extent.

**GOULD & CURRY**—Has been in less favor at a considerable recession, declining from \$665 to \$530, and closing on Thursday at \$540. The mill started on the 2d inst., and is said to work well. The supply of ore at the mine and mill amounts to about 6,000 tons, and during the past two weeks one hundred tons have been extracted daily from the old chambers. There is no very material change to note in the mining operations at a greater depth.

**CHOLLAR-POWELL**—Has been somewhat inquired for at declining rates, receding from \$415 to \$330, improving to \$366, and closing at \$364. The developments at the Blue Wing station, it is reported, show a large body of ore stated to be 75 feet high and 20 feet wide. No change in the drift on the 711-foot level. Difficulties are encountered in sinking the shaft by the appearance of clay, which is said to extend over the west half, and is pitching to the east at an angle of about 65 degrees. The bullion returns in July amounted to \$311,681 17, being the product of 11,221 tons of ore; in June the receipts aggregated \$345,000. They make a net profit of \$90,000. It is expected that the usual monthly dividend will be disbursed this month.

**KENTUCKY**—Participated in the general decline, opening at \$350@365, falling to \$305, then selling at \$285 ex-dividend, and closing at \$330. We have been unable to obtain any information in regard to the condition of the mine. The bullion yield in July amounted to \$125,767 31; in June to \$130,255 51. A dividend of \$40 per share is payable since the 8th inst.

**IMPERIAL**—Receded from \$203 to \$180, rallied to \$185, and closed yesterday at \$178. No change in the mine or mills. The construction of new works at the Imperial-Empire shaft is progressing rapidly, and it is expected that the engine will soon be in position. The stamped value of the bullion received in July amounted to \$95,627 64; in June \$107,000.

**OVERMAN**—Was one of the principal features of the week in stock circles, selling quite extensively at variable rates, opening at \$90, dropping to \$47 50, gradually improving to \$106, and closing at \$75. The latest information is to the effect that ore is making its appearance in the south drift from the fourth floor of the 300-foot level. The ore extracted to July 31st amounts to 2,970 tons, of which 591 tons were reduced at the Sacramento Mill, showing a yield of \$22,970 04, or \$37 83 per ton; 380 tons at the Winter's Mill, yielding \$11,971 11, or \$31 60 per ton, and 834 tons at the Excelsior Mill, producing \$29,430, or \$35 28 per ton. The aggregate yield has been \$63,771, and the milling expenses amounted to \$26,220. On the 8th inst. an additional bar, valued at \$2,000, was received.

**OPHIR**—Has been less active, receding from \$116 to \$95, and closing yesterday at \$100. Preparations to commence sinking the new shaft have not yet been fully completed. Work is continued on the lower level, and it is said with some hope of success.

**CONFERENCE**—Sold within a range of \$60@65. It is said that the ore in the third level, from which the greatest supply has heretofore been obtained, is nearly exhausted in the northern part, but the southern portion will continue to yield considerable yet. A drift from the second level, on the east ledge, in running south 60 feet from the shaft, is reported to look very well. During the month of July the bullion receipts amounted to \$16,627 62 against \$14,000 in June. The average yield per ton was \$19 05.

**GOLD HILL QUARTZ M. & M. Co.**—Sold at a marked decline, closing at \$131. It is said that fine ore is at present sight. The bullion returns in July aggregated \$10,250 57; in the previous month, \$12,500. The expenses are stated at \$6,830, leaving a balance of \$3,420. A dividend of \$15 per share will be disbursed on the 15th inst.

**ALPHA**—A few feet sold at \$400. BELCHER advanced from \$175 to \$235. SIERRA NEVADA advanced from \$25 to \$45, then sold at \$35, and closed at \$40. This improvement is based on the prospects of reaching the ledge after the water is pumped from the mine, machinery for this purpose being nearly ready.

**EMPIRE**—Sold uniformly at \$180. The receipts of bullion in July amounted to about \$25,000; in June, \$21,600. BELCHER advanced from \$4 50@8. Work has been suspended in this mine. They are waiting to take up the drift from the Overman mine, so soon as that company reaches their line, and mean to develop their property through that level at a greatly reduced expense. An assessment of \$1 per share was levied on this stock on the 6th inst.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,229,880.

**THE "SPOCK REPORT"** is a new circular, published daily, by Wheeler & Co., giving list of sales by the Stock Board and at the Long Room, with late items from leading mines.

## Our Patent Agency.

The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.



INDIA RUBBER PAINT.—Messrs. Epes & E. H. R. Ellery hold the right to manufacture and sell for the Pacific coast, "Elery's Patent India Rubber Cement and Paint," which is now being extensively introduced in the Eastern States. This paint is formed by dissolving elastic gums (such as india rubber, etc.) in linseed oil. It is ground in all colors, and used for outside surfaces generally, but is more especially adapted to covering roofs. It is largely used also for marine paint. It is adapted alike for brick, wood, cloth, metal, etc., and is perfectly impervious to water. Its elastic nature would seem to make it especially adapted to our California climate, where great alternation of shrinkage and expansion occurs between the dry and wet seasons. It is also especially serviceable for steamboats, railroad cars, etc., as it does not crack, peel or blister. This paint has already had an extensive and thorough trial on a large number of the most expensive and prominent buildings in New York, both public and private. It has also been placed upon a large number of buildings in this city, as will be seen by reference to their advertisement in another column.

STILES' MILL, NEVADA CITY.—Several of Cralls' waltzing pans are running with success in this custom mill. In some of them, Mr. Stiles has introduced wooden mullers alternated with iron. They grind well, wear well, and amalgamate better, according to Mr. Stiles' views. He has also introduced part wooden shoes in his Knox pans, with similar results. His works show constant experiments. Close observation seems to have established his faith in the value of a wood grinding surface for amalgamating closely. In this mill we also noticed a set of improved wooden guide boxes for stamps. Each box consists of four pieces, forming a block some eight inches in length, with four square outsides, an inch or two greater in diameter at one end than at the other. The inner edge of each piece is grooved to form one-fourth of a circle for the opening for the stamp stem. A collar, with bolts, fastens the guides to the plate. The advantage consists in the ready manner in which the boxes, when worn, are readjusted to fit the stem. This is accomplished by simply planing down the sides of the four pieces, thus contracting the opening. Mr. Stiles has several inventions likely to be heard from hereafter.

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ESTABLISHED.....MAY, 1860.

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Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF DELINQUENCY, DAY OF MEETING. Lists various mining companies and their financial details.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table of stock prices for various companies and bonds, including United States 7 1/2% Bonds, San Francisco City Bonds, and various mining stocks.

INSURANCE COMPANIES.

Table listing insurance companies and their capital amounts, such as Fireman's Fund Insurance Co., Pacific Insurance Co., etc.

MINING STOCKS—WASHOE DISTRICT.

Table listing mining stocks in the Washoe District, including Alpha, Baltimore American, Belcher, etc.

San Francisco Market Rates.

Wholesale Prices.

Table of wholesale prices for various commodities like Flour, Sugar, Coffee, etc., as of Friday, August 9, 1867.

GROCERIES, ETC.

Table of grocery prices for items like Sugar, Coffee, Tea, etc., as of Friday, August 9, 1867.

Table of retail prices for various goods like Butter, Cheese, Eggs, etc.

Retail Prices.

Table of retail prices for various goods like Butter, Cheese, Eggs, etc., with prices per pound or dozen.

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table of metal market prices for various items like Iron, Steel, Copper, etc., as of Friday, August 9, 1867.

ESTABLISHED [MAY, 1860.]

VOLUME FIFTEEN

Mining and Scientific Press, COMMENCING JULY, 1867.

DEWEY & CO., Publishers.

Issued every SATURDAY, at our Book and Job Printing Office, 505 Clay street, corner of Sansome, SAN FRANCISCO. Terms in Advance—One year, \$5; six months, \$3; single copies, 15 cents; Monthly Series, \$5.00 per year, or 65 cents per number, per volume from January, 1864, \$3 per volume; bound, \$5 per volume.

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Table listing various books for sale, including 'ANSTED'S Gold Seekers Manual', 'ANTISELL—The Manufacture of Photogenic or Hydro-Carbon Oils', 'BLAKE, W. P.—Geological Reconnaissance in California', etc.

Any of the above Books will be furnished by return mail or express, on receipt of the price with postage added. Any other books desired will also be furnished at the lowest San Francisco retail prices. Address, DEWEY & Co., Mining and Scientific Press Office, San Francisco, 1413-13mtfr

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Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & Co., office Mining and Scientific Press, San Francisco.

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## Mining and Scientific Press.

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## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

**Mr. A. C. Knox**, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

**Mr. L. W. Felton**, is an authorized agent for this paper at Portland, Oregon. Dec. 1, 1866.

**Dr. L. G. Yates** is our duly authorized traveling agent. July 6, 1867.

**Mr. A. B. Butler** is a duly authorized traveling agent for this paper. July 15, 1867.

**Mr. Alfred H. Nahor**, is our duly authorized traveling agent for Amador and El Dorado counties July 28.

**Mr. W. D. Root** is an authorized agent for this paper for Nevada State. August 1, 1867.

## San Francisco:

Saturday Morning, Aug. 10, 1867.

## Notices to Correspondents.

INVESTIGATOR wishes to know the probable origin of diamonds. In replying to this query, we can scarcely do better than detail the theory of the late Prof. George Wilson, who suggested that the diamond may possibly originate from anthracite, without the solid condition of the latter being changed. As hydrogen, oxygen, nitrogen and sulphur, together with part of the carbon, may be gradually eliminated from anthracite in the form of volatile compounds, the residuum might assume the crystalline state by a change in the allotropic condition of its atoms. A low temperature, combined with the slow development of the process, might produce the diamond; whilst a high temperature and rapid development would give rise to graphite. Wilson, however, by no means inferred that the diamond might not be formed in other ways—either dry or moist. We think it was in the course of perusing some of Sir D. Brewster's writings that we observed it mentioned that once in the examination of some vegetable carbonaceous matter it was unexpectedly found in the interior of one of the nodular pieces that there existed a few drops of colorless, transparent and highly refractive fluids; but, owing to its evanescent quality, it was impossible to collect it for analytical examination. Such a phenomenon is quite possible by the recognized principles of chemistry, and is, we believe, the only instance recorded of a possible approach, in the natural way, to the production of the diamond by the moist mode.

**J. L. B., Placerville.**—You cannot obtain more power from a 24-foot than you can from an 8-foot wheel—the head and fall being the same in each case. The points to be considered in determining the proper diameter of such a wheel are, the required velocity of your wheel to suit the machinery and the height of fall. If a high velocity is required, and you have but a low fall, a wheel of small diameter is best; and if, on the contrary, a low speed is required, and you have a high fall, a wheel of large diameter is preferable. In your case, supposing the most suitable speed of the wheel for driving your machinery to be sixty revolutions per minute and the fall one hundred and fifteen feet, the diameter should be about thirteen feet; and if only forty-five revolutions, seventeen feet. The quantity of water to give fifteen-horse power with a fall of about one hundred and fifteen feet, is about fifty-five inches, miner's measure.

**MACHINE TOOLS FOR JAPAN.**—Messrs. Kittredge & Leavitt, iron workers on Market street, have received an order from Japan, through Macondray & Co., for a set of boiler punches and shears. The Japanese will no doubt soon become large customers for tools and machinery from this city.

CONTINENTAL Life Insurance Company  
302 Montgomery street, corner of Pine.

## Mining Machinery—Information Wanted.

J. Ross Browne, in his first report upon mining west of the Rocky Mountains, has described the action of the various batteries and pans, used for crushing, grinding and amalgamating; but he furnishes no data from which the miners can form any opinion as to the comparative merits of the various machines in use. Mr. Brown could hardly do a better thing, or render a greater service to the miners, than by suggesting in his next report, some means, or collecting some data by which they could form an intelligent idea as to what, out of the great multitude of machinery that is offered to the public, would be the best, most economical and most effective, under all or any particular circumstances. As it is, the miner has nothing but the reports of interested parties, or his own usually limited experience, to guide him in his choice. This condition of things, as might reasonably be expected, often results in great pecuniary loss. Among all the numerous quartz mills in operation in this State for extracting gold, there are probably no two which are operating precisely alike.

We have an almost infinite variety of batteries, pans, amalgamators, concentrating machines, riffles, plates, aprons, screens, etc., etc., from which to choose. A person about to build a mill, after looking around a little (and generally to very little purpose) guesses at some plan he has seen, and then proceeds to construct his mill. If he don't change his mind three or four times, at the suggestion of friends, before he has his mill completed, it is because he is possessed of more firmness and decision than falls to the lot of a large portion of our most intelligent miners and millmen.

Such results are inevitable from our loose and uncertain manner of working. If private individuals cannot be induced to undertake it, Government might do well to establish an experimental mill, where every new machine, as it comes out, might be tried, at the inventor's expense (government finding the necessary power, etc.) and under the direction of competent and intelligent men, before the public should think of placing the least confidence in the invention. The increase to the government in internal revenue receipts in this State alone, would pay for such an establishment every year; while the annual saving to the public in the cost of worthless machinery, time, etc., could scarcely be estimated.

We throw out these hints to the collector of mining statistics, and would furthermore suggest that he could in no way more effectually subserve the purpose of his appointment than by maturing some plan whereby the benefits hinted at may be practically attained, and presenting it for the consideration of the government. Coming from him, would secure such suggestions a hearing and consideration which they can scarcely attain if presented from any other source. We are aware that the report must soon be on its way to Washington; but it is not yet too late to consider and incorporate this matter therein, if, indeed, it has not already been done.

Among the many things which the miners wish to know, and which few companies can afford to ascertain at their individual cost, is the relative efficiency of stamps of given weight—round or square; height and frequency of drop; general mode of arrangement of a battery, etc.; whether one pan is better than another, and which; whether the yield obtained is better in one than in another; whether one loses more or less quicksilver (and consequently gold) than another; the relative power required to drive the machines, in proportion to the amount of work done; the proportional wear and tear of iron portion of rock crushed; the amount of concentration effected by one concentrator over another; the manner in which it is done as to the compara-

tive loss of sulphurets, relative to cost of running, and amount of sulphurets saved to the mass put through, etc., etc. These are some among the many points which can only be decided in an experimental mill, and which should be conducted under governmental patronage by disinterested parties, whose reports should be officially promulgated for the benefit of the public. The expense of such an establishment, in some central locality, would be but trifling in comparison to the benefits which would accrue therefrom.

## The State Fair.

The next Fair of the State Agricultural Society will be held in Sacramento, commencing on Monday, the 9th, and continuing until Saturday, the 14th of September. As has already been stated, the Mechanics' Institute of this city has united with the State Agricultural Society, for the purpose of bringing about, on that occasion, a more full exhibition of the mechanical interests of the State than is usually witnessed at the annual exhibitions at the State Capital. We have already spoken at some length of the importance of such a step, and again refer to it, at this time, to note the progress which is being made to accomplish the desired result.

H. Rosecranz, H. J. Booth, W. T. Garrett, A. S. Hallidie and C. H. Harrison have been appointed by the Institute of this city a committee to act conjointly with a similar committee from the State Society in securing the necessary preparations and making awards in the mechanical and manufacturing departments of the Exhibition. A space of 160 feet in the Pavilion is being especially fitted up for the display of machinery and working models, and a 60-horse power engine will be set up to furnish the necessary motive power.

The committee in this city has entered heartily into the work, and has addressed a circular to manufacturers, inventors and mechanics, urging them to come forward and take a hearty and active support in the matter. Some one or more members of the committee will visit, in person, all the principal manufacturing works in this city and vicinity, to confer with their managers and proprietors, and to urge the importance of their cooperation. We are pleased to learn that the committee has thus far met with the most gratifying success in their efforts, and that there is every reason to believe that the mechanical part of the Exhibition will be fully equal to the agricultural, and that the whole will far exceed anything of the kind ever before witnessed at the Capital. Any further desired information may be obtained through the committee's secretary, H. D. Dunn.

The California Steam Navigation Company, with their usual liberality, have generously offered to transport all articles and animals exhibited at the Fair free of charge, freight paid on them to the Fair to be returned upon re-shipment by the same owner, on certificate of Secretary that the same have been exhibited. The company will also carry all members of the Society, on their return for home, during the Fair and for two days thereafter, free of charge.

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**HIDDEN TREASURE CO.**—San Francisco. July 30th. Capital stock, \$20,000; 4,000 shares, \$5 each. Trustees: John Chapman, W. R. Gore and A. M. Chapman.

**HOUSE CARPENTERS' EIGHT-HOUR PROTECTIVE UNION.**—San Francisco. Aug. 3d. Capital stock, \$1,000,000; 10,000 shares, \$100 each. Trustees: F. Barker, James W. Duncan, Thomas H. Lufkin, James Vanriper, J. D. Connell, M. G. Shove, John D. Crowley, F. D. Morrill, J. J. Knowlton, E. Merrill and A. M. Winn.

**WHEAT.**—Immense quantities of wheat are being shipped daily from Knight's Landing, Colusa county, to this city.

## Varney &amp; Rix's Quartz Crusher.

In all of our quartz mills, whether working for gold or silver, a large amount of labor is expended in breaking up the rock, as it comes from the mine, into sizes sufficiently small to be readily placed under the stamps for further reduction. In most mills this work is done by hand, with a light, long-handled hammer. Latterly, however, some of our largest mills have substituted for this hand-work, machines called rock breakers or crushers, whose crushing faces consist of two huge iron jaws, one of which is stationary, while the other is made to vibrate back and forward with an oscillatory motion. These jaws are set so as to present a V-shaped opening for the reception of the rock which, by the vibratory action of one or both of the jaws, is gradually reduced from the time it is thrown in, until it passes out, reduced to the proper fineness, which is regulated by the opening at the lower portion of the jaws, thus V.

Quite a number of these machines have been from time to time introduced to the public, several of which have been illustrated and fully described in these columns. We were called upon on Monday last, to witness at the Miners' Foundry, the operation of still another machine of this description, recently invented and patented by Messrs. Rix & Varney, of this city. This machine differs materially from all of its predecessors, in the mode of producing the vibratory motion of the jaw, and in the great saving of weight of iron which is effected by its peculiarity of construction. The latter is a very important consideration, both in the cost of the machine, and in the greatly reduced expense of transportation thereby attained. We have not been able to learn either the cost or weight, as only one machine has yet been built, and the mechanics have not yet determined its cost.

The jaws are merely suspended in the wooden frame; a stout straight piece of wrought iron, acting as a lever, is so adjusted as to bear against the back of the lower portion of the fixed jaws, while an iron yoke, also of wrought iron, placed along on either side of the lever, passes entirely around both jaws, and clasps in its embrace, the lower portion of the other, or movable jaw. The jaws are hung upon one end of the frame, while the lever and yoke extends back some four feet to the other end thereof, and both are connected with a crank shaft across the top of the frame, the revolution of which gives the lever and yoke an up and down vibratory motion, and imparts a corresponding back and forward vibratory motion to the movable jaw which is clasped in the "bite" of the yoke.

A careful consideration of this adjustment will reveal a most ingenious and happy development of the device by which the crushing strain is taken off from the frame and placed within the wrought iron yoke, and a leverage obtained at the same time which can scarcely be exceeded. The movement of the jaw is very slight, less than that usually given; but such careful attention has been given to the construction of the face of the jaws, for avoiding the "slip" from the pinch, by which a large amount of power is usually lost, in similar machines, that even the slight motion given is found quite sufficient for the most effective work. This simple arrangement allows of a reduction in the weight of the machine of about one-half, and places the crushing pressure where but a slight motion exists, and where, consequently, but little friction occurs; while the hearings that have much motion have correspondingly light work, and but little friction. The practical mechanic and millman will readily see and appreciate this as a strictly correct and economical application of mechanical laws.

The machine can be readily adjusted to crush coarse or fine, as desired, while the jaws can as readily be made to have a long or short throw, to accommodate hard or soft rock. The shoes on the faces of the jaws are made so that they can be turned end for end, as the wear upon the material requires.

The economy of machinery of this description for the preparation of rock for the stamps, is now pretty generally conceded; and there can be but little doubt that the time will soon come when no mill will be considered complete until it has a rock breaker in front of its battery. A patent was issued to Messrs. Rix & Varney for their invention, on the 15th of June last, and we presume they will forthwith commence manufacturing them to order. They will be built at the Miners' Foundry on First street.



The Central Pacific Railroad.

NUMBER TWO.

PREPARATIONS FOR WINTER.

Our recent journey over the route has dispelled all lingering doubts of the ability of the company to keep the road open during the winter, with less average delays than occur on the railroads of New England and Western Atlantic States. Most of the route through the snow-belt is along the mountain side, where the snow can be thrown by the plow down the embankment. Another portion comprises omhankments and trestle-work, where the snow can be thrown down upon either side; while the balance is principally through tunnels and cuts. The latter gave the principal trouble last year. Through these cuts the company are now constructing coverings with sides, appearing like covered bridges. The timbers are strong and well braced. The openings are some fourteen feet wide by about 20 in height. A space is left between the timbers and the sides of the cuts, which will naturally fill with snow; and when the shed is imbedded in snow, packed in at the sides, we do not see why it will not form a solid fixture, not to be carried away by snow-slides short of taking the side wall with it. The grade itself adds, to the down trains, nearly double force to the power of the snow-plow.

An experience of five years in the high altitudes of the Sierra convinces us that the mild temperature of our winter weather is strongly favorable to the keeping open of this road in contrast with the intense, piercing cold that prevails upon northern Atlantic railroads for weeks at a time. Consequently, in case short sections of the route should become blocked up, the work of clearing out will be attended with less difficulties.

THE GRADE.

The altitude of the summit is 7,042 feet above the level of the sea. The steepest grade is 116 feet to the mile. For nine miles above Dutch Flat the ascent is at the above rate.

THE TUNNELS.

In hight, the tunnels are nineteen feet to the crown of the arch, and sixteen feet wide in the clear. One which we noticed near Cisco is on an eight-degree curve through the hardest kind of trap rock—a formation three to four miles in extent, lying between two immense ranges of pure granite.

The summit of the grade is about fifteen miles beyond Cisco, or 112 miles east of Sacramento. Near the lower end of Donner Lake, four hundred feet beyond the highest grade, sloping toward the Atlantic, is the summit tunnel, 1,700 feet in length. Four hundred feet further east is another tunnel of over 100 feet, and beyond that, about 1,000 feet, a third tunnel of 375 feet. These tunnels are upon an air line and even grade of one-tenth of a foot to nine feet, and, when completed, the eye can penetrate through them all at one glance. The tunnels are all designated by numbers, summit tunnel being enumerated the sixth. There are numerous other tunnels east of it.

TUNNEL WORK.

The summit tunnel is worked from the east and west ends and from a shaft in the center towards the east and towards the west, making four headings. The rock is granite. No timbering is necessary. The west end has worked considerably the easiest, although hothered with water. Workmen broke through the facings and met in this half several days since. Daylight is expected to meet in the eastern half within one week. The shaft through which the headings are worked from the center is double, and ninety-one feet deep, worked by an engine.

Four or five drills and fifteen men to a shift are employed in each heading. Shifts eight hours each. The headings are worked only a few feet in hight, forming the top of

the tunnel. The bottom is taken out more leisurely by large gangs of workmen.

From ten to fifteen feet per week is the average advance made in each heading, although near twenty feet has been attained. This rate, even, is only attainable by the aid of

NITRO-GLYCERINE.

By its use one-third in time and expense is saved. This blasting oil is made by the company and mixed near the work. In the headings, six blasts are made in twenty-four hours, making two sets of holes two feet or more in depth and 1 1/4-inch in diameter; cartridges, six inches long, one inch in diameter, containing five inches of oil. Some four to five-inch cartridges are used. The one and a quarter-inch hole with five inches of nitro-glycerine is declared better than a two-inch hole with twelve inches of gunpowder.

Under proper instructions, Chinamen are reported by the overseers to be quite apt in holding and striking the drill, although not equal in capacity, man for man, with white laborers. Certain it is that they have been a powerful auxiliary in speeding on this great work, which to-day is nothing less than a national necessity.

PUSHING AHEAD.

Above Cisco, in large gangs and small squads, workmen extend along the line, finishing up the cuts and tunnels ready for track-laying, twenty-five miles or more of which the company are determined to have in running order this fall, that the terminus for the winter may be at least twelve or fifteen miles beyond the summit. No one who examines the present operations will doubt the determination of the managers to push on the work with all possible speed.

THE PRESENT TERMINUS.

Cisco is divided into two villages—upper and lower. The latter has a level site along one of the forks of the Yuha river, whose waters here are clear as crystal. Contains about fifteen or twenty business houses, and was built up during the Meadow Lake excitement, two years ago. Donner and Meadow Lake wagon roads pass its center, which is half a mile below and north of the other Cisco.

Upper Cisco is close to the railroad grade, nearly the size of the lower village, and built principally within the past few months. The station has a warehouse and freight shed some 700 feet long. It is a leading feature of the place, and yet insufficient to accommodate two-thirds of the freight. Both towns are literally thronged with large freight wagons and mule teams, repairing and loading for or returning from Nevada State.

LOCOMOTIVES.

Twenty-four locomotives are now on the road and in the repair shop, some of which are of large size and power, for freighting. One has been lately transported over the summit, to assist in finishing the advance section. The present repair shops at Sacramento are only temporary, and yet they employ about seventy-five men. The foundation for permanent engine houses and repair shops is now being prepared, and it is not improbable that before many years the company will not only do all its repairing, but advance into locomotive building.

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Gold Bars, of whatever size, if well cast, assayed for two dollars, at A. P. MOLLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 16v143m

JACOB SIEGW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v140f

Brown's Filtering Heater.—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler-repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to AUSTIN A. WELLS, Agent. 6v14ty

Perry Davis' Vegetable Pain Killer.  
A CERTAIN ANTIDOTE FOR PAIN.—Rev. T. Allen, writing from Tavoy, Burma, says: "Within the past four years I have used and disposed of about five hundred bottles, but am now out. Please send me a fresh supply as soon as you can—say two hundred bottles. I dare not be without it myself, and there are endless calls for it, both by Burmahs and Karens. I always take it with me in the jungles and have frequent occasion to use it, both on myself and others. One night, while sleeping in an open Zayat, I was awoken by a most excruciating pain in my foot. On examination, I found I had been bitten by a centipede. I immediately applied the Pain Killer, and found instant relief. In less than an hour I was again asleep."  
Rev. Mr. Hubbard, writing from Burma to his father, says: "I have used Davis' Pain Killer for Coughs, Colds, Summer Complaints, Burns, and for the sting of scorpions, with uniform success. We always keep it where we can lay our hands on it in the field, and need it."  
Sold by all Medicine Dealers everywhere. 5v15-lm

FACTS FOR THE PEOPLE.—Every family should have a bottle of Healy's Curative Oil in the house, prepared to annihilate pain. It is the best remedy in the world for Rheumatism and Gout, Neuralgia or Headache, Toothache, Cramps in the Limbs, Diarrhoea, Sprains, Bruises and Burns and Cuts; Scalds, bite of poisonous insects, Frozen Feet, etc. Be your own physician, and get the best, for the best is the cheapest. The Curative is composed of eleven ingredients, active and penetrating in their nature, and of purely vegetable extraction; is free from all minerals and acids deleterious to the human system; is warranted to give immediate relief from pain, and the cure is permanent. Sold by all druggists. Principal Depot, No. 6 Montgomery street. 22v14-lamf

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Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches:  
1. Assaying of ores, metals and other mineral substances.  
2. Technology, or Chemistry, as applied to any special branch of manufacturing.  
3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamation, and other processes.  
4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed.  
5. Concentration, Dressing of ores.  
6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology.  
Mining is considered by many a very hazardous undertaking; but I can assure anyone that our mines are as safe an investment as any other business when properly understood and managed; therefore, learn first, if you have a mine, then study the nature of the ore, and how to work it, and you will never fail to be successful.  
It may not be superfluous to state that I am theoretically and practically acquainted with all the branches I offer to teach. Years of actual experience in the laboratory, smelting works, quartz mills, and other manufactories carried on on my own account, have not only given me lessons, but more than ordinary ability.  
I was the first one in California who successfully extracted silver by smelting, on a large scale, and have since been traveling through the manufacturing and mining towns of Europe, to study all improvements, and am now again the only one in San Francisco who undertakes to work any kind of ores by either roasting, smelting, lixiviation, or chlorination process.  
I also undertake the erection of smelting and roasting furnaces, and furnish plans and estimates for any kind of works.  
My lately invented Roasting Furnace has the following advantages: A Furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$340. It requires half a cord of wood per ton of sulphurets. The total expenses of roasting are not over \$6. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine gas or quicksilver when amalgamated. A large size furnace in successful operation may be seen, by permission of Mr. Maltman, in his works in Nevada City. Several others are in progress of building.  
Charges for assaying gold or silver ores..... \$3 00  
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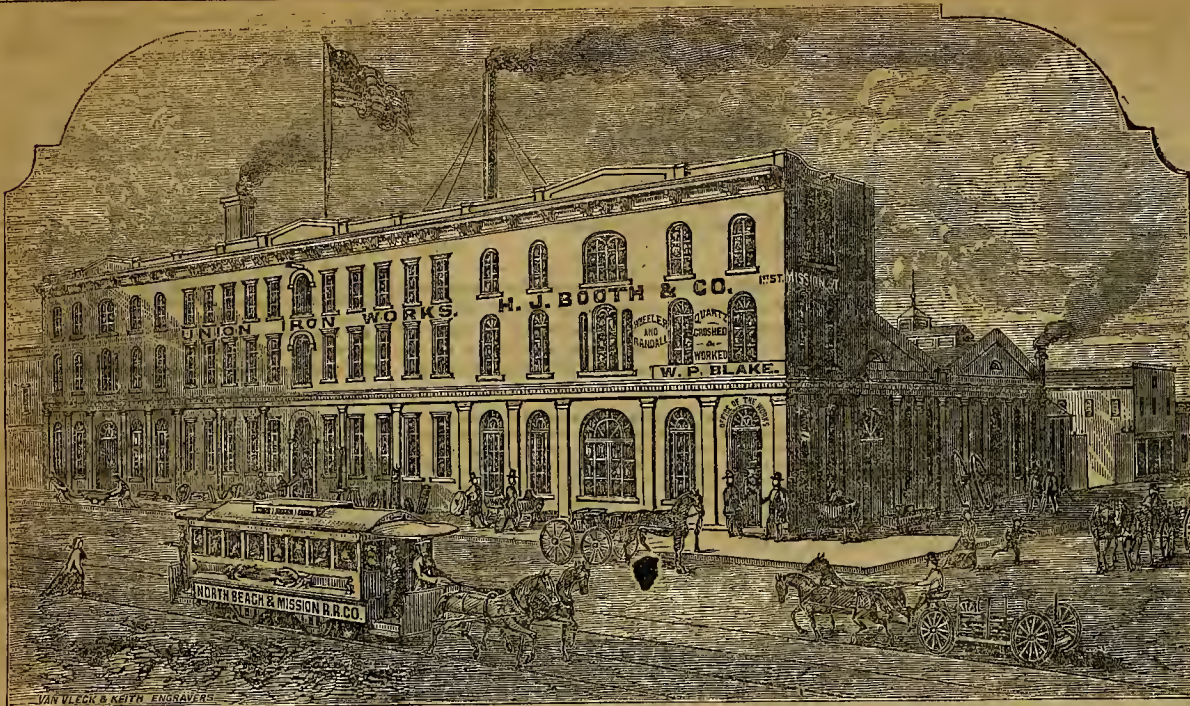
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We find the above going the round of our exchanges, and copy to note its inaccuracy. The Chatsworth fountain alluded to is two inches in diameter, and throws a jet 200 feet high. (See Downing.)

THE Easton (Penn.) *Argus* chronicles the passage over the Lehigh Valley Railroad of probably the largest train of cars ever run over any road. The train consisted of 275 cars, and allowing six tons as an average to a car, we have a total of 1,650 tons, and fourteen feet to a car and coupling, the length in feet would be 3,850—over two-thirds of a mile.

A TAX-RIDDEN CITY.—New York city has a burdensome tax bill of \$21,889,655.98 for 1867, against \$15,960,767.88 last year. This increase is mainly due to political mismanagement.

It is said that one hundred Californians were recently stopping at the Grand Hotel in Paris.

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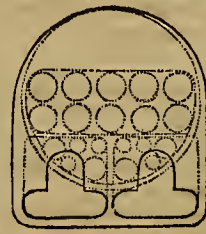
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G. W. MAYNARD. J. H. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, AND— CENTRAL CITY, COLORADO. 19v12-1y

EUROPEAN METALLURGICAL WORKS, Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyritous, and the (so-called) "rebellious ores," are having special attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL. The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended laboratory for the analysis of Ores and Minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business. S. P. KIMBALL, J. R. MURPHY, 10v10

J. A. BAUER, Chemical Laboratory, AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO.

Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc. Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Geology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Gold Chloride, Platin Chloride, Sodium Amalgam, Sulphate of Copper, etc., for sale. 12v14-6m

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the meanness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talc or mechanical industry. The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

LACOUR'S SARSAPARIPHERE BITTERS. They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate costiveness, and remove regularly every impurity of the blood. They are unrivaled as a remedy for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them? The Old Man Takes them as a gentle stimulant and mild rejuvenator. The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overtasked body. The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health; to give a sparkle to her eyes, and sweetness to her breath. The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family. The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness. Children Take them as a gentle, yet effective tonic. The Dashaway Takes them as a mild, pure stimulant, containing none of the deleterious, essential and tussil oils of forbidden drinks. The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does not madden or destroy. The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.

Everybody Takes Them! PRO BONO PUBLICO: 2v15-6m



To Those Whose Interests We Represent.

While there is every reason for gratification at the circulation which this journal has already reached, we are yet well aware that there are great numbers of miners, mechanics and lovers of science to whom it might be made a source of much usefulness and profit.

New subscriptions will be received at all times by mail or otherwise. Those who have friends that they think might be interested or benefited by the paper, will confer a favor both upon them and us by calling their attention to this matter, and at this time.

We trust that it is needless to urge upon our readers the necessity of promptly renewing their subscriptions. The two indexes for volumes XII and XIII, which we have already published, and the 500 ample pages of reading matter, apart from advertisements, to say nothing of our numerous engravings and illustrations, speak more for the value which we give for the price of a year's subscription than we can say in this connection.

To the Legal Voters of the City and County of San Francisco.

Prompted alike by a sense of duty to myself and to the public, and in compliance with the request of several hundred citizens, tax payers and friends of the Public Schools, representing the different political sentiments, religious creeds, nationalities and classes of the San Francisco community, I hereby announce myself an Independent Candidate, at the approaching election, for the office of Superintendent of Public Schools.

San Francisco, July 29th, 1867. J. C. FELTON, 5715-5w

FARMERS' AND MECHANICS' BANK OF SAVINGS.

225 Sansome street, near California. Incorporated under the Act of the Legislature of California, approved April 11th, 1862. CAPITAL STOCK, \$150,000.

Directors: N. C. Fassett, George M. Goodce, Reuben Morton, O. H. Wheeler, Isaac E. Davis, James Laidley, Henry Dwyer, B. H. Freeman, Samuel L. Palmer, G. H. Wheeler, Cashier, N. C. Fassett, President.

The Highest Rates of Interest paid on Gold Deposits. DEPOSITS RECEIVED IN SUMS OF \$1 AND UPWARDS. We will keep safely all monies deposited with us; collect and remit the interest to our friends in the country, as may be directed.

Mineral Land Law Blanks FOR SALE.

We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866: I. Applicants' Declaratory Statement. II. Diagram, Description of Diagram and Boundaries, and Notice. III. Register's Order for Publication—with Notice. IV. Deposition that Notice has been Posted. V. Application for Survey Etc.

New Mining Advertisements.

Adella Gold Mining Company, Rock Creek, Sierra County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of August, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Elina Iron Works, Fremont street, between Howard and Edison, San Francisco, Cal.

Huncom Copper Mining Company, Location: Low Divide District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the Elina Iron Works, Fremont street, between Howard and Edison, San Francisco, Cal.

Silver Sprout Mining Company—Location: Works and Mines: Kearney District, Inyo County, Cal. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of August, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Company's office, 408 California street, San Francisco, Cal.

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Tanks, etc. FOR SALE. The mine has three main veins, and more than \$80,000 have been spent in opening them and equipping the mill. Good wagon roads all the way. Apply to BELLOC FRERES, Bankers, 535 Clay street, San Francisco.

Mining Notices--Continued.

Chilpaneca Mining Company--District of Urea, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 313 California street, San Francisco, Cal.

Camargo Gold and Silver Mining Company, Lander County, Nevada. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificates. No. Shares. Amount. Camp, James..... 71 5 \$100 00 Drinkhouse, J. A..... 6 3 60 00 Fasset, N. C..... 132 3 120 00 Gray, Asaph..... 133 3 60 00 Harker, W. B. C..... 24 10 200 00 Harker, W. B. C..... 23 10 200 00 Harker, J. W..... 131 3 60 00 Jacobs, N. B..... 85 4 80 00 Raymond, C. B., Trustee..... 131 640 10,950 00 Damago stock next..... 3 3 120 00 Lander, P. C..... 69 6 120 00

Postponements and Alterations.—Securities are requested to give notice of postponements, or alterations which they may desire made in their advertisements in their earliest convenience. New advertisements should be sent in as early as possible.

De Noto Gold and Silver Mining Company—Location of Works: Star District, Humboldt County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of two (\$2) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 18 Exchange Building, northwest corner Washington and Montgomery streets, San Francisco, California.

JOHN M. BURNETT, Secretary. Office, No. 18 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California. j13

Gold Quarry Company, Location of Works: Placer County, California. Notice--There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount. Oden Hoffman..... 4 5 \$100 00 Edmund Wertheim..... 15 50 1,000 00 Archibald T. Peckay..... 7 100 2,000 00 Lafayette Maynard..... 9 50 1,000 01 John Apol..... 10 33 660 00 James Frechorn..... 17 50 1,000 00 James Frechorn..... 18 50 1,000 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, No. 706 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 706 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. j27

REMOVAL.—The office of the Company is removed to No. 412 Montgomery street, Room No. 10, second floor. August 6th, 1867. T. W. COLBURN, Secretary. au10

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount. C. Scheper..... 253 110 \$16 50 C. Scheper..... 254 2 20 00 I. K. Knowles..... 92 50 7 50 P. Graczer..... 143 10 1 50 G. W. Fisher..... 151 5 75 00 John Brownlee..... 199 5 75 00 John Brownlee..... 198 10 1 50 James Carroll..... 200 5 75 00 Henry Kline..... 203 20 3 00 P. Manole..... 219 10 1 50 P. A. Miller..... 315 20 3 00 J. M. Miller..... 316 5 75 00 Chas Burt..... 320 25 6 25 Chas Burt..... 321 30 4 50 Chas Burt..... 322 35 4 50 Chas Burt..... 323 20 3 00 P. Calnon..... 367 10 1 50 P. Calnon..... 368 15 2 25 John Asmicos..... 375 5 75 00 John Asmicos..... 376 5 75 00 J. W. Gardner..... 403 25 3 75 Wm Sehanan..... 399 10 1 50 H. Canavan..... 395 20 3 00

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Monday, the nineteenth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary pro tem. Office, 643 Market street, San Francisco, Cal. au3

Neagle & Corcoran Silver Mining Company.

Location of Works: Storey County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of July, 1867, an assessment of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary of the Company.

Neagle & Corcoran Silver Mining Company. Location: Storey County, Nevada. The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 338 Montgomery street, on MONDAY, the 19th day of August, 1867, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc. jy20 A. P. OREENE, Secretary.

Nacarra Senara de Guadalupe Silver Mining Company.

Location of Works: Tayoltita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1867, an assessment (No. 23), of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. PEIFFER, at the office, No. 210 Post street, or to the Treasurer, A. H. HEMDMANN, at his office, No. 637 Washington street, San Francisco.

Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

Oxford Beta Tuonel and Minlog Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

JOHN F. LOHSE, Secretary. Office, 212 Clay street, San Francisco. j27

Kittleneck Gold and Silver Mining Company.

Location: Brown's Valley, Yuba County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal.

JOHN F. LOHSE, Secretary. Office, 318 California street, Up-stairs, San Francisco, California. j27

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

DAVID E. JOSEPHI, Secretary. Office, 611 Washington street, San Francisco. au3

Senton Mining Company—Location of Works: Drytown, Amador County, California.

Notice--There are delinquent, upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Names. No. Certificate. No. Shares. Amount. Wm Ashburner..... 51 10 100 00 Peter H Burnett, Trustee..... 44 10 100 00 E. J. Crano, Trustee..... 45 10 100 00 J. W. Crano, Trustee..... 49 5 50 00 J. W. Gmshwiler..... 39 6 50 00 A. B. Orogan..... 33 10 100 00 Howard Havens, Trustee..... 53 5 50 00 The Lep..... 181 10 100 00 A. B. McCrery..... 64 4 40 00 D. M. W. Senton..... 52 1 100 00 P. H. Senton..... 54 1 100 00 P. H. Senton..... 55 1 100 00 P. H. Senton..... 56 1 100 00 P. H. Senton..... 57 1 100 00 E. W. Smith, Act'g Cash'r..... 35 5 50 00 Lloyd Tevis, Trustee..... 28 5 50 00 Lloyd Tevis..... 48 5 50 00 Lloyd Tevis, Trustee..... 42 10 100 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets San Francisco. jy13

POSTPONEMENT.—By order of the Board of Trustees, the above sale is postponed until Monday, August 26th, 1867, at the same hour and place. JOEL F. LIGHTNER, Secretary. July 29, 1867. au10

Tatumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of July, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. F. Verdona, office, 22 Court Block, 636 Clay street, San Francisco.

D. F. VERDONA, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco, jy13

Whitcomb Gold and Silver Mining Company, Lander County, Nevada.

Notice--There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Names. No. Certificate. No. Shares. Amount. Allen, H. H..... 15 20 \$50 00 Camp, James..... 139 6 90 00 Drinkhouse, J. A..... 245 1 15 00 Fasset, N. C..... 245 1 15 00 Gray, Asaph..... 247 1 15 01 Harker, J. W..... 244 20 200 00 Johnson, O. H..... 202 4 60 00 Turner, Anna Key..... 69 5 90 00 Williams, J..... 201 32 480 00 Doane, W. B..... 233 45 690 00 Raymond, C. B., Trustee..... 243 1021 16,315 00 Jacob, S. W..... 183 2 30 00

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular way between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pans and constantly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, 1st San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent. better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation

At Booth & Co's Iron Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR. For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-plate, is about \$10. The box will answer of wood. By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, proceed, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

QUARTZ MINERS, MILLMEN,

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

First Class Mill,

In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps.

Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or J. B. HITCHCOCK, Millwright, Russ House.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

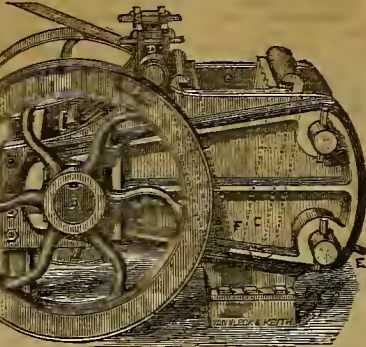
PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE, Corner First and Mission streets, or Box 2,077

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Flow, Blister and Toe Calk Steel, manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price \$600 No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour—price \$850 No. 3—Or 21-inch Crusher, will in a similar manner crush from seven to eight tons per hour—price \$1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designed.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

JAMES BRODIE, Esq., San Francisco.—Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your latest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no objection in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute, in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above improved Barrel are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY ORES.—This Crusher is the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. BRODIE & RADCLIFF, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested and found to be the most economical and effective mode of crushing ores in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.—E. Stockton, Folsom; O. Simmon, Oakland; Mill at Clear Lake; Morcan Coyville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GRANT, Agents for California.

26-13-17q 310 Washington street, San Francisco

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years' steady and successful experience in working ores to waste, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address, P. M. 814 W. San Francisco, care Mining and Scientific Press. 26-143m

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE M. Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi styles, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8-13-1y Store Store, No. 125 Clay street, below Davis.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for mining purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivalled, but shines with diminished brilliancy in a strong wind.

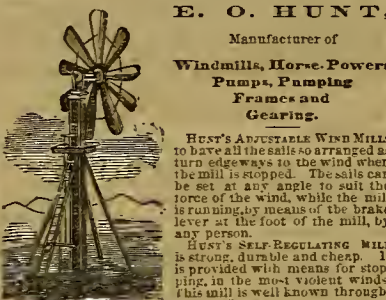
Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap may now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back, but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vice and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCK, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18-14-3n



E. O. HUNT,

Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.

HAVE A JUSTIFIABLE WIND MILLS to beat all the sails so arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 25 Second St., and 108 and 110 Jessie St. 2-15-5y San Francisco.

Golden City Chemical Works.

LABORATORY, Corner of Seventh and Townsend Streets.

OFFICE, Corner of Montgomery and Bush Streets.

CAPITAL STOCK, - - - \$500,000

Trustees: R. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNING, THOS. BELL, CHAS. E. McLANE.

H. P. WAKELEE, MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muriatic Acids of superior quality, in quantities to suit.

Orders will be received at the office on y for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9-14 3m

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent. less oil than any other Lamp, in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM. For sale only by J. W. YERS, 2-15 5y 417 Washington street, opp. Post Office, S. F.

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UNSTAMPED LETTERS.—Great inconvenience and often loss is entailed by the unintentional deposit of letters in post offices, without stamps. Some offices, and among others that at Boston, has adopted the plan of affixing stamps at the private expense of the officials connected with the office, trusting to voluntary contributions from the few especially benefited for a remuneration of the aggregate of expenses. The plan was first adopted by Wm. C. Howe, head clerk in the Portland (Maine) office. He has already forwarded at his private expense 1,200 letters since that time, and received from the recipients enough to reimburse him and found a fund for the purpose besides. His example should be followed by every office in the Union.

ICEBERGS are sometimes formed in Lake Superior, in the following manner, as described by the Ontonagon Miner: They commence forming along the lake shore, not immediately on the edge, but varying from 50 to 200 yards from the beach, owing to the depth of water. Near the shore, where the water is shallow, smaller cakes of ice are crowded together, presenting an uneven surface, and so still extending out until the force of the waves in deeper water disparts the further encroachment on their territory. Here the ice forms in a ledge, and the constant dashing of the waves over it, and the congelation of the water, continue to pile up the bergs higher and higher, until at length their summits rise above the reach of the billow element which created them. Some years since a berg was formed near Ontonagon, sixty feet in height from the level of the water. Its appearance in the sunshine was dazlingly beautiful to behold.

NEW ENTERPRISE.—Parties in San Francisco, Benicia and this place, have organized a company for the purpose of building a railroad from Santa Cruz to the headwaters of the San Lorenzo. The officers are: Horace Gnshee, President; S. A. Bartlett, Treasurer; Edmund Jones, Secretary, and the capital stock is \$100,000. The route up the river is being surveyed and will be completed in a few weeks, when the company will commence building the road. This road will open a large tract of country to settlers, at present of no great value, and will give employment to many laborers, besides affording easy access to this port for the large quantities of lumber, lime and other resources of our county, produced on the San Lorenzo and its tributaries.—Santa Cruz Times.

A SINK-HOLE.—Sometime ago a "sink-hole" occurred on the Michigan Southern Railroad in Northern Indiana. It was about 220 yards long, and in order to fill it the company have thrown in two acres of earth, averaging ten feet in depth, three acres of timber and brushwood, the ditchings and scrapings of fifty miles of railroad track for about eight years past, the old ties of about 100 miles of track, and 3,000 car loads of gravel, besides the forty rods of embankment from four to six feet high, that was made before the sinking occurred. At last accounts the hole was about filled up.

PROFITABLE MINING.—The Levant mine, Cornwall, commenced working in 1820, since which time copper and tin ores to the amount of over \$5,000,000 have been returned; dividends to the extent of somewhere about \$1,000,000 have been declared. The largest amount of profit made at any one time was \$21,800, divided in two months. Two of the levels extend beneath the Atlantic Ocean about three-quarters of a mile. The engine shaft is now about 1,700 feet deep from the surface.

THE BORAX COMPANY engaged in taking out borax, in Lake county, will soon be in condition to extract five tons of this article per day from the borax lake, as they have just received a new and powerful steam dredger and an immense pump, with which to exhaust the water from the coffer dams. This pump is rather on the mammoth order, weighing something over 1,000 pounds, and is to be worked by steam.

One of the best uses to which the Atlantic cable is put is the heading off of rogues. Heretofore European and American villains of every kind rushed on board the steamers and were safe. Now the lightning stops this little game, and they are captured the moment they set foot on land.

ELECTROTYPING, ENGRAVING, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.



**HYDRAULIC PROPULSION.**—The London Engineer says that it is more than likely that the system of propelling by means of centrifugal pumps will prove very successful in its application to canal boats. The North-moor Foundry Company are now engaged in executing an order for fourteen boats, each of about forty tons burden, the whole of which are to be propelled on the above system.

**TO DETECT FREE ALKALI IN SOAP.**—If the soap contains resin, Pnscher recommends adding neutral subnitrate of mercury to a solution of the soap. To a solution of the soap containing no resin, calomel or corrosive sublimate may be added, which results in the formation of the black sub-oxide of mercury.

**EXTRAORDINARY FALL OF RAIN.**—The most severe rain storm known for years occurred in the eastern part of Massachusetts on the 2d instant. Four inches of rain fell in three hours! Great damage was done to the crops.

**SOLDER FOR STEEL.**—The best solder for fine steel work, according to the American Artisan, is composed of nineteen parts of silver, one part copper and one part brass. Borax is the best flux.

**SUTRO TUNNEL.**—It is reported, says the Gold Hill News of the 5th inst., that work has already been commenced by starting to sink a shaft on the line of the survey, about a mile east of Virginia City.

**BULLION FROM WASHOE.**—Wells, Fargo & Co. shipped from Virginia City, for the week ending August 3d, bullion to the value of \$231,039, and from Gold Hill, \$144,337.

**A DISCOVERY of a rich vein of silver of the highest promise has just been made at the Pizfram mine, Bohemia, at the depth of 400 fathoms, or 130 fathoms below the level of the sea.**

**The colored boys near Corinth, Mississippi, are gathering bullets from the battle fields in the vicinity, and exchanging the lead for spelling books.**

**The Potosi mines in Missouri, ship ten thousand pounds of lead weekly.**

**MINING AND SCIENTIFIC PRESS.**—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—*Price 10 Cents.*

**SANTA CLARA COLLEGE, S. J.**

SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1877.

TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$35.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

515-1m REV. A. MASNATA, S. J., President.

**The Commercial Herald**

—AND—

**MARKET REVIEW**

Will be issued early on

**EVERY STEAMER-DAY MORNING.**

(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

**The Letter Sheet Market Review,**

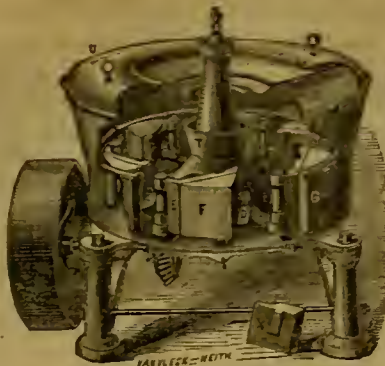
Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

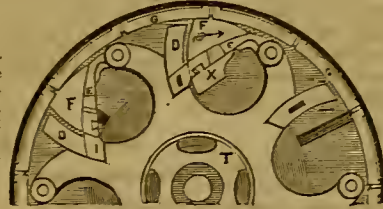
Patent dated April 10th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 300 lbs. each, doing its work rapidly, thoroughly and effectually.

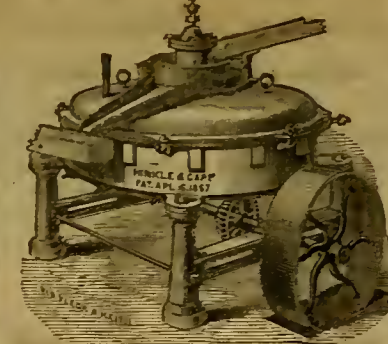
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular millers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 50 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old millers and platens is as thorough and perfect as with new ones. The pulp enters readily between the millers and side dies, the pressure being light in front and heaviest at the heel of the miller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each miller separately, without interfering with or affecting the other millers, each of which is independent, or can rest upon the bottom below the millers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each miller can be lifted out separately by hand, and there is no necessity of lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the millers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The millers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 5 screens. A "sluiceway," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

**EXPLANATION.**—E, miller-hanger; F, miller plate or shoe; G, side die; I, supporting lip; D, bearing surface; P, feeder; X, weight to counter-balance wear of miller plates, or shoes; T, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

dies are easily removed at any time, or when worn out, and an extra set of millers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or miller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that, when fairly tried they fall to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six millers, is about 2100 lbs.; or as arranged for grinding and amalgamating single charges of 300 lbs. of ore, also with extra set of millers, about 3000 lbs. Price, as above, completely fitted and ready for use, either way, \$300, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, CAL. or personally to the above, or S. F. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circular.

PHILIP HINKLE and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco.

25v14-1f

**Portable Steam Engines!**

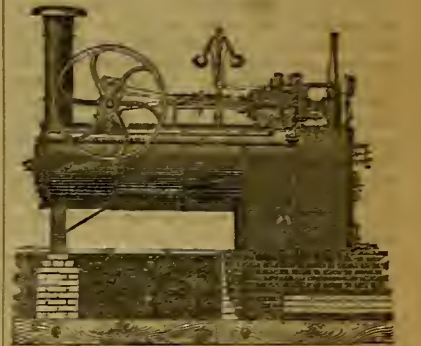
"Hoadley's" and "Hittinger's" Make.



HOADLEY'S.

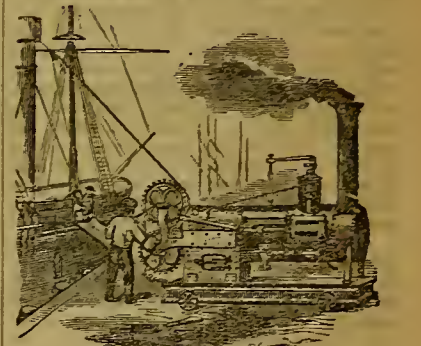
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

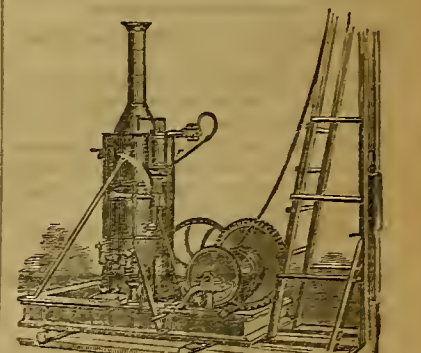
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price.

These Engines are favorably known, a large number being in use on this coast, for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up on these Engines in fifteen minutes after reaching the place of operation, and the time, expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises,) in fact, the portable principle is the pioneer's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outermost corners of civilization the saw and grist mill, and it has done and will do more to help subdue the continent than any other of the modern motors which are crowding society and normalizing the world.

All sizes on hand from 3 to 30 horse power, with and without carriages.

Also, Portable Saw and Grist Mill's. For sale by TREADWELL & CO., Corner of Front and Market streets.

**Stair Work of all Kinds.**  
MADE TO ORDER  
And Shipped to all parts of the Coast.

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Between Market and Mission,  
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CONSTANTLY  
On Hand and for Sale.

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**Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, and ZOOLOGICAL GARDENS.**

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.

To all departments new attractions are being constantly added.

These Gardens are accessible by the Howard, Folsom and Market street Cars.

Entrances on Mission and Valencia streets, between Thirtieth and Fortieth. OPEN EVERY DAY.

Admission, all parts, 25 Cents. Children, under 12 years, half price. 2v11or

13v14-6m

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IMPROVED NOISELESS

**Family Sewing Machine**

Challenges the world. It has beaten the Florence badly Come and see it, or send for Report of the trial.

**SAMUEL SWIFT, Agent,**  
203 Kearny street, near Sutter.

**Pratt's Abolition Oil.**

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Head-ache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Arms, Legs, Back, and Stitches and Pain. It is the doctor's man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 514 Sacramento street, opposite What Cheer House, San Francisco. 10v14-1y

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The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half day, are required to pay at hotels.

W-13-6m SANBORN & CO

**Economy in Advertising.**—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than one-half the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.



California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Aug. 5, 1867.

Col. Ransom in the chair. Donations to Cabinet.—Dr. Behr presented a peculiar sole fish. Prof. Bolander presented 800 specimens of the flora of Chili, and the Curator of Botany was instructed to provide for their preservation.

Requests were received and referred to the Publication Committee for exchange of published transactions with scientific bodies in Bremen and Stuttgart.

Prof. Bolander gave an interesting account of a trip to Humboldt county, in company with Prof. Whitney. He remarked upon a singular interruption of the redwood forests in the lower part of Humboldt, where he found only isolated and meagre groups, while in Mendocino the redwood belt reaches a width of 40 miles. He had expected as he went farther north, towards an increase of moisture, that the forest growths would rather increase than decrease, and the break he found he thought must be attributed to geological causes, or peculiarity of drainage withdrawing subsoil moisture.

Mr. Bolander described a remarkable elevation in Humboldt county, known as Red Mountain, which consists of hornblende rock, highly impregnated with magnetic iron, the oxidation of which gives a red color to the soil and stains everything it touches. There is a smaller red hill of the same character. Near the larger elevation is a remarkable spring flowing into a swamp, and in this swamp were found several new plants, the families of which even have not yet been determined.

At the conclusion of Prof. Bolander's remarks, a general discussion ensued relative to the distribution of forests, their dependence upon rain, and their influence upon climate. Dr. Cooper, Mr. Davidson, Gregory Yale, and others, participated in the discussion. Dr. Cooper remarked that in one of the Smithsonian reports a paper would be found, showing that the heavy forests are always found in nature where heavy rains prevail, and that here plains almost invariably imply a lack of moisture.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1865-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents.

Address, DEWEY & CO., Patent Agents. San Francisco, May 1st, 1866.



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ELEMENTS OF COMPOSITION,

BELLES-LETTRES AND ORATORY.

For Scholars, Teachers, Lawyers, all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, \$1.00

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, PAOR. LAYRES (a meritorious Teacher of long standing in California, and a sound thinker and reasoner,) in his preface says: "The method pursued by the AUTHOR in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Suet.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Felton.

After as careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hatch.

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Denton.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brayton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special plunders and as advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America.—S. A. Exactly correct in its arrangement as to be a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boate.

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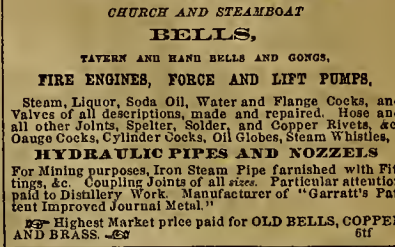
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SAN FRANCISCO, SATURDAY, AUGUST 17, 1867.

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Number 7.

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combinations of the elements, at an elevated temperature, and that the interior heat of our globe is residual, no reasonable doubt can be admitted by the mind imbued with the great truths revealed by science.

There is a plan, wise, deep and eternal, extending back, through innumerable millions of ages, deep into primeval time, and the crust of the earth is but the record of successive revolutions, marking the great epochs in the past history of our globe. Before water rested upon its surface, our globe presented a vast body of molten mat-

ter, with the chemical combination, at an elevated temperature, of the elements of which it was then composed accomplished, and the matter arranged, stratum above stratum, according to its specific gravity, subject to such modifications as attend an elevated temperature. The matter of the least density, such as the alkaline metals and their gangue, would be at and near the surface; those metals of greater density and their gangue at a greater depth; while such bodies as are expanded least at an increase of temperature would occupy the molten interior. During that era the earth must have been surrounded by an extended atmosphere, much more complicated in its composition than at a later period, contain-

ing all those bodies that are volatile at low temperatures, such as hydrochloric and carbonic acids, etc.

It will be my object in this paper to note some of the transformations of matter due to the new order of affinities, consequent to the earth having become sufficiently cooled to allow water to rest upon its surface, and also to note some of the changes wrought in the disposition and arrangement of matter due to the mechanical force arising from the contraction of the earth by loss of heat.

If any reader should doubt the igneous origin of our earth, let him consider the following and kindred facts: Silica forms

and were thus kept comparatively near the surface. In consequence of the contraction of matter by loss of heat, thereby leaving the outer coating too large for the shrunken mass it contains, the solid crust of the earth could only follow or adapt itself by corrugating. This corrugation, or breaking up of the solid rock, is attended by volcanic action, and an earthquake is therefore the result of mechanical action in the earth's crust while adjusting itself to the ever-shrinking mass it contains. Many of the seams or fissures which are thus formed are filled with intrusive matter, representing every grade of igneous rock, metallic and non-metallic, stratum after stratum, to the entire thickness of the earth's crust.

When any considerable elevation of a mountain range occurs, it is evident that two systems of fissures would be formed, viz: the summit or anticlinal fissure, and the base or synclinal fissure, and the synclinal fissure might occur upon one or both sides of such elevation. When the crust of the earth had cooled down to the stratum containing the nobler metals, there must have been a period, during which the ores of such metals were erupted, after the manner of the lava in our own era, and the eruptive period must have continued until the metalliferous stratum had, by loss of heat, ceased to be fluid. Now, if the metalliferous stratum remained semi-fluid or plastic for a length of time after the eruptive era, it will appear evident that anticlinal fissures caused by upheavals during such time or period would be filled by such plastic matter; and thus the period, during which any given igneous rock or ore is brought to the surface by volcanic action, might be prolonged.

My mind received the foregoing hint while making a calculation of how much a chain of mountains is upheaved by the formation of an anticlinal vein or fissure one hundred feet in width. We will illustrate by supposing the crust of the earth to be forty miles in thickness—one-half solid, and the under half (twenty miles) plastic. Now let the crust be suddenly upheaved 200 feet along the anticlinal line. If the synclinal fissure be formed forty miles from and parallel with the anticlinal, the summit fissure would open and remain open 200 feet, providing the crust was solid its entire thickness; but the lower half (twenty miles) is plastic, and the great lateral pressure would cause the fissure to close up to 100 feet in width, and there being no unoccupied space below, the plastic matter would be forced upward to fill the fissure, and perhaps form a large cone above the surface. The lateral pressure at the synclinal fissure being at the surface against solid rock, the fluid matter from a greater depth would rise to fill it, after the manner that water rises to fill fissures in floating ice. We shall see, after giving facts that have bearing upon this subject due consideration, that the era during which any given igneous rock is brought to the surface by volcanic action, is not only prolonged, but divided into periods by a whole geological age. We shall see that the ores of the useful and precious metals were erupted or ejected in a fluid state during the old red sandstone period; that the carboniferous era intervened, during which the ores of magnesium, such as bornblende, serpentine, greenstone, soapstone, etc., were intruded along anticlinal lines and non-metalliferous rock from beneath the metalliferous or quartzose stratum, was erupted, and is found interstratified with the formation; and that, from the beginning of the new red sandstone period to the tertiary and perhaps later period, the ores of the useful and precious metals again found their way to the surface by being intruded in a plastic state along anticlinal lines.

[To be continued.]

## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

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## Formation, Distribution and Age of Igneous Rocks.

### NUMBER ONE.

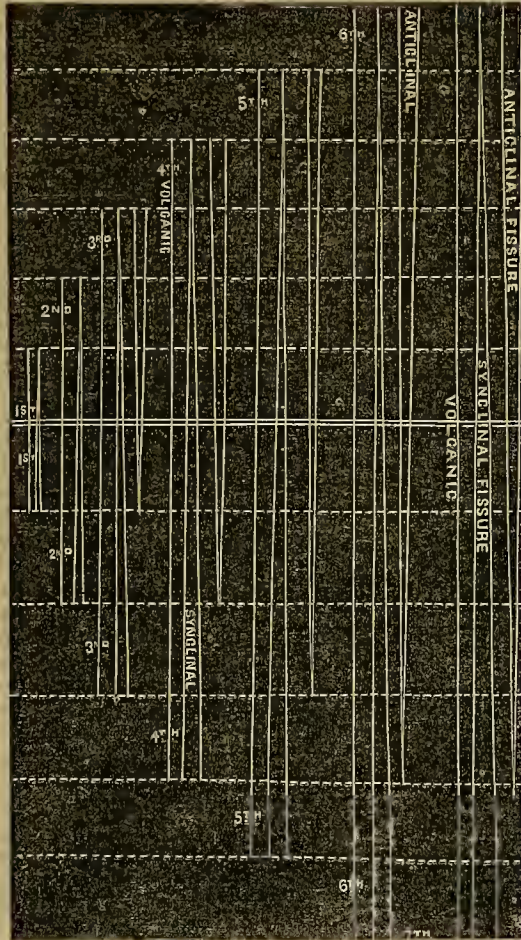
The accompanying diagram is intended to represent the plan of the distribution of igneous rocks. The whole crust of the earth is assumed to be about seventy-two miles in thickness, which is probably not far from the truth. The average thickness of the stratified rocks is supposed to be 42,000 feet. The stratified rocks are divided into six systems of 7,000 feet each in thickness. The unstratified or igneous portion of the crust is also divided into six periods, or strata, of twelve miles each, less the amount brought to the surface to form the stratified rocks. The single perpendicular lines represent the volcanic era of each period; the converging lines represent the synclinal fissures; the diverging lines represent the anticlinal fissures; the oblique lines in the third group of lines passing up through the granite stratum and up through the gneiss, clay state and silurian systems, represent the intrusive era of granite; in the fourth group, feldspathic granite; the fifth, the magnesian rocks; the sixth, metalliferous quartz; seventh, non-metalliferous rock. In forming the diagram, I adopted three initial points—first, the old red sandstone period, as the eruptive era of metalliferous quartz; second, the new red sandstone, as the beginning of the intrusive era of metal-bearing quartz; third, the carboniferous system, as the beginning of the eruptive era of non-metallic rock, as it is in this system the eruptive rock is first found interstratified with the formations. It may not be improper to add that I did not observe until some weeks after making the diagram how perfectly it accords with the chronology of the Bible, as revealed in the Mosaic account of creation.

That the matter of which our earth and all other solid bodies throughout the universe are formed was once in its elementary or gaseous state and pervaded space; that the solid earth is the result of the chemical

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the bulk of most rocks. There is but one compound of silicon with oxygen—viz: silica, which is composed of 48 silicon and 52 oxygen, and this compound is the result of the combustion of silicon with oxygen. Silica, or quartz, is the gangue of sulphurets, which are the result of the combustion of metals with sulphur. Quartz is also the gangue of the metals whose oxides are reduced by heat alone.

When the earth was molten from center to circumference, the alkaline metals, being of the least density, existed on and near the surface, or, in other words, the surface rocks consisted of the ores of such metals as sodium, potassium, calcium, magnesium, etc.; and by a wise provision of Nature in preparing our globe for the habitation of man, the more dense of the metals expand more rapidly by an increase of temperature than the gangue in which they are found,





[Written for the Mining and Scientific Press.]

## The Paris Exposition.

BY A. S. HALLIDIE.

[Continued from Page 82.]  
COAL CUTTING MACHINE.

The coal cutting machine to which I previously referred, exhibited by Messrs. Jones & Brick, and used by some of the coal miners in England, is an important machine, and will, to a great extent, revolutionize the extraction of coal by eaving the necessity of the miner working in the dangerous portions of the drifts—saving life and extracting the coal cheaper and with very much less waste. Although the machine is probably not by any means a perfect one, and is being improved by the different constructors, it already does an amazing amount of economic work, and is generally admitted by the mine owners to be one of the most important adaptations of machinery of modern times.

I visited the coal mines of the Blaiana Coal company, in South Wales, and found several of the machines at work there, as also in the machine shop of the company, several machines in course of construction. Compressed air is employed as the motive power of these machines, and is used to immense advantage, which any one can readily understand must be the case in a poorly ventilated mine, keeping the temperature of the air down in the vicinity of the machine, and enabling the driver to breathe freely in the poor air surrounding him. The labor of the man in charge of the machine is small compared to that of a miner lying on his side, under-cutting, or holeing the coal.

### THE PRACTICAL WORKING OF THE MACHINE.

The thickness of the coal vein in which the machine was employed, under my eye, was about 4½ feet, and I worked the machine, with the pick cutting vertically, horizontally, and at an angle—both in a long face or long work, and in driving or heading. It made ninety strokes with the pick per minute, cutting a hole two feet deep, two inches wide, at the rate of two feet per minute, cutting time, and increasing the depth by a second cut to three feet; being one foot deeper, at the rate of 3½ feet per minute. The average work of the machine, including all stoppages, is about sixty yards per day of ten hours, for long work, against five or six yards for hand labor; and for driving headings it will cut a block five feet square, 2½ feet deep, with four cuts, in *one hour*. I found no difficulty in managing the machine. It is built strong, and will resist the fall of coal on it, as well as the evil designs of most men underground. The machines I saw at work occupied a space 4½ feet long, 3 feet wide, and 2½ feet high, weighing about 1,400 lbs., complete; and worked by compressed air at a distance of about 1,000 yards from the engine. The air was conveyed from the air-compressor by means of 4-inch pipes, reduced as branches are taken off, and ending in 1½ inch pipe and flexible tubing attached to the coal cutter. The pressure of air at the engine was 32 lbs., and at the coal cutter 30 lbs. per inch. But by proper care in thoroughly cooling the air entering the compressor, this difference is materially reduced. The cylinder of the coal cutter is 6½ diameter and 12-inch stroke. The air is compressed by means of two steam engines, having two cylinders 12 inches diameter, under 35 lbs. steam, 15 strokes per minute. The air cylinders are 15 inches diameter, the piston of which is worked by the same rod as the steam cylinder. The air is kept cool by an arrangement of coils. This is found to be very important in compensating for any absorption of heat during its passage to the cutter. These air compressors drive four coal cutters and two or three pumps.

Many parts of the mine, which have been under water in spite of all endeavors to the contrary, are now dry and kept clear of water by pumps driven by compressed air, and which, by means of the flexible tubing, etc., can be moved to any point of the mine with ease and rapidity. The owners of this mine have found this to be of immense advantage, and enables them to drain points

heretofore unworkable, by the ease with which the pumps can be moved from point to point, and the facility with which the compressed air is conveyed to the pumps. The exhaust air pipe becomes rapidly covered with frost from the sudden expansion of the air.

In under-cutting coal by the usual means, much of it becomes almost useless by being broken up and reduced to fine dust, a miner requiring room enough to work and get his body under. In a vein four feet thick, this will amount to about 20 per cent. By the coal cutting machine this is almost entirely saved, as a deep cut two inches wide is sufficient. Slack coal and screenings cost as much to hoist as the best large coal, and are worth about one half as much at the mine; therefore the necessity of getting out sufficiently large coal becomes an important consideration to the mine owner or worker. And again, the use of compressed air, and its material advantage to the ventilation of a mine, in supplying it with a fresh addition of pure air, which, by its sudden expansion reduces the temperature of the mine, especially in the vicinity of the workmen, cannot be too strongly urged, having, in some cases, already obviated the necessity of the use of safety lamps. Another, and the most important consideration in a country where labor is very scarce, is the great economy of the machine in the extraction of the coal, and the fact that these machines do not strike for higher wages.

### Eureka Mine and Mill.

Bean's Nevada County Directory, asserts this to be, as far as developed, the richest gold mine in the world. It was located in 1851, 1½ miles from Grass Valley. The present owners are J. B. Dickinson, Thos. Hope and Benjamin Silliman, of New York, Edwin Hull, W. H. V. Cronise, John C. Winans, Milton Bulkeley, James Freeborn, A. J. Pope, Robert F. Morrow, N. J. Hall, Geo. W. Beaver, L. S. Adams, and Francis Berton, of San Francisco, William Watt, Robert Watt, J. Fricot, A. Pralus and S. Ripert, of Grass Valley. The three Messrs. Watt Brothers have the management of affairs at the mine. They are universally acknowledged to be superior men in this capacity.

The present works comprise the mill, blacksmith's shop, hoisting and pumping room, and drying house. The last named is 20 by 40 feet, in which each under-ground miner has his hook for hanging wet clothing, and a locker to keep his dry clothing in. A separate shaft, containing a ladder for the workmen to ascend from the mine, is covered by this house, where they can assume their dry clothing without first exposing themselves to an improper temperature. This care provided for the workmen by the Eureka company might be profitably imitated by other mining companies in the State.

The shaft now worked is 325 feet, with a 100 foot incline to the lowest level—two compartments. Steel rope, ¾-inch, is used, of California make.

New hoisting works are being erected on a large scale a little higher up the hill. The new shaft has four compartments—one for sinking, one for pumping, and two (with safety cages) for hoisting. Size of shaft, 18 feet 4 inches by 5 feet 3 inches in the clear; angle, same as the lode, about 78°; depth of incline, 500 feet, to be extended to 650 feet. The pillar blocks are to be set with rubber cushions, or springs, to alleviate the sudden strain upon the hoisting rope and connecting machinery, in starting the car, etc. This is the first instance in which we have known of the adoption of this device, which must be a good one. Two 12-inch engines are to be employed to work independently—one for hoisting, and the other for pumping and sinking. The drums are quite large, being 7 feet in diameter, with flanges 13 feet in diameter—the rope is 3½ inch, flat, steel wire, imported by the company. These hoisting works will enable the mine to increase its already large and steady yield of hullion. The lode varies from 2½ to 6 feet, yielding from \$30 to \$70—at an average of \$47.

The mill is about 40 by 75 feet. Has a 45-horse power engine; 20 stamps of 650 lbs. each, run at 60 drops per minute, crushing 40 tons in 24 hours; the screens used in the battery are No. 5, with discharging surface 11 by 14 inches. One brass wire screen, 40 meshes, containing 1,600 openings to the square inch, is used to each battery for water escape, to prevent flooding. The batteries discharge on blankets, which hold 90 per cent. of the gold saved in the mill. The blanket washings are treated in two Attwood amalgamators, the skimmings of which are worked in two Knox pans. These amalgamators are straight, covered boxes, some twelve feet long and two feet square, set at a proper angle. Deep recesses are made across the bottom, which are nearly filled with quicksilver. Revolving shafts, with innumerable iron stirrers, agitate the quicksilver in the riffles, stirring the sand and pulp as it passes through. The Attwood amalgamators are followed by one Hunter's Eureka rubber amalgamator. The blanket sluices are sixteen feet long, and discharge into four of Hunter's rubber amalgamators, which latter, Mr. Watt considers, excellent gleaners. The sands, after passing the amalgamators, are worked in two rockers, 12 feet long by 18 inches wide, in which most of the sulphurets are concentrated. Below the mill there are some 400 feet of sluice boxes, which, by the aid of old gunny sacks, and scraps of all sorts fabric, the attendants are able to glean sufficient sulphurets and amalgam to make their services profitable. The workmen at the mill number 4 rock-breakers, 4 feeders, 4 blanket-washers, 2 engineers, 1 amalgamator, 3 men at the rockers, and 2 at the sluices—total 20, for the twenty-four hours.

Mr. Watt uses a large retort, built upon an improved plan, which we regret not being able to describe.

About ten tons per month of No. 1 sulphurets are saved, and two tons of No. 2. The former yield from \$400 to \$420, and the latter \$250 to \$300 per ton, by chlorination process. No. 1 were formerly sold in San Francisco for shipment to Swansea, for \$282. Now, at a cost about equivalent to freight expenses, to San Francisco, the same quality of sulphurets are made to yield the company \$416 per ton—a saving to California which we take pleasure in noticing.

There are now six chlorination works in and about Grass Valley and Nevada, being an increase of two establishments during the past year. The process is increasing in favor, although it is more applicable to some sulphurets than others.

Mr. Geo. F. Deetken, superintendent of the Eureka Chlorination Works, is meeting with significant success, not only in the treatment of the Eureka sulphurets, but those of other mines, of various character.

Under his direction a new reverberatory roasting furnace has just been erected, of the capacity of four tons per 24 hours. The ores are introduced at intervals through a hopper, from a tramway overhead, at that portion of the furnace farthest from the fire, and subjected to the least heat. Gradually worked forward they reach increased heat, and finally the finishing hearth.

Size of upper hearth, 39 by 6 feet; drop to fire hearth, 8 feet; fire hearth, 6 by 6 feet; finishing hearth, 11 by 11 feet. Two cords of cedar wood are consumed per day, at a cost of \$3.25 per cord. Mr. Deetken's method of introducing salt in the process, is considered by him an important success.

Prof. Silliman thoroughly describes the chlorination (Plattner's) process at the Eureka works, in Bean's Directory of Nevada County, as follows:

This process depends on the fact that the metallic gold is dissolved by moist chlorine gas, while the metallic oxides or chlorides with which it is associated in the roasted ore, are mostly unacted upon. The charge of sulphurets, after roasting, is delivered through an opening in the top of the dome, where a hopper receives them from a tram

wagon. From the time of charging to the completion of the roasting and the arrival of another charge on the hearth is twenty-four hours. The labor required is that of two roasters, or furnace men, one laborer to turn and handle the exhausted ores, and one superintendent. The materials consumed are, for each ton of ore roasted, ten pounds of manganese oxide, fourteen pounds of common salt, and the equivalent of sulphuric acid. The fuel required for roasting is from one cord or less of dry wood in dry weather to over two cords if the wood and atmosphere are damp. A small proportion of salt is used on the hearth with the roasting ore. A dust chamber is placed between the furnace hearth and the chimney to catch the particles of ore carried over by the draft. The roasted charge is moistened after it is sufficiently cool, and is then transferred to a large wooden tub-shaped vat, capable of holding the product of roasting of three tons of sulphurets. This vessel is provided with a false bottom leaving a small void space for the introduction of the gas. The roasted ore is supported on a bed of quartz sand, or tailings, and is sifted in gradually and evenly, care being had that it is neither too dry nor too moist. The gas is started as soon as a few inches of ore are in the vat, the ore being added as the gas follows, until the vessel is filled to within a few inches of the top, when a wooden top is fitted on with flour paste or dough, and the dose of chlorine gas is kept up for about eight hours. Each ton of sulphurets yields about 1,450 pounds of the roasted ore.

The chlorine is produced from the action of oil of vitriol (sulphuric acid) on common salt in presence of peroxide of manganese, in a leaden vessel set over a small furnace. This apparatus is provided with means of agitating the charge during the process, to avoid caking and the melting of the lead. The gas is carried by a lead pipe to an opening left in the lower part of the vat, being washed on its way by water. When the time mentioned has expired, the vessel is permitted to remain until the next morning, when the cover being removed, spring water is suffered to pass through the mass of oxides as long as it washes out any chloride of gold. This solution is conducted to another wooden vat set at a lower level. The first solution which comes over is colored quite strongly yellow with chloride of gold, and so long as the solution, as tested from time to time with a solution of green vitriol, produces therewith the well known greenish-blue color and cloudiness of precipitated gold, the washing is continued. A freshly prepared solution of green vitriol—proto-sulphate of iron—is then permitted to flow into the lower vat until all the gold is precipitated, which settles as a snuff-brown powder on the bottom of the vat, and is finally collected on a paper filter and washed with water until all traces of the iron solution are washed out of it, when its color is blue black, giving an excellent illustration of the change of color in metals due to differences in their physical condition. It is then fused with borax, and gives an ingot of 992 to 996½-thousandths fine. A small trace of gold yet remains in the effete mass of metallic oxides, which is saved by causing this waste material to flow with a stream of water over an inclined plane covered with mercurialized copper plates. The proportion thus saved is not over \$2 per ton of sulphide, and results from particles of gold having a sensible size and which the chlorine has not dissolved. The sulphids of the Eureka mine run from \$250 to \$425 per ton in gold. The silver, amounting to \$10 or \$12 per ton, is lost by the Plattner process, as it is in quantity too small to justify the use of strong brine to save it from the waste as might be done, if it were worth while.

The cost of the whole process, including the salary of the superintendent, does not exceed \$20 per ton of the sulphurets treated.

In the office of the Eureka company, is exhibited a specimen of quartz about two feet in diameter, illustrative of the character of the vein. It is charged with heavy sulphurets, dispersed throughout the ore, with visible free gold; white and gray quartz, alternating with dark streaks, forming what is termed "ribbon" rock. Weight of this specimen about 300 lbs.; estimated value, \$1,000. Mr. Watt showed us various smaller specimens, rich enough to have been termed quartz in gold. Either of these specimens would look well in the MINING AND SCIENTIFIC PRESS Cabinet, Mr. Watt, and had you lent them all to the Paris Exposition, we do not believe California would have been turned off with a silver medal, or, in other words, "damned by faint praise."



## Mechanical.

## Width of Carriage Tracks in the United States.

The question has often been asked, why is there no stated "track" for carriages in this country? Almost every State has different "tracks," and some States have two or three. This causes a great deal of inconvenience as well as expense in altering the "track" to suit the locality where the carriage is used. There does not seem to be any need of this, and we do not believe a good reason can be given why it should be so. It has been suggested that the manufacturers of carriages should get together and agree upon some width of "track," taking pains to adopt one that would be suitable for all classes of work, and allowing a sufficient width of body without bringing it too close to the wheel, there would be but little trouble in having it adopted in all sections of the country. If this could be brought about, the trouble it would save to carriage manufacturers in one year would more than pay for all the cost. At present, some eight different "tracks" are used in the New England States alone; New Hampshire and Vermont using the four feet eight inches track, Massachusetts, five feet two inches, and Rhode Island, five feet five inches. The Connecticut car track is four feet ten inches, while the carriage track in New Haven is four feet eight inches; in Hartford, four feet ten inches. In the eastern part of New York the gauge is four feet eight inches, while in the western part it is from four feet six to four feet ten inches. The New Jersey track is five feet, except in the northern part of the State bordering on New York, where they compromise the matter by using the four feet ten-inch track. The Southern track is generally five feet, while in the Western States there appears to be no fixed width.

This is not only a great inconvenience to the carriage manufacturer, but also to the purchaser. If we buy a carriage in the eastern part of Connecticut, unless we give an order to the contrary, it is made to track five feet, or if we go to Massachusetts, it is still wider, being five feet two inches. This ought not to be, and it is to be hoped that this subject will be agitated among carriage manufacturers until some uniform width of track will be adopted all over the country. Very much injury is done to light carriages by driving in sections where the "track" may not be more than one inch wider or narrower than at the place where the carriage was made. This objection is particularly apparent in the spring and fall, when the roads have been cut up by heavy wagons into deep ruts. The wheels of the light carriage will follow these ruts, causing the springing of the axle or injuring the wheels. In either case the owner of the carriage is disposed to blame the builder. Let a uniform track be established, and manufacturers will not have their patience tried by careless customers.

WHEN an undershot water-wheel is not required to work in both directions, it appears, from the experiments of De Parcieux and Bossut, that a decided advantage is gained by inclining the float-boards towards the advancing stream, at an angle of 20° to the radius of the wheel. The water then becomes partially heaped up on the float-boards, and acts by its gravity as well as its momentum. They also leave the retiring stream with less resistance.

A PROCESS has been patented in England for effecting the reduction of metallic ore into steel or iron, under the influence of intense surface heat, by regulating streams of petroleum or other volatile mineral oils, either by themselves or in combination with forced currents of permanent carbonaceous gases transversing the mass of ore under operation.

It has been proposed to decarbonize and purify cast iron by employing gases as the agents for the production of heat, and as re-agents on the liquid cast iron. The reactions are produced by effecting a series of oxidations and reductions. The chief agents to be employed are water, steam and the reducing gases.

A COOPERATIVE furniture factory, with a capital of two million dollars, and employing six hundred men, most of whom are stockholders, has gone into operation at Cincinnati.

IMPROVEMENT OF STEEL AND IRON.—Mr. C. A. Winter communicates the following to the *American Journal of Mining*: "Some few years ago, experiments were made in Germany, especially in Austrian works, to alloy steel and cast iron with wolfram, for the purpose of improving its adaptability to future manipulation. I have recently obtained these results, and take the liberty to publish the same, as they may be of interest to the iron-works of this country. At present, I briefly give the results, but all further information concerning the manner of carrying out this process is at the disposal of any person interested who might wish to test the nature of this process.

"By the addition of wolfram, puddled steel obtains the homogeneity and hardness of cast steel; its grain becomes hard and fine, and cannot be distinguished by its fracture, nor in its appearance, after being worked up from cast steel. At the same time, it becomes extremely tenacious, malleable (textile) and easily welded. The cost of production of puddled steel is much cheaper than that of cast steel: furthermore, puddled steel alloyed with wolfram is as well, and in some cases better adapted than cast steel for the subsequent manufacture of locomotive and wagon ties, files, saws, mint-dies, corers and edge tools, weapons, etc. The addition of wolfram in the puddling of raw iron has also yielded the most favorable results, since puddled iron, alloyed with wolfram, is adapted to the manufacture of wire and sheet-iron, and especially the armor plates for ships.

The same beneficial effects have been obtained in its application to casting raw iron for cannons, cannon balls, axles and other portions of machinery, propelling screws and rollers, which should be very strong and hard."

A MODEL arial machine has been exhibited in France, which, by purely mechanical force, carries a mouse through the air. A sanguine and patriotic critic declares that France has solved the difficulty of arial navigation, and that a machine proportionally large will raise an elephant much more easily than the model bears its tiny traveler.

A FACTORY has just been put in operation in Philadelphia for the manufacture of carpet from hemp. The material resembles Russia crash, and is printed like calico, one side only being available. The company who have commenced the production will put their goods immediately in the market.

It is reported that Krupp has offered his monster cannon as a present to the King of Prussia. It is valued at about \$100,000.

It is said that a million of dollars is annually made by the sale of Florida cedar wood for lead pencils.

A MAGNIFICENT SIGHT.—The *Copper Falls Gazette* describes a mass of copper now visible at the Copper Falls mine, Lake Superior, as follows: "Imagine a cave thirty feet or more wide, 100 feet long, and in the tolerably level part the floor covered with large loose blocks of copper and rock. The roof is from ten to twenty feet high, and pendant from it hang the ends of huge masses. Looking north along the west, or foot wall side, the roof was highest, and the stalactical points of copper longer and finer than on the other side of center. On the east, or hanging side, a huge mass of copper and rock, thirty feet in length, hung down almost to the bottom of the stope, looking as if it alone would produce a hundred tons or more of metal."

SALT.—The *Havilah Courier* says that the soda or salt lake in Tehachapi Valley have been taken up by Messrs. Narbo. The salt obtained at this lake is of superior quality and the yield abundant. It is expected that 100 tons will be obtained this season.

THE St. Joseph (Mo.) *Herald* says that a nugget of gold, valued at \$182, was recently dug out of a hill near that place, creating quite an excitement among the miners. If such was the case, it was no doubt lost or deposited there by some returned Californian.

Two hours reading of a good newspaper is as profitable as six hours work out of twelve. The farmer and produce dealer equally should understand the markets. Sometimes to know a thing is the same as to earn \$100.

## Scientific Miscellany.

## Evaporation and Condensation—The Sun's Power.

The entire surface of the earth comprises about 200,000,000 of square miles. Of this amount, about 150,000,000 (or three-quarters) is covered with water. Over this vast area there is ever an atmosphere highly charged with aqueous vapor; and as this moist atmosphere is borne along by the winds whenever it encounters a sufficiently cold current, a condensation takes place, and we have rain. The greatest amount of condensation (and consequently of rain), however, takes place when these moisture-charged currents reach the land, and especially the highlands or mountains. In addition to the condensation due to the increased coldness of the land currents, the electrical state of the atmosphere is also more or less charged when it passes from the sea to the land, rendering the atmosphere more or less able to retain its moisture. The vapor, as it rises to a cooler atmosphere, is gradually changed to light, fleecy clouds, the clouds growing gradually heavier and darker, by the gradual multiplication and increase of the vapor molecules, until the atmosphere is no longer able to sustain them; they then fall in rain or snow. Nearly all, probably eight-tenths, of the rain or snow that falls upon the land, comes originally from the sea, from whence it is taken as an invisible vapor. The rain that falls in a single year on the land would, if accumulated in one body, cover its whole surface to a depth of fully three feet. Probably not less than eighteen, or perhaps twenty, inches in depth of water over the entire surface of all the ocean, is elevated into the clouds every year, to fall again, chiefly upon the land, to fructify and invigorate the earth, and to keep in constant flow those great interior arteries of commerce, which everywhere pierce far inland from the ocean shores to the distant mountain regions of the dry land.

How immense and incomprehensible is the power by which this is effected; and yet how silently and imperceptibly does it work! Equally as subtle, equally as incomprehensible, and equally as great as that other power of our central luminary, which keeps the whirling planets in their distant orbits, is this power of heat, by which the earth is warmed and the rivers made to keep up their unceasing flow to the ocean. The sun's attractive force is exerted or affected by only now and then a mere point in the distant space surrounding that body—points occupied by a few wheeling planets and plunging comets. But the influence of the sun's heat, however, passes off in every direction through space. The vast power which it represents must be calculated by multiplying its effects upon the surface of our globe into the effects which would be produced upon the surface of a globe whose diameter would be equal to the diameter of the earth's orbit! The mind is completely lost in such a computation, and can only reflect with wonder and awe upon the majesty, power and goodness of that Being who has created a universe, the proportions of the magnitude to which our system of the sun and planets represents, is but as a grain of sand upon the sea-shore to the vast world we inhabit!

INTERESTING ELECTRICAL FACT.—It is an interesting fact, though one not generally known, that the flame of a blow-pipe is from twenty to thirty times more electric than an ordinary flame. The remarkable conclusion has been come to that there is a voltaic current, and one of no mean intensity, due to flame, and not dependent upon thermo-electricity, or electricity developed by heat. It is believed that by attaching to a powerful pair of bellows a tube from which a row of jets proceed and alternating pairs of platinum in flames urged by the jets, a flame battery might be obtained which would produce chemical decomposition, and all the usual effects of the voltaic pile.

THE FIBROUS NATURE OF IRON.—M. Fresco, who has experimented considerably with regard to the flow of solids, has now recently occupied himself in observing the mechanical construction of metals. He produced at a late meeting of the Academy of Sciences at Paris, several specimens of iron bars carefully oxidized on one side, in order to prove that these bases consisted of an assemblage of distinct fibers, each originating in one of the parts which existed separately in the original mass before pressure was applied. Each fiber could be distinctly traced by the aid of the magnifying glass from one end of the bar to the other.

FRUIT FLAVORED AT WILL.—It is said that a gardener of Ghent has, after many trials, succeeded in giving any kind of fruit the flavor he pleases while it is still on the tree. Let us take an apple for instance; he pricks it rather deeply in four or five places with a large needle, and then lets it dip for a while in a bowl containing a liquid possessing the flavor he wishes to communicate. After a few seconds this liquid will have penetrated into the pulp; and this operation being repeated two or three times at intervals of eight or ten days, the apple is left to ripen on the tree, and will subsequently be found to have acquired the taste either of strawberry, raspberry, cloves, etc., according to the liquid employed.

POWER OF BIRD'S SONG.—When we hear the song of the soaring lark, we may be sure that the entire atmosphere between us and the bird is filled with pulses, or undulations, or waves, as they are often called, produced by the little songster's organ of voice. This organ is a vibrating instrument, resembling, in principle, the reed of a clarinet. Let us suppose that we hear the song of a lark elevated to the height of 500 feet in the air. Before this is possible, the bird must have agitated a sphere of air 1,000 feet in diameter—that is to say, it must have communicated to 17,888 tons of air a motion sufficiently intense to be appreciated by our organs of hearing.—*Tyndall's Glaciers of the Alps*.

A MAGIC RIVER.—In the province of Andalusia, in Spain, there is a river called the Tinto, from the hues of its waters, which are as yellow as topaz. If a stone happens to fall in and rests upon another, they become perfectly united and conglutinated. All the plants on its banks are withered by its waters whenever they overflow. No kind of verdure will come up where its waters reach, nor can any fish live in its stream. It is oxide of mercury and iron in solution; hence their destructive influence on fish and herbage.

THE scientific advancement of which the present age is now weary of boasting, is, in reality, the work of comparatively few minds. The inventors and discoverers of scientific truths are few in numbers, and, with a few noted exceptions, seldom reap much of either the honors or profits of the labor of their brains. Inventors and scientists are seldom practical men.

A NEW idea in photography has been brought out at the East—viz: to take the head of a lady in the midst of the petals of any kind of a flower—a rose, tulip or lily. The profile appears almost smothered in a beautiful and highly-colored flower, with a long stem attached, looking as natural as if it had grown there.

TO OBTAIN FRUIT WITHOUT STONES.—The latest horticultural device is that of removing the stones from fruits by a process of gradual reduction, by extracting the pith from shoots and grafting them on stocks and their own branches for successive seasons. It is said that the experiment has been perfectly successful with the Malaga grape.

AN ARSENIC MINE.—T. T. Garrett, an off and on resident of this city, says the *Marysville Appeal*, has been prospecting in the Coast Range for nearly eight years for minerals of various kinds. He has searched for gold, silver, copper, oil, etc., and has succeeded in discovering copper and soda, and believes he is also the lucky finder of a cinabar ledge. Mr. Garratt recently selected samples from his supposed quicksilver mine and sent them to a friend here for analysis. These samples were taken to Knight & Co's assay office yesterday and reduced by Mr. Aaron and found to be sulphuret of arsenic.

RATS.—An army of hungry rats recently made a raid on the hog pen of a farmer at Sumner Hill, N. Y., and killed and nearly devoured a hog weighing 200 pounds.



### The Empire Quartz Mill.

One mile from Grass Valley, on Ophir Hill, near the Colfax road, stands the finest and most complete quartz mill in California. It is owned by the Empire Mining Company. The building, 90x100 feet, is painted white, presenting a neat outward appearance. Everything looks new and in regular proportion throughout its interior. The machinery consists of an 85-horse power engine, one large size Blake's crusher, thirty 750-pound etamps, sixteen five-foot Baux pane (modified), seven five-foot Knox pans, six eight-foot settlers, one Hendy concentrator (four more being lately ordered). The rock is dumped from cars in front of the crusher. The amount crushed in twenty-four hours—fifty tons—is run through the crusher in eight hours, falling below in a convenient place and condition for feeding into the batteries. The stamps drop sixty-three times per minute. Screens, No. 40, 960 holes to the inch, with discharge surface ten inches high. Two amalgamators, consisting simply of riffles and revolving stirrers (similar to those used in the Attwood amalgamators) are placed close to the batteries. Next are sluices, containing the blankets, upon which the sulphurets and heavy sands are caught. These latter are taken from the bottom of the vats in which the blankets are washed and ground in the Baux pans, which are set in a row just below the sluices. The modifications in these pans consist in enlarging the mullers to eighteen inches in length and two inches in thickness, discarding the covers and adding a concave rim some six inches wide to the top. They are run at thirty revolutions per minute. Below these pans stand the settlers and Knox pans, which are run at twenty revolutions per minute.

We were told by the amalgamator that Hendy's concentrator, which had been run some two months, and its operation well understood, was giving excellent satisfaction. It was being continually tested by comparing the yield of the sulphurets from the batteries leading into the concentrator with the yield from the blanket washings from other batteries. The gold from the concentrated sulphurets invariably exceeded that obtained from the blanket washings. By the introduction of five more Hendy concentrators, it is calculated that four pans (in place of sixteen) will be all sufficient for grinding, thereby greatly reducing the power necessary for running machinery, besides eaving the labor of washing blankets and attending a large number of pans. The introduction of a full complement of Mr. Hendy's machines in this mill, after a careful trial and upon its own merits, as we are fully assured, is certainly a high recommendation.

The engine room occupies about twenty-five feet square of this mill. Engine, 85-horse power; 18-inch cylinder and 4-foot stroke; fly-wheel, sixteen feet diameter, weighing 1,750 pounds. Two tubular boilers, forty-six inches by sixteen feet, occupy an additional building, a little larger than the engine room. Boilers supplied with patent injectors, by Stoddart. Usual weight of steam, fifty-five pounds, although thirty-five pounds will run the whole works. Five cords of wood are consumed per twenty-four hours.

The amalgam room occupies about 25x25 feet, contains three small prospecting pans, and a full complement of other fixtures, well arranged to facilitate this portion of the work. A hose is attached to a steam pump of sufficient force to extinguish a fire in any part of the mill. The firm manner in which the fine engine, and in fact all other machinery about the mill, is set and operated, affords a pleasant sensation to the visitor in contrast with the agree-like propensity exhibited by old quartz mills in general. Everything seems to be arranged with a view to convenience and economy in time. Only seven men are employed at a

time about the mill—one at the crusher, two feeders, three blanket-washers and amalgamators, and one engineer.

The Empire mill is supplied with ore from two shafts—one at the site of the old mill (now used only for hoisting and pumping purposes), and the other at the new hoisting works. Both are within 100 yards, and connected with the mill by a double tramway.

The new hoisting works occupy a building 50x50 feet. The power is a 50-horse engine, with Corliss' patent cut-off. The incline is 500 feet deep, and the engine raises about six inches of water and 350 car loads per twenty-four hours, consuming only one and a half cords of wood. The shaft has separate compartments for pumping, hoisting and lowering. Drums four feet diameter with five-foot flanges. They act independently, raising and lowering at the same time. At the old hoisting works, the incline is 600 feet. Some 250 car loads are raised daily. Two men only are employed at each of the hoisting works.

The ore from this mine averages at least from \$40 to \$50 per ton. The lode has been proved a distance of 1,500 feet. Will soon have opened up 200 feet of backs 300 feet along the 675-foot level. Ledge at the bottom of the shaft two and a half feet wide, apparently of the best class of ore.

The company own 2,000 feet of the lode, the mill being located in the center of the claim. They have also in their possession 5,000 feet of an adjoining parallel lode. Captain S. W. Lee is general superintendent at the mine, and under his direction the present works were erected. The owners are, J. P. Pierce, A. L. Morrison, A. H. Houston and Captain S. W. Lee.

**SAFETY CAGES.**—Several recent writers in the London *Mining Journal* have expressed the opinion that the numerous efforts of modern invention to prevent accidents, in ascending and descending mining shafts, rather have a tendency to increase them, for the reason that they tend to cause carelessness on the part of those whose neglect they are intended to compensate for, and the mischief they are intended to prevent is often produced by their cutting or breaking the guides, etc. One writer says: "I believe that every year we are going further back, rather than improving, in consequence of the increasing effort on the part of the public to render compulsory the use of scientific and theoretical safety apparatus, which, in the hour of need prove themselves to be worthless, and the decreasing inducement, through this interference, to employ really competent and intelligent workmen for responsible duties." One of the most prolific causes of such accidents appears to be "over-winding." There is too much of a desire to save time. The usual speed of an ascending cage is often so rapid that it cannot be stopped in less than thirty feet; hence, a slight miscalculation often results in some terrible disaster. One hundred feet of winding per minute, or but little in excess of that, is given as the utmost speed consistent with anything like a fair degree of safety.

**OUR FUTURE.**—The States of the Pacific Coast are as populous and wealthy as were the whole Colonies in the time of the Revolution. California produces more flour, and Oregon more butter, than they can eat, to say nothing of their mineral productions. Added to this, when we take into consideration the immense superiority in the engineering for political and social progress which we now possess, over that enjoyed at the commencement of our national existence, who can predict the progress which the Pacific Empire will make before the middle of the next century?

**HENDY'S PATENT CONCENTRATORS** are getting a fair start at Grass Valley, Nevada county. The four put up at the Forest Spring mine, we are told, are doing well.

**THE LATE METEOR IN OREGON.**—A correspondent writing from Monmouth, Oregon, Aug. 6th, gives the following account of the brilliant meteor recently seen in Oregon, and of which the papers have given a very imperfect account:

About eight o'clock on last Wednesday evening, (July 31st), a body about one-fourth the diameter of the full moon, and of a bright red color, suddenly appeared in the eastern sky, at an elevation of about 15 degrees above the horizon, and moving slowly in a northwesterly direction, constantly keeping at about the same elevation. In about half a minute from the time it was first observed, it seemed to explode, about one-third of the mass falling slowly behind, while the remainder kept on its course, assuming a hairy appearance something like a small comet, and for a moment emitting sparks like a piece of hot iron, when struck. After a few seconds, the smaller portion was again divided into two parts, both of which started downward and soon disappeared. The larger mass kept steadily on in the same direction for about two minutes, when it disappeared behind a mass of clouds in the north, and was seen no more. No one here heard any sound at the time, and though observers at Salem and Vancouver speak of it as much larger than it appeared to us at this point, yet no one speaks of hearing any sound. Several small meteors fell within a few minutes after the disappearance of the large one, but their appearance was not unusual.

**CHLORINATION WORKS IN SIERRA COUNTY.** Chlorination works have just been put in operation at the Gold Valley mines, near Downieville, in Sierra county. Mr. G. H. Gray, the Superintendent of the mine, and one of the proprietors, writes us that the first batch of two tons of sulphurets have been put through the works, with a most satisfactory result. These are the first chlorination works in Sierra county. The mine on which they are located contains an unusually large percentage of sulphurets, and cannot be worked to a profit by any mere mill process, as the proprietors have learned to their cost. A lot of the rock was sent down to this city, some time since, and worked by Mr. Mosheimer, at his works near North Beach—the sulphurets being concentrated and subjected to the chlorination process. The result was so satisfactory as to induce the proprietors to proceed immediately to the erection of similar works at the mine. Mr. Gray, having thoroughly acquainted himself with that process by a course of instruction under Mr. Mosheimer, has since superintended their erection, and has put them in operation, with the above satisfactory result. There are, no doubt, many other mines in this State whose yield might be largely increased by similar management.

**SCIENTIFIC AGRICULTURE.**—It is said that France obtains 50 per cent. more wheat per acre than the United States, and that England exceeds our yield by more than 100 per cent. The difference is altogether owing to superior cultivation and manuring. The soil of the wheat growing districts of this country is naturally more productive than that of either France or England. The wheat growers of the United States wear out a natural soil in about twenty-five years, and then move to a new locality. The time has about arrived when any further removals will place our Atlantic friends at too great a distance from a market to make wheat raising a paying crop for transportation. The former will then be compelled to resort to the aids of science, which he now generally effects to despise. Would it not be well for our California wheat growers to consider these facts. The method of wheat culture in this State is more extravagant and improvident than that practiced in any other country on the globe.

**MINING SECRETARY.**—The special notice concerning a situation as mining secretary, which appears in this paper, relates to a gentleman of ability who has the highest recommendations. A portion of his time only being occupied now, he wishes to make a further engagement.

### Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!

#### REASONS WHY.

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, be no nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium at State Fair

#### Opinions of the Press and others in regard to Bussey's Combination Lock.

The Bank of British Columbia ordered the first one of these locks introduced in this city, and the following recommendation has been received by the inventor:

BANK OF BRITISH COLUMBIA,  
San Francisco, May 24, 1866.

Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor, and in every way meet our fullest approval.

They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We deem the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable.

As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it.

WM. H. TILLINGHAST, Sub-Manager.

We do hereby certify, that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and impossible to be picked. We have applied several to Vaults and Safes, to entire satisfaction to parties interested.

KITREDGE & LEAVITT,

Pioneer Iron Works, cor. Fremont and Market sts.

SAN FRANCISCO, May 6, 1867.

I do hereby certify, that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safes and Vaults in every other respect as good as any other improved combination lock which I am acquainted with.

JOHN R. SIMS,

Vault Manufacturer, Oregon street.

JACKSON, April 27, 1867.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons:

1st.—Because it is impossible for either burglar or expert to pick it.

2d.—The lock being constructed without a key-hole, it cannot be blown to pieces by powder.

3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making.

R. COSNER.

Attested by J. C. SHEPMAN, County Clerk.

JACKSON, April 27, 1867.

The undersigned, Treasurer of Amador County, do hereby certify, that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any bystander gaining a knowledge of the set of the combination, when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it.

OTTO WALTHER.

Attested by J. C. SHEPMAN, County Clerk.

**CALIFORNIA LOCK AHEAD.**—A special premium was awarded Mr. W. C. Bussey, for his superior Combination Powder and Burglar-Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been confirmed since by its practical use. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.—[Mining and Scientific Press, Sept. 29, 1866.]

They are the only SAFE lock ever invented. Every State and County treasury vault, and every bank and business place should have one.—[Amador Ledger.]

This is a lock in which a number of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts. whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which he was awarded a special premium at the State Fair.—[Sacramento Union.]

We, the undersigned, practical Locksmiths, unhesitatingly pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed.

F. MARKT & C. FLETCHER,

No. 18 Post street.

#### REFERENCES:

R. COSNER, Sheriff.  
O. WALTHER, Treasurer.  
W. JENNINGS,  
C. H. INGALLS, } Supervisors.  
L. McLAIN.

Any good locksmith can put this lock on safe doors. Boxed or single old locks removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—[See page 30 in Pacific Coast, whereby an expert deaf blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination.]

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MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, and DATE OF ASSESSMENT. Lists various mining companies and their financial details.

Table of Retail Prices for various commodities like Coal Oil, Butter, Eggs, etc., with prices per gallon or pound.

San Francisco Metal Market.

Table of Prices for Invoices for various metals and alloys, including Tin Plates, Sheet, and other metal products.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table of Stock Prices for various companies and bonds, including United States 7-10ths Bonds, San Francisco City Bonds, etc.

San Francisco Market Rates.

Table of Wholesale Prices for various commodities like Flour, Sugar, Coffee, etc., with prices per barrel or pound.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

SOUTH SAN FRANCISCO DOCK CO.—San Francisco, Aug. 7th. Capital stock, \$500,000; 500 shares, \$1,000 each. Trustees: Henry B. Brooks, J. DeForest, L. Williams and H. Rosekrans.

ELECTION OF OFFICERS.—LABORERS' UNION BENEVOLENT ASSOCIATION.—Aug 5th. Trustees: D. F. Driscoll, John Cronan and Patrick Heffran. President, Wm. Simpson; Vice-President, John Green; Treasurer, Mathew Clarke; Financial Secretary, James Callaghan; Recording Secretary, John Coogan.

CO-OPERATIVE UNION ASSOCIATION.—Aug. 8th. President, B. H. Freeman; Treasurer, H. F. Williams; Secretary, Addison Martin.

PHILADELPHIA SLIDE G. & S. M. Co.—Aug. 14th. Trustees: A. H. Baily, E. H. Taft, S. Klein, E. R. Haully and J. E. Magary. President, A. H. Baily; Secretary, F. Creighton; Treasurer, S. Klein; Superintendent, Wm. T. Gibbs. Office, 208 Sansome street.

MILLSTONE MANUFACTURE.—Mr. C. F. Travis has recently commenced the manufacture of French burr millstones, at 109 Mission street, in this city—a branch of business, we believe, never before introduced on this coast.

WOODWARD'S GARDENS.—This charming place of suburban resort will be open today, and the proceeds of the day will be devoted to the San Francisco Benevolent Association.

THE UNION PACIFIC RAILROAD.—The Union Pacific Railroad is now opened to Julesburg, 376 miles west of Omaha, and the daily trains have commenced running each way. Over 600,000 pounds of freight was awaiting the opening.

MINING IN CORNWALL, of every description; appears to be at a very low ebb at the present time, and various speculations are being indulged in as to the most ready and effectual means for resuscitating it.

AN INSTRUCTIVE BOOK!

ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY.

Prof. LAYRES' For Scholars, Teachers, Lawyers, all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, \$1.10

This is a new publication, and is stylo and treatment of the important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner,) in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Stead.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for clearness and simplicity of style, it would be worth the while, without a rival. I regard your work as the best of its kind. I know of but few men in my profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal clearness and simplicity of style, it would be worth the while, without a rival. I regard your work as the best of its kind. I know of but few men in my profession who would not be benefited by its careful study.—Wm. H. Hill.

It is admirably arranged to develop the correct use of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Deman.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—C. G. L. Wood.

I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. East, d. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brayton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boate.

ESTABLISHED [MAY, 1860.] VOLUME FIFTEEN

Mining and Scientific Press, COMMENCING JULY, 1867. DEWEY & CO., Publishers.

Issued every SATURDAY, at our Book and Job Printing Office, 505 1/2 Clay street, corner of Sanson, San Francisco. Terms in Advance—One year, \$5; Six months, \$3; Single copies, 15 cents; Monthly rates, \$5.50 per year, or 6 cents per number. Back Volumes from January, 1864, \$3 per volume; bound, \$5 per volume.

DEWEY & CO., Proprietors, Mining and Scientific Press Patent Agency, Newspaper, Book and Job Printing Office, 505 1/2 Clay street, San Francisco.

Blanks, Blank Mining Books, Constitution and By-Laws Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press. Orders from the interior faithfully attended to.

To the Legal Voters of the City and County of San Francisco.

Prompted alike by a sense of duty to myself and to the public, and in compliance with the request of several hundred citizens, tax payers and friends of the Public Schools, representing the different political sentiments, religious creeds, nationalities and classes of the San Francisco community, I hereby announce myself an independent Candidate, at the approaching election, for the office of Superintendent of Public Schools. In so doing, I deem it proper to say that I do not thereby appeal from the decision of any party or convention, but simply think it a matter of right, and, under existing circumstances, eminently fit to refer the subject of my candidacy directly to the people, the parties interested; and I think I may properly solicit, and with reason expect, the continued support of the friends of education, and that of all others who think I have faithfully and usefully discharged my duties during the past two years in the office to which I seek a re-election.

I am induced to ask your support, and the more readily comply with the wishes of personal friends and the friends of Public Schools in becoming a candidate, since I am invited to do so "without respect to political considerations, which it is thought should be disregarded in the choice of school officers." Having devoted the best years of my life to the education of the young and to the interests of this city and the State in that connection, I feel that I am justly entitled to the public which I have served. It seems to me that I have discharged my duty as a citizen, and I feel that I am justly entitled to the public which I have served. It seems to me that I have discharged my duty as a citizen, and I feel that I am justly entitled to the public which I have served.

Profoundly thankful for your generous support in a former election, I remain, respectfully, J. C. PELTON, 615-15v

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivaled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the fineness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry.

The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate costiveness, and remove regularly every impurity of the blood.

They are unrivaled as remedies for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them? The Old Man Takes them as a tonic and mild rejuvenator. The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overtasked body.

The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health; to give a sparkle to her eyes, and sweetness to her breath.

The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with health, wealth and comfort to all his family.

The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness. Children Take them as a gentle, yet effective tonic. The Drowsy Takes them as a mild, pure stimulant, containing none of the deleterious, essential and luscious of forbidden drinks. The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does not madden or destroy. The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.

Everybody Takes Them! PRO BONO PUBLICO! 2-156m



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Aug. 10th: Davidson's mill, after running a few days, shut down for repairs. It seems the foundation of the battery was found to be shaky, causing a loss by leakage of too much crushed material to be profitable in the case of ore costing \$100 per ton. The results of the working, with this exception, are entirely satisfactory to the parties concerned. The ore turns out as well and works as close as was anticipated by those under whose counsel the contract was made.

The Mountain Co. made 49 ft. of tunnel last month, and had a regular flood of water to contend with most of the time. McCuen has drawn to his aid a set of hands who will not let up for trifles, who have each imbibed a goodly portion of the indomitable spirit of their leader—a determination to see the old Mountain lode 1,200 ft. below the croppings as soon as powder and muscle will permit.

Some very rich pockets of the decomposed substance bearing the black ore have lately been struck in the Tarshish mine. We were shown a quantity yesterday just as it came out, which would assay at least \$2,000 per ton.

Orders were received by Supt. Ransom, a few days since, to put two shifts on, and push the north drift in the Morning Star lode to the second chimney. Accordingly, four more men are working this week.

The Pennsylvania Co. have elected the old Board of Directors again. The management is in hands capable to open and develop the mine, and determined to see that hope through to its fruition.

No idlers can be found here now; all the old residents are at work, and quite a number of new hands recently arrived have found employment at good wages.

## El Dorado County.

The *Evening Bulletin* of Aug. 5th, says: The average yield of the Shepard mine has been \$25 per ton. Mr. Shepard has obtained at different times from the mine, specimens varying from \$100 to \$500 in value.

A shaft has been run in the Independent claim 400 ft. since the 12th of March. The lead is three ft. wide, and yields \$95 per ton.

The old 10-stamp mill, belonging to the Pacific, has been removed to another locality, and the mine has passed into new hands.

On the bedrock of the Buckeye mine, below the cement, a number of nuggets, of from \$5 to \$75 in value have been found. The owners estimate that it will take 25 years to work out this claim with a 40-stamp mill, or one of Cox's large cement mills.

## Inyo County.

*Virginia Enterprise*, Aug. 9th: The Kearsarge correspondent writes: We were yesterday shown some very fine specimens of ore from Lone Pine. The majority of the specimens are argentiferous galena—such as to wholly destroy the regular galena crystallization. Among other curious mineral specimens was a large piece of asbestos, so pure that it could be twisted into strings. The Mexican miners now in the district manage to make good wages, notwithstanding the scarcity of water.

The mill of the Kearsarge Mining Co. is a first class 10-stamp straight battery, with six Wheeler pans, settlers, etc., complete, enclosed in good spacious buildings, with water close by in abundance.

A lot of ore from the mines of the Silver Sprout Mining Co. was forwarded to San Francisco to test its value, as well as to study and experiment in order to discover the best mode of extracting the metal. We give the result: One experiment of 150 lbs. went \$424.62 silver, \$34.42 gold—total per ton, \$459.04. One experiment of 150 lbs. went \$483.47 silver, \$40.00 gold—total per ton \$523.47. The same ores worked without the application of fire yielded as follows: One experiment of 100 lbs. went \$195.67 silver, \$52.90 gold—total per ton, \$248.57. One experiment of 100 lbs. went \$241.94 silver, \$44.51 gold—total per ton, \$286.45. Two thousand pounds of the same shipment went as follows: Silver, \$507.50; gold, \$62.78; total, \$570. A lot of 75 bags, or about two tons, from the same mines was forwarded to San Francisco, which yielded as follows: Silver, \$776.50; gold, \$70; total, \$846.50.

## Mono County.

*Virginia Enterprise*, Aug. 8th: The Aurora correspondent writes as follows: From several assays made of ore from the lode of Pollux, Rock & Till, it is evident that the vein will pay no less than from \$40 to

\$60 per ton. There has been already located some 4,700 ft. upon the supposed line of the ledge, which can be traced for three miles by the peculiar metallic formation and float rock that is found near Dunderberg Hill.

## Nevada County.

*Gazette*, Aug. 8th: Battis & Co. have recently struck a splendid pay lead 1¾ miles above Washington, on the Yuba. It is supposed to be a continuation of the old Rocky Bar channel. The company are taking out as high as \$12 to the pan.

Aug. 10th: The owners of the Wisconsin ledge are now taking out rock from the 3d level faster than they can get it crushed. The last rock worked at Larimer's mill paid as high as \$81 per ton.

Aug. 14th: The Providence Co. have commenced active operations again, and have been crushing rock for the past 10 days, night and day. They are taking out quartz from the upper level, near the surface, at which point the ledge is about 10 ft. wide. Some of the rock shows a large proportion of sulphurets, and it is in the same chimney of rock that paid over \$20 per ton, three years ago.

The Cornish mill, owned by the Richard Bros., is now in active operation, crushing rock from the Ural ledge. The mill has six stamps, and the rock averages from \$16 to \$25 per ton. The ledge is from two to four ft. wide. Sometimes the gold is nearly all caught in the battery, and then again it is taken almost entirely from the sulphurets.

The owners of the old Wyoming ledge, situated near the Ural, made arrangements some weeks since for the re-opening and working of that mine. About 60 tons of rock has already been taken out, which will yield good pay. We were shown a very rich specimen a day or two ago, containing much free gold and gold bearing sulphurets. A mill was erected on this mine in 1852, when it was worked quite extensively, but it failed to pay at that time, and the mill was removed.

**EXCELSIOR.**—Meadow Lake *Sun*, August 10th: The Excelsior Co. have struck a rich streak of ore on the southeast end of their ledge, at the point where the Green Emigrant runs into their ledge. The ore resembles in appearance that lately worked by the Green Emigrant Co. at the California mill. They have also struck some beautiful looking white quartz in the tunnel which they are running.

The Mohawk & Montreal Co. have struck the ledge of their mine, on the third level, at a depth of 300 ft. from the surface. The tunnel on this level is 40 ft. in length. The rock looks splendid. We never saw finer looking ore than that shown us yesterday by Mr. Chappellette, who took it from the farther end of the above-mentioned tunnel.

The Star Co., Comet ledge, have just levied an assessment of \$1 per foot, preparatory to commencing work on their mine. They have a shaft on their ledge 47 ft. in depth. The ore discovered thus far is of a desulphurized character, and very rich.

We were yesterday shown by Mr. Chappellette 85 ozs. of bullion, valued at upwards of \$1,200, from the Mohawk & Montreal mine. This was obtained from the plates merely, the batteries not have been touched yet. A day or two ago, four tons of tailings from the rock, worked at the Winton mill, concentrated about 65 per cent., and worked at the chlorination works by Wm. Lubbert, yielded \$139.

## Plumas County.

The La Porte correspondent of the *Marysville Appeal*, Aug. 9th, says: The mining is about closed, and our miners seem to be well satisfied with the result, having done exceedingly well.

## Sierra County.

*Downieville Messenger*, Aug. 10th: Excellent prospects have been obtained in a quartz ledge owned by Watson & Co. This ledge formerly paid well, but was lost, and laid idle for several years. They now have a ledge 4 ft. wide, which prospects splendidly.

The Comet Co. have struck it rich, and are taking out fine pay.

S. W. Forbes recently took to San Francisco several hundred pounds of rock from two partially developed ledges—the Good Hope and Eureka—for the purpose of having them tested by some new process recently discovered. Several runs have been made by mills here upon Good Hope rock, and with good results, but not up to what the stockholders think the rock ought to pay.

## Sierraville County.

*Yreka Union*, Aug. 10th: The Portuguese ditch, in Shasta Valley, has lately been sold to Chinamen for \$1,800.

## Tuolumne County.

*Sonoma Herald*, Aug. 10th: Active operations have been resumed on the Confidence

mine, and the cleaning out of the original tunnel is rapidly going on. The highest value of the rock obtained has paid \$30 to the ton. The vein varies from 4 to 14 ft., and its average value is estimated at \$15 to the ton.

## Yuba County.

*Marysville Appeal*, Aug. 6th: Knight & Co., of the assay office, are assaying a large quantity of the precious metals at this time. They have of late been running their crucibles night and day, and yesterday morning completed for shipment 28 large golden bars.

## ALASKA.

[Under this head we propose to give all the information it is possible for us to obtain, concerning minerals in our newly acquired northern Territory of Alaska.]

M. P. Berry, of Salem, Oregon, writes that in 1862 a party of prospectors, on the Stickeen river, 300 miles from its mouth, found gold and silver of great wealth. They worked with hand-rockers eight days, and realized \$13.50 per day in native silver, and \$1,100 in the aggregate in gold. The silver was washed out in pieces sometimes as large as a quarter of a dollar. They also found rubies and agates, and on Bristol river, copper and coal croppings.

The *Portland Herald* stated that C. Gaffney who has just returned from Sitka, reports that coal mines exist in great quantity, and the coal is of extra quality.

A fine article of copper is found in abundance somewhere on the mainland, about 300 miles from Archangel, but the natives have a superstitious idea about it, that has as yet prevented search being made for the mines by the whites.

## ARIZONA.

*Miner*, July 27th: Maj. Coffin, of the Bully Bueno mine, arrived here on the 23d, via Mohave. The Major comes prepared to cancel the indebtedness of the Philadelphia Co. which he represents, and to advance work upon the Bully Bueno and Yahoo mines.

## BRITISH COLUMBIA.

*Cariboo Sentinel*, June 22d: A Squamish Indian showed us yesterday two specimens of gold, which he alleges he obtained from rock about 20 ft. above the level of the sea and contiguous to where the Squamish river debouches into Howe Sound. One specimen consisted of about equal parts of gold and quartz, the value of the gold being, we should say, \$1. The other was pure gold, in that arborescent form in which it not unfrequently exists in the quartz, and had the appearance of having been newly taken from the matrix by the roasting process, and by which the Indian says he obtained it. Its value was, we should judge, about \$1.50.

July 1st: The following is the amount cleaned up by the different mining companies during the past week: Williams' creek—Davis Co., 122 ozs.; Neversweat Co., \$10 per day to the hand; Forest Rose Co., 13 ozs. for one day; Ruby Co., \$2.50 to the pan. Conklin's Gulch—Moonlight, \$1.75 to the pan; Ericsson, 46 ozs.; United, 18 ozs.; Reed, 46½ ozs.; Indian Queen, \$20 per day to the hand. Stout's Gulch—Alturas, 132 ozs. in three days; Mucho Oro, 40 ozs.

In Black Jack Gulch, the Annie Walker Co. cleaned up \$400 for the week ending 23d June.

July 8th: The Wilson Co., at Williams' creek, cleaned up for the last week \$1,060. The Tennessee Co., for the same length of time, cleaned up 50 ozs., being the result of the labor of two men. The Six-Toed Pete Co. cleaned up for the week 30 ozs.; Davis Co., 110 ozs.; Aurora Co., 45 ozs.; Borealis Co., 47 ozs.; Forest Rose Co., 45 ozs.; and Ruby Co., 40 ozs.

In Conking's Gulch, the Alturas Co. cleaned up for the week 184 ozs.; Jenkins Co., 40 ozs.; Mucho Oro Co., 20 ozs.; U. S. Co., 105 ozs.; Ried Co., 20 ozs. Indian Queen Co. are making from \$10 to \$12 per day to the hand.

At Nelson's creek, there are 25 men, making from \$7 per day upwards.

On Hixou creek, there are 12 men at work on the Washburno quartz lode, and some 11 or 12 white men are working surface diggings, making from \$8 to \$9 per day. Before our informant left, two Indians camp, bringing several large pieces of gold, which they stated had been picked up by them at a place some 60 or 80 miles from Cañon creek, on the western side of the Fraser. As the Indians are well known to Messrs. Pollock and Geddon, of Hixon creek, these gentlemen are about to form a party to accompany them to the locality.

The Cherry Creek Co. have had three samples of ore assayed at the Government Assay office here, and the result is as follows: Specimen No. 1, taken from the black ore lead, gives 1,591 ozs. of silver and 6

dws. of gold to the ton. Specimen No. 2, taken from the hillside, gives 1,259 ozs. of silver, with traces of gold. Specimen No. 3, from McWorthy's tunnel, gives 163 ozs. of silver, with traces of gold.

July 11th: Some what of an excitement was felt yesterday in consequence of the prospects obtained by the Moonlight Co., in Conklin's Gulch. They were reported to have washed out \$21 in three buckets of dirt. The Indian Queen Co., immediately below them, got as high as \$18 to the pan.

The Ruby Co. found a piece of gold last Tuesday which weighed \$90.

## COLORADO.

*Georgetown Miner*, July 18th: The Silver Cloud lode, although not opened to any great depth, has a vein of solid ore four ft. in width bearing sulphurets of silver, silver glance and some show of chloride of the same metal. One wall rock has been disclosed, having a true perpendicular bearing, and a surface as smooth as a plank.

July 25th: The Georgetown Silver Smelting Co. took out last week \$800 worth of bullion. A vein of the finest argentiferous galena 2½ ft. wide, has been disclosed in the Boston lode. Blocks of pure ore weighing 300 lbs., have been hoisted from the mine.

The Little Giant smelting furnace was started up on galena ore last Monday morning, for the purpose of filling the hearth.

The tunnel on the Herring lode is now in 370 ft., and the shaft on the lode is now 170 ft. in depth. The shaft will strike the tunnel at a depth of 450 ft., at a distance of 900 ft. from the tunnel. It has already crossed many lodes, but their value are not yet ascertained.

The Muscovite lode has been sold for \$15,000. The lode presents the largest mass of pure argentiferous galena of any lode in the country.

Thos. H. Sweeney, of Georgetown, and Capt. Eugene Gausson, of Baltimore, Maryland, have purchased the Mountain Chief lode, in Idaho Dist., for \$10,000, payable six months from date.

Specimens of ore from the New Philadelphia lode look very promising. The lode is constantly increasing in size and quality.

Martine's works are running on Nuckolls ore.

At South Boulder, Horton, Frothingham and Jones are mining the Oro Cach lode, and are taking out ores which prospect very richly. As soon as their new machinery arrives, they will commence running their mill.

Col. Graflin is running his mill on the ores of the Porigo lode with satisfactory results. L. A. Wait is engaged in mining just below the Rollins sawmill, on the bars of the Boulder. He is employing a large force and is making it pay.

Prospecting is now being extensively carried on in Downieville, Montana, Morris, Bunner and Iowa Dists., and we hear of many valuable lodes being opened up. Lodes are being rapidly developed, and rich ore is being piled up, waiting for works to reduce it.

The shaft on the Hunkadora lode was 20 ft. deep at the close of last week. Very superior looking stuff was then being taken out of the mine.

Fred Clark deposited in our office the other day a big chunk of ore from the Terrible lode that attracts much attention on account of its size, weight and purity. It is zinc, carrying \$200 in silver to the ton, and the lode produced it in large and inexhaustible quantities.

The parties who bonded the Nuckolls lode, allowed the bond to become forfeit, alleging as a reason that they could buy all the lodes they desired for a thousand apiece.

At James Creek, Behee's mill is running ores from the Indian Jack and Potosi lodes, with good results. The bedrock has been struck in the gulch where Cobb, Clough, Fry and Hopkins are mining, and a fine clean up will soon be made. Messrs. Cobb, Fry & Co. are building a 14-stamp mill to run on quartz from the Potosi lode. From the prospects of top dirt, it is thought that about \$300 to the cord will be obtained. Mr. Stanley is taking out \$100 to the cord of ore, with an arastra. Water is rather low, but a ditch is being constructed which will bring the water from St. Vrains, and furnish enough for gulching and arastras along James Creek.

We saw this morning, in the office of Byers & Schirmer, a very fine prospect of free gold, from ores from the Hattie Jane, Yosemite, Free Gold and Solux Tyeec lodes in Granite Dist. Prof. Schirmer informed us that the average yield per lode, from panning and washing six ozs. of quartz from each was \$1,043.94. An assay by the Professor yielded as follows: Solux Tyeec lode, \$1,212.94 per ton; Free Gold lode, \$1,316.74 per ton; Hattie Jane and Yosemite lodes each, \$1,307.35 per ton.



## IDAHO.

World, July 26th: With reference to the new gold ledge lately discovered near Placerville, Mr. Britten says that he examined the ledge, washed up some of the rock himself, and exhibited to us the product. From two shovelfull of the rotten rock he got out over \$2½ of very fine gold. The ledge is uncovered and has been tested a length of 700 ft. It is from two to three ft. wide, and all along, in every spot, yields about the same wonderful product of gold. So far it has averaged between \$2.50 and \$5 to the pan. The rock crumbles like so much loose earth in water, and is very easily worked. The washings from it have so far paid \$150 to the hand.

July 31st: A specimen of ore of two or three lbs. weight from the Banner ledge brought for our inspection by Mr. Carr, presents a very good appearance as richly paying rock, and we are assured that it is a fair average specimen of the ore found in the shaft last sunk, 52 ft. deep, from which about 50 tons of rock have been taken. This will be crushed in the course of a few weeks, when Cromwell's arastras will be completed.

Gold Hill is now a flourishing camp, and all the miners there, and as far as Beaver Creek, four miles this side of Gold Hill, are making from good to extravagant wages. Indeed, the lowest estimate of daily yield was a product of \$10 per day to the hand, and one or two claims have paid as high as \$100 per day. There are at work about Gold Hill and Beaver Creek, fully 200 miners, nearly equally divided between the two camps.

Lewiston Journal, July 25th: The editor writing from Warron's camp, July 21st, says Capt. Williams has sent an order by this express to San Francisco for a 5-stamp quartz mill, to be propelled by water power. He will roast the ore before crushing, also roast in a furnace after crushing. He expects to have the machinery here and in operation this fall. The Miner's Mill Co. are active, and will order their machinery in about 10 days. Money is being paid on the installments, and it is believed that sufficient will be received within that time to purchase the machinery. A new gold lead has been found on the divide near Hall's Gulch. The rock is very rich. The arastra has been compelled to cease work for want of water to drive the machinery. They have crushed some of the *Hic Jacet* ore, but have not yet cleaned up. Every indication in the arastra, warrants the belief that the yield will be very large, so much so as to astonish the unbelieving. It is a shame that a good mill is not now in operation here. If it were so, hundreds of thousands of dollars could be taken out of the ore of this camp before spring. Capitalists are blind respecting this camp, else they would be over-zealous to make investments here. Miller's camp is doing well. The claims are averaging \$14 per day to the hand. Also Rise's Camp is prospecting well. Much hydraulic has been done on the high benches, and as yet no bedrock is reached, though all the gravel prospects well. There is much coarse gold. Preparations are being made to build a mill in Flint Dist.

Many of the claims at Lemhi have proved valueless and been abandoned, but others have been found to pay. New discoveries have been made on a creek 30 miles this side of Hylus Creek, and good prospects obtained. Some 600 men are at work on the creek, making extensive arrangements for mining.

Owyhee *Avalanche*, Aug. 3d: The Oro Fino ledge is proving its worth. It has a 5-ft. ledge, and of a quality as rich as ever was produced from the mine.

The machinery of the Iowa and Idaho Co's mill has arrived in Flint, and will be put in place right away. The Forrest ledge is looking better than ever before. The main shaft is down 80 ft., and the vein has increased to a width of seven ft.

The Black mill is running on Leviathan rock and is doing better than heretofore.

Dalles *Mountaineer*, Aug. 3d: We were shown a piece of silver bearing quartz at Bloch, Miller & Co's store, that came from the Flint Dist. in the Owyhee country, a portion of which was assayed by Mr. Chas. Miller, and found to contain \$2,000 worth of silver to the ton. The lode is very large and extensive and bids fair to compete with the richest mines in the country.

## MONTANA.

Post, July 27th: From Prof. Steitz we learn that all of the machinery for the works of the St. Louis & Montana Mining Co. at Flint Creek, has reached the ground, and it is expected to have the mill in running order by the 1st of October.

A very rich gold bearing quartz ledge has been discovered lately at the head of Deadwood Gulch, near Uncle Bee's. To judge from the specimens exhibited, it must be extraordinarily rich indeed.

J. D. Hinnton, of Elk Gulch, brought in with him one of the purest nuggets we have ever seen. It weighs 11½ ozs., and is entirely free from quartz. It was taken out of the claims of Donahue & Co. in Elk Creek, and is the largest ever taken out of the gulch.

Mr. H. N. Maguire is the discoverer of a new gulch, which prospects very well. The average prospects are 10 cts., but as high as \$1 has been obtained.

The Union City (Christenot) Mills Co. have located their grand tunnel through Grant Hill, and are now working it at both the Spring Gulch and Summit ends. The eastern tunnel is already in 160 ft., and is being pushed night and day. The length of the tunnel will be 2,116 ft., and it will tap the Grant at a depth of 380 ft. The company proposes to rely entirely upon their tunnel for a supply of ore, and abandon their shafts on the Oro Cache. They have had 60 ft. of a hard cap on the Oro Cache discovery, and are not through it yet, and in the shaft on No. 2 Oro Cache, water is very troublesome at 115 ft. The Chilean wheels of the mills have been filled with litharge and 2,500 lbs. added to the general weight of each. The whole mills have been changed from wet to dry crushing, so successfully tried two weeks ago, and on Monday the whole will be started. They will crush from 12 to 15 tons every 12 hours, and their barrel amalgamators can master any sulphurets ever yet tried on them from the Montana mines.

Lewiston Journal, July 25th: Forty quartz mills are reported as now being on the route to Montana.

## NEVADA.

## Black Rock.

Chico Courier, Aug. 3d: W. H. Dureu and Prof. Isenbeck arrived in town last evening, from Black Rock. They bring most flattering reports from the richness of the country. Some 30 or 40 tons of ore, in all, have gone to Virginia City for working, and Isenbeck left on the stage to-day for Virginia to assist in the working. Dureu brings many fine specimens and curiosities, a portion of which are intended for our cabinet. The Virginia City men have the utmost confidence in Black Rock, and the millmen have never failed to get rich working tests.

## Esmeralda.

Enterprise, Aug. 8th: In Silver Peak Dist., J. M. Harris in connection with the development of the mine for which he is agent, is taking out a large stock of rock, ahead of the erection of their new mill. The Red Mountain vein is the most important lode owned by the company. The ledge is not less than 40 ft. thick. Gold is the predominating metal. The entire body of ore now developed will mill \$50 per ton.

A company is engaged in erecting a five-stamp mill at Aurora. The largest part of the machinery has been delivered on the ground. The company own the Baluarte mine. This mine is represented to be of great size, and exhibits an abundance of mineral of a high grade, with which the mill can easily be supplied. The new mineral, which has been named steterfeldite in honor of the discoverer, and which occurs so extensively in the districts lying to the southeast, appears to be the chief bearer of silver in the Columbus Dist. It occurs in all the ledges which have been developed to any extent. Extra specimens of it are produced by the Northern Belle—an Amazonian beauty, 23 ft. thick—one of the ledges owned by Alsop J. Holmes & Co. We were shown by Mr. Holmes the certificate of an assay by David Lundbom of a sample of the ore from that ledge, which yielded at the rate of \$4,619.93 of silver to the ton.

## Pahranaugat.

Reveille, Aug. 10th: Mr. Fleming, lately from Pahranaugat, brought in 60 lbs. of crude bullion, which were produced from ore of the List ledge belonging to the company. This ledge is being developed by a shaft and drifts, and a good quality of ore extracted, of which he brought a variety of samples. He brought also fine specimens of rock salt from Salt Mountain, situated about 75 miles southeast of the district. The salt is thrown out by blasting, and is obtained in great cubes resembling the finest quality of glass. It does not absorb moisture by long exposure, and is believed to be chemically pure. The Alameda Co. is now likely to reap the benefit of experience and skill, as its agent has had the advantage of several years connection with mines in Mexico, and subsequently with milling in Aurora.

## Reese River.

Reveille, Aug. 2d: The gold mines of New Pass Dist. are now being developed by a company under favorable circumstances. The veins occur under the happiest conditions. They are found only in greenstone, which in most other localities where gold

quartz exists changes to a chloritic slate. The greenstone occurs in small isolated patches in the country rock, which is porphyry and limestone.

A lot of ore from the Superior ledge from which all the choicest pieces had been selected for specimens, gave an average yield by assay of \$32 per ton.

Various tests of ore from the small veins comprising the gold belt series, invariably exceeded \$100 gold per ton.

During the last week a better quality of ore has been developed in the Savannah mine, while that vein preserves its large size. A fine large specimen of its sulphuret ore was shown to us this morning, the entire surface of which was covered with ruby. The specimen was taken from the lower level, which is 100 ft. below the surface.

Aug. 6th: The Florida mine belonging to the New York and Austin Co., is opened by a shaft 350 ft. deep. Three levels are being run at present. The average width of the vein is 16 in.; no ore has yet been extracted. The extent of levels and incline run, makes in the aggregate 50,000 cubic ft., or a fraction over 4,000 tons of ore. The number of tons of ore taken from the mine is 317, 28 tons of which are not yet crushed. Of this amount, 289 tons produced \$74,823.82, or an average of \$259 per ton. The cost of producing, including office expenses, taxes, etc., \$65,740.21; this leaves a net profit of \$9,083.61, with avenues through the mine, of the value of not less than \$15,000, besides property of the value of \$5,000 more. The foregoing statements cover the operations for the 10 months ending June 30th. Since then new and powerful machinery has been placed on the mine at the cost of \$10,000, while \$5,000 worth of ore has been taken out of the mine and hauled to the mill for crushing.

The editor has been shown several samples of ore from the Diana mine, which were different and of a better quality than that heretofore produced. The samples exhibited both ruby and native silver, and were taken from the eastern level.

The following is the result of an assay by David Lundbom, of ore and pulp from ledges in Union Dist. Ore from the Gold Leaf yielded \$236.90 silver and \$2,097.39 gold; from the Fralinda, \$108.39 silver and \$12.50 gold. A sample of the pulp from the Beta ore gave at the rate of \$71.47 silver and \$90.31 gold. All the ledges are situated in the town of Union.

Aug. 7th: The Murphy mine, in Ophir Cañon, is sending forth bullion in quantities sufficient to make healthy bank accounts for its owners.

More work has been done on the Highridge ledge than on any other in the State outside of the Comstock. But one 10-stamp mill is at work as yet. They work without roasting their ores, and are getting about 50 or 60 per cent. of their metal from their ores. They are saving tailings, and expect fine results from working the same. The Combination Co., of New York city, have their mine in fine shape. It is ready for their 40-stamp mill, which is now rapidly building.

The Union mill, from Austin, is being removed, and they are now rebuilding it on Hot creek, near the much talked of Indian Jim ledge.

Aug. 10th: The following letter has been received by Wm. F. Gorman from a friend in the South Pass mines: "The mines are a bilk. I have prospected them until I am sick, and now I am on the road, fighting Indians. Only one quartz ledge was found in this section, and about 100 extensions were located on it. The gulch diggings are of no account, and will not pay to work."

Winters & Co. have made another strike in the Juniata mine. The shaft has been run into the ledge 14 ft. without crossing it. At this point rock was taken out showing coarse gold and native silver in abundance.

## Washoe.

Gold Hill News, Aug. 5th: The Virginia Water Co. have bought the Eagle mill in Silver City, and are about preparing the cañon there, by dam and otherwise, for an immense reservoir, to save tailings.

Aug. 8th: The owners of the Bacon mill recently sunk a 30-ft. shaft, and are running a drift east for a water supply. They have struck a considerable flow of water already, but are still pressing on.

Enterprise, Aug. 8th: Mr. J. C. Clark has just added four new Greeley pans and two 8-ft. settlers to the Hoosier State mill. When complete, the mill will have eight Greeley pans, six Knox pans, four settlers, three agitators and eighteen stamps, with a capacity for crushing 40 tons per day.

The Crown Point mine have a body of rich ore 10 ft. in thickness, which will yield

\$70 per ton, with a fair prospect of its increasing to even greater width. The ore is of a very superior quality. The north shaft of the Yellow Jacket Co., in an east drift, have found the same stratum. It is very rich, and proves very extensive.

The sulphuret sayer of Paine & Stevens, below the Gould & Curry mill, is doing good work.

Aug. 10th: Next week the pumps will be started in the Sierra Nevada mine.

During the past week, Wells, Fargo & Co. have shipped 7,596 lbs. of crude bullion, valued at \$216,887.15.

Trespass, Aug. 10th: The Eclipse mill is undergoing repairs.

## NEW MEXICO.

Albuquerque Press, June 22d: There are now in the Pinos Altos mines nearly 1,200 miners, and the number is continually increased by arrivals from Arizona, California, Colorado and Texas. The Pinos Altos Mining Co. has commenced work with their new quartz mill, and the result has exceeded their most sanguine expectations. One of the firm refused \$25,000 for his interest in the lode.

## OREGON.

Dalles *Mountaineer*, Aug. 3d: Mr. F. N. Dodge on yesterday afternoon, presented us with a beautiful specimen of gold quartz that was taken from the newly discovered ledge near Cañon City. He assures us there is no humbug in relation to the discovery of the lode.

Rich prospects are said to have been struck, on Queen's river, on the south side of Stein's mountain.

The Salem Record says that the Santiam mines are to be fully tested this summer by the intelligent labor of experienced miners from Washoe. The company consists of two brothers named Salmon and another, all three being practical miners and millmen. Mr. Salmon is a thorough and scientific amalgamator. The party have visited the mine and mill, and formed their opinion, and the Union Co. has granted them the privilege of using the mill to test the mines and offer them the ore in the mill—about 70 tons—to experiment upon; the company to be at no expense for the working, and to have no claim upon the proceeds. By this means the mines will soon be thoroughly tested by experienced men; and if the prospect proves favorable, an arrangement can be made with them to keep the mill in operation. Mr. Salmon found the mill in excellent order, and says it is a first class mill for its size—as good a mill as he ever saw. It is the opinion of this gentleman that the pulp has been worked too much so as to destroy the effect of quicksilver; he thinks the gold can be saved with less effort than has been used.

The Albany Democrat says that rich diggings have been struck near Houly's Ranch, Soda Springs, at the foot of the Cascade Mountains.

The Jacksonville Press says: The Malachi ledge, on Cañon Creek, opposite Kirbyville, is turning out gloriously. Mr. Malachi hauled 3,600 lbs. of what he considered the poorest rock, to Cohn's mill, for crushing, from which he realized eight ozs., and \$10. He said before testing it, that if that rock paid, "he was all right," as he had an abundance of rock of a much better quality.

## UTAH.

Salt Lake Vedette, July 30th: According to the statements of all those with whom we have talked, the existence of numerous gold bearing quartz ledges on the north side of the Sweetwater, is a demonstrated fact. The discovery claims of Lewis Robinson, Terry, and that company, are exceedingly rich, so far as developed. With ordinary hand mortars, selected rock was being pounded out at a yield of \$25 to \$40 per day to the mortar, and even as high as \$100. The existence of placer diggings had not been discovered to any great extent; some two or three gulches only. Little prospecting for placers had been done. In coming out from the mines some parties crossed through the country where the Sandys rise, which had all the appearance of a wash country; and looked as though it would bear prospecting. Not having their mining implements along, and the danger from an Indian attack, prevented the parties from prospecting that locality. It is said that across the ridge in the Wind River country, surface indications are good. There are no miners or prospectors in there now. The Indians command the situation. We have seen a great many specimens of the quartz rock, and they are exceedingly rich in gold. Parties also found silver quartz and copper veins in the same range. The course of the ledges is north-east and south-west, and look to be well defined.

Rock from the Sweetwater lately assayed \$75.24 gold, and \$1.56 silver per ton.



## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

O. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. Alfred H. Nabor, is our duly authorized traveling agent for Amador and El Dorado counties July 28.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Aug. 17, 1867.

## Notices to Correspondents.

BRETON.—Female artists are by no means so rare as you imagine, if the question is viewed historically. Your countrywoman, Rosa Bonheur, deservedly merits the high reputation which she has obtained; notwithstanding which statement we cannot concede that she outvies all other artistic ladies, unless the remark is confined to her contemporaries only. At a very early date, Kora, a daughter of Dihnades, a native of Corinth, is said to have taken the lead. At the time of Alexander the Great, Ciceret, Aristerite and Calypso were noted female artists. In Roman annals, Laya, of Greek descent, who lived 100 years before Christ, had a high reputation for painting. Amongst the nuns during the middle ages art was much cultivated, their time being largely employed in illuminating and copying manuscripts and missals. Margartha von Eck, sister to Hubert von Eck, assisted the latter in forming the celebrated ornamental breviary now in the Imperial Library of Paris, which was made for the Duke of Bedford, who married the sister of Peter the Good in 1423. Many other celebrated artists, both of ancient and modern times, might be enumerated.

ASTEROID.—On the probable occurrence of a brilliant meteoric shower in the course of the current fall, we do not consider our astronomical acquirements justify us in passing any opinion, in place of which we respectfully submit some general views recently published by one of the illustrious inductive discoverers of the planet Neptune. Prof. Adams has determined by elaborate calculation that the periodic time of the November meteors is 33.25 years. In a communication to the Royal Astronomical Society he remarks: "It appears probable that the great comet of 1862 is a part of the same current of matter as that to which the August meteors belong."

SCORUS.—Thomas Babington Macaulay, the historian, who was eventually ennobled under the title of Baron Macaulay of Rothby, was a native of England, his parents having been a Highland sire (Zacharias Macaulay), and an English mother (a British Quakeress). The parenthetical words have been so inserted because, singular to remark, his most pungent sarcasms have been pointed against Highlanders and Quakers. He has not unwaptly been described as the libeler of William Penn and the lampooner of the Highlands, and there can be no doubt with any candid reader, that the former is unfair, and the latter greatly exaggerated. By some one it has been said that it is difficult to distinguish which he has most abused, those who have given birth to his father or his mother. It is a received axiom, that no quarrel is so bitter as a family one, and it not uncommonly happens that the son on matters of opinion, forms a complete contrast with the sire. Such was the case with the son of our Benjamin Franklin, and the William Penn above alluded to.

## The Grain Crop of California.

The fact is now pretty well established that the California grain crop, for the present year, will fully equal, if not exceed that of the year just passed. True, there are some who set down the yield for 1867 at a figure largely below that of 1866; but there are others, equally well informed, who estimate it as high as 50 per cent. greater. The truth probably lies in a mean between the two. It may safely be set down as equal to the last year's yield. The farmers of California will soon add another ten millions to the net wealth of the State.

It is interesting, in this connection, to look at one of the incidental results of an excess of grain shipments. By referring to the bullion shipments of March, April and May last—the months on which the largest amounts of grain were shipped—it will be observed that the shipments of the precious metals fell off as that of grain increased; while subsequently, when grain shipments began to fall off, the efflux of bullion was increased to its former rates. It will be observed, moreover, that the bullion shipments decreased at the very time when the largest amount was being taken out from the mines, and increased as the dry season approached, when the yield of the precious metals decreased. A careful estimate of the gold shipments for the harvest year of 1866, will show a falling off very nearly equal to the amount of grain shipments for the same time. This fact shows that it requires nearly all the gold and silver we can get out to pay our Eastern debts; and that when our farmers are able to spare a surplus from their crops for shipment, it takes the place of just so much gold—saving the latter for accumulation or investment at home.

Agriculture is ever the real basis of prosperity the world over; and facts on this coast show that even the richest mineral State on the globe is no exception to the general rule. Gold is the basis of speculation, which is ever uncertain and ephemeral—labor, especially as brought to bear in tilling the soil, is that which builds up the State.

The people of California are just beginning to realize the unbonded agricultural resources of the State. The past year has shown us that wheat can be profitably raised here, even as low as \$1.50 per bushel. At that price it will always pay for shipment to Europe, and often to the Eastern States; while \$1.60 to \$1.80 can most generally be depended on. The shipments of grain from this State will hereafter be limited only by the amount of tonnage to take it away. At present prices, ships to China and Japan can make it profitable to cross the Pacific in ballast and load for home with grain in San Francisco. This is certainly a most noticeable and encouraging feature in the history of commercial matters on this coast—San Francisco offering a market for freights so much better than China, as to make it an object to come hither in ballast to find a freight home!

If our merchants would retain this important advantage, however, they must look a little closer to our port charges. The San Francisco correspondent of the Sacramento *Union*, writing under date of July 25th, tells us that pilotage is as high in this port as it was in 1849! and that the total port charges against a ship coming into San Francisco is \$10 a ton of her measurement! In conversation, a few days since, with Captain Luce, of the ship *Saurise*, who has visited this port several times, we were assured that his wharf charges here were \$800 in gold, while for the same time, and with no better accommodation, in New York, they would not exceed \$160! This would appear to be had policy, especially when the city holds the wharves for the benefit of the State at large. If California expects to retain the advantages which she now possesses, and reap the full benefit of her mines and crops, she must make the

expenses of ships visiting this port, to take away our productions, as low as possible.

It is but proper, however, that in this connection we should allude to the fact that the city is at this time under the necessity of raising a large revenue from the wharf property for the purpose of building a sea wall for the protection of the harbor and city front. As soon as this work is completed, a very material modification will no doubt be made in the matter of wharfage.

It should also be mentioned that the excess of wharfage at this port over that of New York and other Eastern ports is more apparent than real. This fact grows out of the difference in the manner of collecting the wharfage. At the East, this charge is divided between the ship and the goods; here, for convenience and economy of collection, it is all assessed directly upon the ship, which should make good the addition by an increased freight tariff.

Again, the Wharf Commissioners make a distinction in wharfage between loading and unloading—the former being half the cost of the latter. Thus an important discrimination is made in favor of the ship while taking on board the products of our mines or soil for shipment abroad. As already hinted, the wharf charges here will be reduced as soon as the improvements now in progress are completed. With regard to the port charges and pilotage, we are not particularly informed. If what the correspondent of the *Union* states is true, it certainly appears as though a modification in those charges ought to be made. It is for the interest of both the city and the State to make such charges as low as possible. In no other way can we so effectually encourage the cultivation of our soil and the development of our extensive and valuable mines of copper and useful minerals, other than those producing the precious metals.

During the recent exceedingly high prices of copper and grain, ship-owners could perhaps afford to pay high costs; but copper is now down, and our shipments of that product have almost ceased. Grain is also lower than it was a year ago, and the profits to be realized will not admit of the high freights hitherto obtained. Let our merchants see to it that, as freights are unavoidably declining, no unnecessary tax is put upon shipping to keep it away from this port. If California expects to reap the full advantages of her mines and crops, she must offer inducements to shipowners to come hither and take her products to market, rather than lay upon them burdens which they meet with nowhere else. Our abundant grain harvest, the large and increasing wool clip, the production of coal, copper and other ores, coupled with our extensive lumber interests, are reservoirs of freight supplies that are almost inexhaustible, promising remunerative freights in all future time. We have also resident agents for the Guano Islands of the Pacific, for vessels to fall back upon in case of an emergency.

THE GREAT REPUBLIC.—This splendid steamer, which made the passage from New York to this port in 75 days, including her stoppage of one week at Pauama, will start on her first trip for China on the 3d of September. She is one of the largest and finest steamships afloat. Her length is 375 feet; beam 50 feet; depth 31½ feet. Tonnage, by government measurement, 3,882; carpenter's measurement, 5,000; cargo capacity, 2,000 tons. She can accommodate over 1,000 passengers, having the best of cabin accommodations for 230. All her appointments, including armament, and particularly her fire extinguishing apparatus, are most ample and complete. She is commended and admired by many thousands of our citizens since her arrival at this port.

The number of sea-going vessels in the world is about 85,000, of which two-thirds belong to England and the United States.

## A New Explosive Compound.

A large number of capitalists, contractors and others interested in the use of explosive agents, were present on the line of the railroad near Bay View Park, on Saturday last, to witness the trial of a new preparation of this description. There were some fifteen charges exploded, varying in the diameter and depth of bore and quantity of preparation, and in each instance the result was proportioned, to the variation in the particulars mentioned. The manner of preparing the charge is very simple. It is enclosed in a paper, similar to that used for cartridges, and coiled as we see india rubber hose done up, the diameter varying according to necessities or convenience of work. When the bore is prepared, the operator cuts off a piece of cartridge sufficient for its depth; next, he takes a piece of metal resembling a cannon percussion cap, which he fastens with a pair of nippers closely around one end of the fuse to be used; next, the cap is punctured with a small hard-awl, and is then inserted in one end of the charge, which, being thus prepared, is placed in position. Nothing more is required than to fire the fuse to produce a result that surprises all who witness the effect and are familiar with the process of blasting. The name of the composition and ingredients are secrets, known only to the inventor and those associated with him. A company is being organized to manufacture the article on a large scale in this city. It is said that a saving of fifty per cent. on the cost of blasting hard rock can be saved by the use of this material over the expense of the same work by the aid of the ordinary blasting powder.

At a previous exhibition of this preparation, which has the appearance of a coarse grained powder, in color and size resembling sawdust, the operator drilled holes, an inch deep and half an inch in diameter, in hard trap rock, and all the varieties of rock to be obtained in the Deep Cut. These holes were filled without the use of tamping, a small piece of fuse being employed. One or two little holes, as above described, contained sufficient of this fearful explosive to produce a most extraordinary effect on the hardest rock. A very little, laid on an inch board, was exploded, splitting the board in every direction and blowing a hole in it as large as a man's hand.

GOING EAST.—Mr. A. T. Dewey, one of the proprietors of this journal, starts for the East by the steamer of Monday, partly on business, and in part on a visit to the "old folks at home." He will be absent several months, and will visit the principal Eastern cities in the way of business. Persons in New York, Boston, Philadelphia or Washington, wishing to communicate with him on business or other purposes, will please address him at Westfield, Mass. Any persons who may desire a personal interview, in either of the cities mentioned, can secure the same by forwarding their address to him as above, immediately on receipt of this writing. Mr. Dewey will spend some considerable time in Washington, looking after the numerous patent cases in our hands, many of which, in consequence of the present embarrassed condition of things in the Patent Office, have been subject to great and annoying delays. Everything possible will be done to secure for our clients the earliest and most prompt action at that office. We commend Mr. Dewey to the good offices of our editorial brethren at the East.

NEW BOILER WORKS.—Messrs. Baurhyte & McAfee—two practical boiler-makers—have just opened in a large new building on Howard street, between Fremont and Beale, where they will be happy to see their friends. By reference to their card, it will be seen that they have had many years of experience in the business, and feel confident of being able to give good satisfaction to any that give them a trial.



Cyanide of Potassium.

This chemical, which has been heretofore chiefly used in electrotyping, gilding, and in photography, is now being quite extensively employed in the amalgamating room, for gold saving. Its use for the former purposes very naturally suggested its employment for the latter. It is claimed by many who have used it to be more economical and a better gold collector than sodium amalgam, or any other article ever employed for similar purposes. Its action in the quartz mill is not yet very fully understood; but it is the soul of the various secret processes employed by such parties as are in the habit of throwing much mystery about their manipulations in the amalgamating room. Cyanide, like sodium, attacks and decomposes the oxides of many of the metals; and there is no doubt that to this property is due its value in milling. A thin coating of oxide will prevent the action of mercury upon the metals. This coating is readily removed by the cyanide, so that the desired amalgamation may take place.

The cyanide of potassium was first employed at Pike's Peak, and with such satisfactory results that its advantages soon became known on this coast. It is used both on copper plates and in the batteries or pans. The directions to amalgamate and sensitize the plates are given as follows: First clean the plates with sand and nitric acid until they are quite bright; then wash them off with an abundance of cold water; then with a rag, or swab, or piece of sponge, tied to a whalebone or stick, wet the surface of the plates quickly and thoroughly with a solution of cyanide, apply mercury immediately, and rub it on well; the plates will thereby become coated, presenting a highly sensitive coating of mercury, which will seize upon the gold as it passes over them. The cyanide solution may be applied with great advantage to the battery; a portion to be added as often as the mercury is supplied. Experiments should be made, as different rocks will require greater or less quantity, as may be found by trial. The experience of the best millmen shows that the article may be used with mercury in all milling operations to great advantage. This chemical is largely manufactured by Messrs. Falkenau & Hanks, at the Pacific Chemical Works, at the Mission and in this city, and sold at their place of business, 623 Montgomery street.

**PATTINSON'S WATER WHEEL.**—In our issue of the 3d inst., we noticed the issue of a patent to Thomas Pattinson, of Little York, for a water wheel, as there described. This wheel is the origin of the class known as "hurdy-gurdy wheels," now so generally used by cement mills in and about Little York, You Bet, etc. The first wheel of this description was put up by the inventor, about two years since, at the Buckman & Curran mill in Little York. At this time, so popular has it become, owing to its simplicity and economy, it is estimated that not less than 200 are at work in different parts of the State; orders for their construction, some with more or less modification, having been received all the way from Shasta to the lower portion of the State. They are especially adapted to places where it is desirable to use a high head with a small volume of water—250 feet head and 30 or 35 inches of water will drive a 10-stamp mill, with 900 pound stamps. Of course the higher the head, the less the volume of water required. The construction of this wheel is exceedingly simple, and it can be built for from \$150 to \$500, according to the manner of construction and size of wheel. Applications for this wheel should be made to the inventor and patentee, Thomas Pattinson, Little York. See his advertisement in another column.

**VICTORIA** is to have a dry dock. The admiral in command has received orders to that effect. Work will be commenced at an early day.



Office Pacific Business College and Telegraphic Institute. 7v15-Sun  
Mechanics' Institute Building, Post Street. [Exterior View.]

**CANE PRESENTATION.**—We copy from the *Times* of yesterday morning, the following account of a very interesting little incident that occurred in this office on Thursday evening:

Mr. A. T. Dewey, one of the publishers of the *MINING AND SCIENTIFIC PRESS* was presented, by the attachés of the office, with a handsome gold-mounted cane. The presentation was made by one of the assistant editors, Mr. John L. Boone, who expressed himself as follows on the occasion:

"Mr. Dewey—Owing to the near approach of the time when you intend to absent yourself from us for a term of months, the attachés of the *MINING AND SCIENTIFIC PRESS* have concluded to present to you some token of their good will, to be carried with you, and to remind you while you are East, of the kindly wishes that follow you, and to this end they have purchased a cane. The material with which it is mounted is especially indicative of your profession, while the entire material and manufacture is the production of this, our adopted State. And if at any time during your absence a doubt should arise in your mind, as to the conduct of your business affairs in this place, we hope that a sight of this gift will dispel them, and remind you of the kindly wishes that follow you. We did not purchase a cane because you needed a support, or because age required it, but as a symbol of that support which we expect to extend to you during your absence; and while we all regret the parting, we send a God speed and happy journey along with you. So take the cane, and we only hope that it is as much a pleasure for you to receive, as it is for us to give. And now, on behalf of the attachés of this office, allow me to say,

"The kindest wishes of thy friends  
Go with thee 'till thy journey ends."

The recipient was at first taken by surprise, for the gift was unexpected; but he recovered himself immediately, and in a few words thanked the donors, and assured them that he should value the present highly. The cane was manufactured by Messrs. Barrett & Sherwood, and is in their best style. Mr. Dewey will go East by the steamer of the 19th, and be absent several months.

**A SELF-CORING MORTISING CHISEL** can be seen at the Empire Mills, Fremont street—the invention of Messrs. Adams & Hatch. We have had the pleasure of comparing its mode of operation with that of the ordinary chisel on different kinds of wood, and do not hesitate to pronounce it a decided improvement and an indispensable article for the cabinet shop, or any well-regulated sash and door manufacturing establishment. It is simple, rapid and effective. The core of the wood, instead of being packed in the crevice by the stroke of the chisel, is caught at once by the nimble-fingered instrument, and scattered by the winds, thus producing a great saving of both time and labor. We understand that the inventors have applied for a patent.

**THE BUSSEY LOCK.**—Mr. Bussey has recently made another very important improvement in his lock, by which he is enabled to operate the combination and turn the bolt with one knob only. This improvement still further reduces the size of the lock, and renders it stronger in general construction. This invention will soon be better understood and appreciated. No person should purchase any other safe lock before carefully examining Bussey's new and improved one.

**AN AMERICAN MOWER**, exhibited by Walter A. Wood of New York State, was the winner over all others at the international trial near Paris. The success of this mower is said to have been fully as much due to the good generalship of a smart Yankee driver, as to the superior working qualities of the machine.

**CONTINENTAL Life Insurance Company,** 302 Montgomery street, corner of Pine.

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUIT, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**NORTH AMERICA Life Insurance Company.**

Usual Restrictions on Occupation and Travel **ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World  
**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery at. 2v11m9p SAN FRANCISCO.

**Perry Davis' Vegetable Pain Killer.**

A CERTAIN ANTIDOTE FOR POISON.—Rev. T. Allen, writing from Tavoy, Burmah, says: "Within the past four years I have used and disposed of about five hundred bottles, but am now out. Please send me a fresh supply as soon as you can—say two hundred bottles. I dare not be without it myself, and there are endless calls for it, both by Burmahs and Karens. I always take it with me in the jungles and have frequent occasion to use it, both on myself and others. One night, while sleeping in an open Zayat, I was awoken by a most excruciating pain in my foot. On examination, I found I had been bitten by a centipede. I immediately applied the Pain Killer, and found instant relief. In less than an hour I was again asleep."  
Rev. Mr. Hibbard, writing from Burmah to his father, says: "I have used Davis' Pain Killer for Coughs, Colds, Summer Complaints, Burns, and for the Sting of Scorpions, with uniform success. We always keep it where we can lay our hands on it in the dark, it need be."  
Sold by all Medicine Dealers everywhere. 6v15-1m

**AGENTS WANTED.**

**ENERGETIC MEN OR WOMEN CAN MAKE MONEY** in canvassing for our NEW BOOKS and ENGRAVINGS. One Agent reports thirty three orders for one Book in three days. Address: **PACIFIC PUBLISHING COMPANY,** 4v15qr9p 305 Montgomery street, San Francisco, Cal.

**Builders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 16v149pqr

**BAURHYTE & McAFEE,**  
Steam Boiler and Sheet Iron Works.  
Owned and conducted by Practical Boiler Makers.  
High and Low-Pressure Boilers, Stationary and Marine.  
Howard street, bet. Fremont and Beale, San Francisco.

Having had twenty two years experience in this business, we feel confident of being able to compete—as to quality of work—with any establishment on the Pacific Coast. 7v15-qy

**PATTINSON'S HURDY-GURDY WATER-WHEEL.**

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among millers as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use. Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-qy THOMAS PATTINSON.

**W. E. LOOMIS,**  
News Dealer  
AND STATIONER,  
Southeast corner Sansome and Washington streets,  
SUPPLIES ALL  
**EASTERN PERIODICALS**  
By the Year, Month or Number.  
6v15-1y9-16p

**ROOT'S Patent Force Blast Blower.**

Adapted for Smelting, Foundry, Mining and Steamships.  
Requires 50 per cent less power than any Blower now in use. For further particulars, address **KEEP, SLAKE & CO.,** Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 6v15f19p

**Oakland College School.**

THE PATRONS of this Institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California. The SENIOR ENGLISH affords a complete course of instruction in the English branches, in Theoretical and Practical Business, Science and Art. The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided. Throughout all the various departments, great attention is given to the study of the Modern Languages. For further information, or Catalogues, address,  
**I. H. BRAYTON, Principal.**  
OAKLAND, California. 6v15qr9p.

**LINSEED OIL.**

**The Pacific Linseed Oil & Lead Works**  
Are now prepared to furnish dealers and consumers **Pure Linseed Oil,**  
Raw or Boiled, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market. Also, Oil Cake Meal, the best article known for fattening stock and increasing the product of milk.  
Cash paid for Castor Beans and Linseed, on delivery at the factory. Address,  
**Pacific Linseed Oil and Lead Works,**  
Care of L. B. BENCHLEY & CO.,  
19v14-3m9p San Francisco.

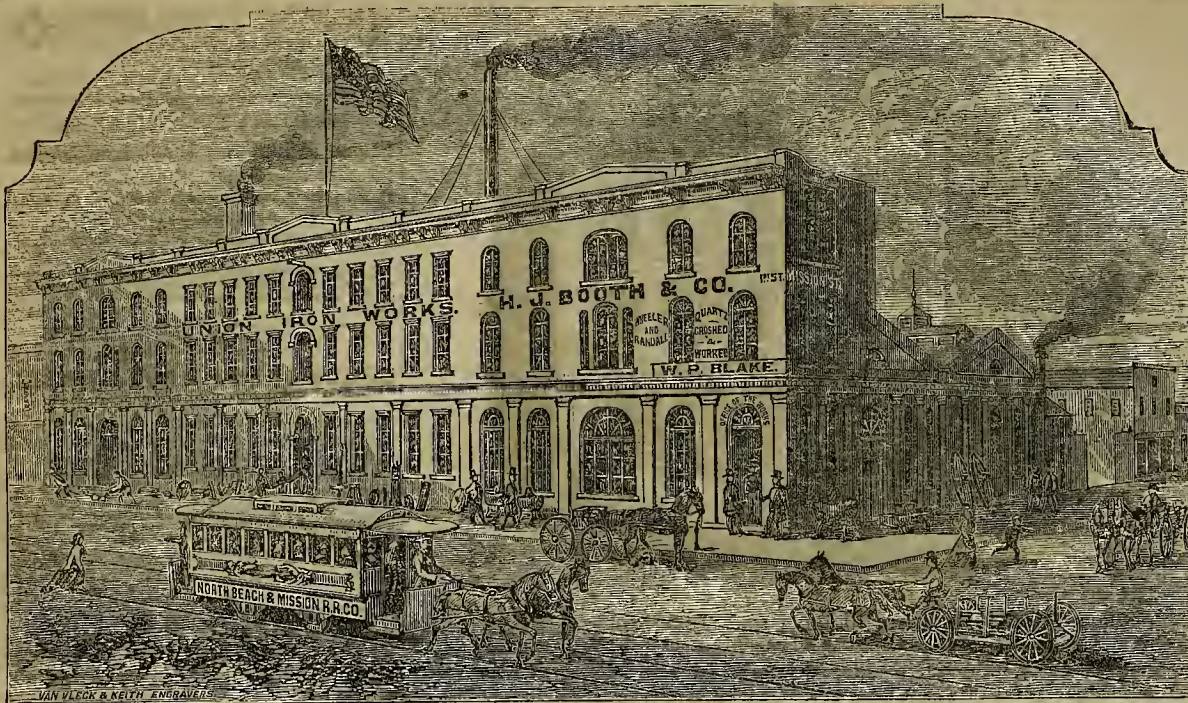
**PACIFIC Rolling Mill and Forge Co.,**  
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Established for the Manufacture of **RAILROAD AND OTHER IRON**  
—AND—  
**Every Variety of Shafting**  
Embracing ALL SIZES of Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames.

—ALSO—  
**HAMMERED IRON**  
Of every description and size.  
Orders addressed to **PACIFIC ROLLING MILL AND FORGE CO.,** Post Office, San Francisco, Cal., will receive prompt attention.  
The highest price paid for Scrap Iron. 9v14m9p

**DR. FONDA'S**  
San Francisco Eye Infirmary.  
Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. P. W. Fonda, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite West & Fargo & Co's. 4v15-1y9p





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HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Frater's concentrators, Wakie's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Settlers of all descriptions, Rotors of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

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MANUFACTURE ALL KINDS OF  
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**STEAM ENGINES AND QUARTZ MILLS**  
DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing,**  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
**Genuine White Iron Stamp Shoes and Dies**

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**Steam Engines, Boilers,**  
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MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
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MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,  
**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
**Dunbar's Patent Self-Adjusting Steam Piston**  
PACKING, for new and old cylinders, manufactured to order.  
Front Street, between N and O streets,  
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**MANUFACTORY,**  
No. 53 Beale Street, between Market and Mission,  
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Files re-cut and warranted as good as new, or no charge.  
The only establishment in the State. We also manufacture Reaper and Mower Sections.  
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**Foundry and Machine Shop,**  
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**Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,**  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Benches, Balcony Railings, etc., at San Francisco prices. Orders solicited.  
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**STEAM ENGINE, FLOUR AND SAW MILL**  
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MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. — 13v13-ly

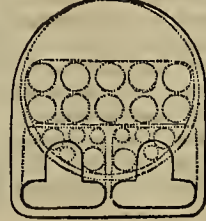
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Manufacturers of  
**Marine and Stationery Engines**  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.  
—ALSO—  
**Wine, Cider, Cotton and Tobacco Presses**  
of the latest Improved Patterns.  
**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
**Dunbar's Improved Self-Adjusting Piston-Packing,** requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**MACHINERY, OF ALL DESCRIPTIONS**  
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
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**Steam Boiler & Sheet Iron Works.**  
THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the Repairing of Old Work executed as ordered, and warranted as to quality.  
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.  
**CALIFORNIA BRASS FOUNDRY,**  
No. 125 First street, opposite Minna,  
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ALL KINDS OF BRASS, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Belts and Cores of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
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Southeast corner Fremont and Tehama streets,  
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Practical Machinists and Iron Founders,  
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**STEAM ENGINES,**  
**QUARTZ MILL MACHINERY OF ALL KINDS,**  
**SAW MILLS, FLOUR MILLS,**  
**Dunbar's Improved Self-Adjusting**  
**PISTON PACKING,**  
Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or anywhere else  
**Wheeler & Randall's New Grinder and Amalgamator,**  
Which only needs examination to be appreciated.  
**Tyler's Improved Water Wheel,**  
Giving greater power at lower cost, than any wheel in use. Sent for one of our circulars, giving full tables.  
All Wheels warranted to give the power as set forth, or the money will be refunded.  
**Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies,"**  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
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**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.**  
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-45

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Corner of Mission and Fremont Streets,  
SAN FRANCISCO.  
**MARINE,**  
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And all kinds of HIGH PRESSURE  
**Steam Boilers**  
MADE.  
All Boilers stantanted and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
**Old Boilers Repaired**  
**D. CAMERON.**  
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**SOUTHERN RENOVATION.**—The Hon. Wm. D. Kelley, who has recently returned from a Southern tour, proposes a plan for the renovation of the Southern States, which contains within the compass of a very few words a volume of political philosophy. He says: "What is required to regenerate the South is subsoil plows, phosphates, agricultural implements generally, a large increase of horses, mules, and horned cattle, and a steadily increasing supply of steam engines and mining machinery, and such manufacturing machinery as can be moved by water power. These, with a comparatively small amount of cash capital, and a few earnest men to teach others their use and value, would, in a few years, make the South bloom like a garden, and develop a population as loyal as was that of any Northern State during the war. And the interests of Northern capitalists require them to supply those potent agencies at the earliest practicable day."

A New York company have a project on foot for a line of telegraph from some port in Chili along the coast to Panama.

**TOWNE & BACON,**  
Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices  
In this City,  
**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgom'y,  
Over Pacific Fruit Market.

**I. H. SMALL,**  
**MACHINE SHOP,**  
BUILDER OF  
**Steam Engines, Sawmills, Mining Machinery, and Wood Planers.**  
Repairing of all kinds done with promptness and dispatch.  
Gears of all kinds cut at short notice, corner of Market and Beale st. San Francisco. 6v15-3m  
**CALIFORNIA**  
**TOOL AND FILE FACTORY.**  
Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
4v15-4y J. WEICHHART, Proprietor.

**LINCOLN IRON WORKS,**  
No. 51 Beale st., bet. Market and Mission.  
**D. & W. FOURNESS, Prop'rs.**  
**STEAM ENGINES,**  
Flour and Sawmills, and MACHINERY of all descriptions, made and repaired at shortest notice.  
Particular attention paid to repairing Reynold's Cut-off.  
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**CITY IRON WORKS COMPANY.**  
F. CLERC, D. KIENGLAUS, W. DESRIE.  
**CLERC & CO.,**  
Iron Founders, Steam Engine Builders, and Makers of all kinds of Machinery.  
No. 28 FREMONT STREET, San Francisco.  
9v146m

J. NEWSHAM, J. BIGWOOD.  
**SOUTH BEACH IRON WORKS,**  
Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
AND ALL KINDS OF  
**MACHINERY FORGING.**  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done unarated.  
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**JOHN LOCHHEAD'S**  
**Steam Engine Works,**  
Beale street, near Mission, San Francisco.  
**STEAM ENGINES OF EVERY DESCRIPTION BUILT**  
to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the  
**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.  
25v12-3m



**A NOVEL WAY TO MOUNT A HORSE.**—In Peru, the women do all the work and the men are a good for nothing set of gamblers and thieves. The women ride on the hind quarters of their horses, without a saddle, cross legged, with the lead on the horse in front. They mount the animal by taking hold of his long tail, making a loop by doubling it up, and clasping with one hand the upper and lower parts of the tail, then, putting one foot in the loop, and the other foot on the joint of the horses' leg, they ascend as if going up stairs. They usually stand erect on the horse before sitting down. The horses never kick nor stir.

It has been generally supposed that the cedars of Lebanon, so famous and plentiful in Solomon's time, had mostly disappeared; but several extensive groves have been discovered in the mountain wilds by Rev. Mr. Jossup, missionary of the American Board. A grove in Southern Lebanon contained 10,000.

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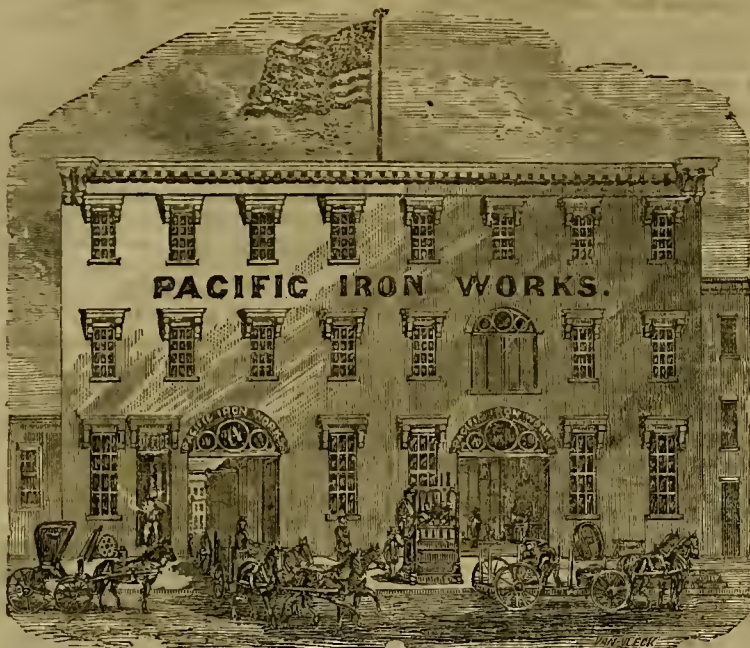
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The Mercantile Gazette and Prices Current is the only Commercial Paper ON THE PACIFIC COAST. PUBLISHED EVERY STEAMER DAY. Terms, \$9 per Year, payable in advance. THE LETTER SHEET PRICES CURRENT For enclosure in letters, is also published every STEAMER DAY. 13v13tf

New Mining Advertisements. Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary. Any stock upon which said assessment shall remain unpaid on the thirteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets, San Francisco, California. an17

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of August, 1867, an assessment (No. 16) of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco. Any stock upon which said assessment shall remain unpaid on Thursday, the nineteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. DAVID WILDER, Secretary. Office, No. 573 Kearny street, corner of Sacramento, San Francisco, California. un17



De Soto Gold and Silver Mining Company.

Location of Works: Star District, Humboldt County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Ballenger, William, Barker, J. C., etc.

And in accordance with law, and an order of the Board of Trustees, made on the said eleventh day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 53 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Wednesday, the fourth day of September, 1887, at the hour of 1 o'clock P. M. of said day, for cash, in U. S. gold coin, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN M. BURNETT, Secretary. Office, No. 53 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, California.

I. X. L. Gold and Silver Mining Company.

Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the election of Trustees, and the transaction of such other business as may come before the Company, will be held in San Francisco, at the office of the Company, No. 418 and 420 Clay street, on THURSDAY, the twelfth day of September, 1887, at 12 o'clock, noon.

FRANK H. HAMILTON, Jr., Secretary. Office, 418 and 420 Clay street, San Francisco, Cal.

La Biana Gold and Silver Mining Company.

Location of Works: District of Ures, State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of August, 1887, an assessment of two dollars and fifty cents per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, southeast corner Front and Commercial streets, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on Saturday, the fourteenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOS. GOLDMAN, Secretary. Office, southeast corner Front and Commercial streets, San Francisco, California. au13

Lady Franklin Gold and Silver Mining Company.

Location of Works: Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of May, 1887, an assessment of thirty (30) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 305 Montgomery street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the sixteenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the fifteenth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. S. LUTY, Secretary. Office, 305 Montgomery street, Rooms 5 and 6, San Francisco, California. au17

Neagle & Corcoran Silver Mining Company.

Location of Works: Storey County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Bell, Rosa, Bell, Jos., etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the second day of September, 1887, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. P. GREEN, Secretary. Office, Room No. 11, 333 Montgomery street, San Francisco, California. au17

Nuestra Señora de Guadalupe Silver Mining Company.

Location of Works: Tayollin, San Dimas District, Durango, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twelfth day of July, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Carl Steubling, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Badger & Chapman, N. W. corner of Kearny and California streets, San Francisco, Cal., on Tuesday, the third day of September, 1887, at the hour of 1 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. J. PRIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. au17

Silver Sprout Mining Company.—Kearsarge District, Inyo County, California.

There will be a meeting of the stockholders of the above named Company, for the purpose of altering and amending the by-laws of the Company, on the tenth day of September, 1887, at 3 o'clock P. M., at the office of the Company, No. 408 California street. By order of the Board of Trustees.

T. B. WINOARD, Secretary. Office, No. 408 California street, San Francisco, August 16th, 1887. au17

Santa Cruz Petroleum Oil Works Company.

Location: Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1887, an assessment (No. 20) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on Tuesday, the seventeenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. au17

Santa Cruz Petroleum Oil Works Company.

Location: County of Santa Cruz, State of California.

Notice.—The fifth Annual Meeting of the stockholders of the above named Company will be held at their office, 415 Montgomery street, San Francisco, California, on Tuesday, the twenty-fourth day of September, 1887, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and transacting such other business as may properly come before it.

R. WEGENER, Secretary. Office, 415 Montgomery street, San Francisco, August 13th, 1887. au17

Tuolumne Moantula Gold and Silver Mining Company.

Location: Moantula Lodge, Tuolumne County, State of California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of July, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like John A. Hines, etc.

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Saturday, the thirty-first day of August, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco, au17

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, WITH STEAM MILL ADDED UP WITH AMALGAMATING PANS, ETC. FOR SALE. The mine has three main veins, and more than \$80,000 have been spent in opening them and completing the mill. Good water runs at the mill. Apply to BELLOC FRERES, Bankers, 23 1/2-31st St. 535 Clay Street, San Francisco.

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of August, 1887, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, A. C. TAYLOR, No. 429 Pacific street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the eighth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twentieth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. au10

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Camp, James, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1887, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, by Jones & Bendixen, Auctioneers, on Thursday, the twenty-sixth day of September, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco. au17

Gold Quarry Company. Location of Works: Placer County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of June, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Ogden Hoffman, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of June, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, No. 705 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 705 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. au17

REMOVAL.—The office of the Company is removed to No. 402 Montgomery street, Room No. 10, second floor.

T. W. COLBURN, Secretary. August 6th, 1887. au10

POSTPONEMENT.—The above sale is postponed to Monday, the 9th day of September, 1887, at the hour of 12 o'clock, noon, of that day, to take place at the new office of the Company, No. 402 Montgomery street, (Room No. 10, second floor) San Francisco. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, 402 Montgomery street (room No. 10, second floor, San Francisco, August 12, 1887. au17

Hanscom Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of July, 1887, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the Ethna Iron Works, Fremont street, between Howard and Polson, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the ninth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eighth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN O. HANSCOM, Secretary. Office, at the Ethna Iron Works, Fremont street, between Howard and Polson, San Francisco. Office hours: from 8 A. M. to 12 M. au10

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eighteenth day of June, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like C. Schepher, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of June, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Monday, the nineteenth day of August, 1887, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary pro tem. Office, 648 Market street, San Francisco, Cal. au13

Neagle & Corcoran Silver Mining Company.

Location: Storey County, Nevada.

The Annual Meeting of Stockholders for the above named Company will be held at the office of the Company, Room No. 11, 333 Montgomery street, on MONDAY, the 19th day of August, 1887, at 7 1/2 o'clock P. M., for the purpose of electing officers for the ensuing year, etc.

A. P. GREEN, Secretary. Office, 333 Montgomery street, San Francisco, Cal. au17

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1887, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, 212 Clay street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of August, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. au17

Kittlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of July, 1887, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 318 California street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of August, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fourteenth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISEL, Secretary. Office, 318 California street, Up stairs, San Francisco, California. au17

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of July, 1887, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 611 Washington street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of August, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fourteenth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPH, Secretary. Office, 511 Washington street, San Francisco. au13

Seaton Mining Company.—Location of Works: Drytown, Amador County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-eighth day of May, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Peter H. Burnett, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-eighth day of May, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 60 Exchange Building, northwest corner of Washington and Montgomery streets, San Francisco, Cal., on Monday, the twenty-ninth day of July, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets San Francisco. au13

POSTPONEMENT.—By order of the Board of Trustees, the above sale is postponed until Monday, August 26th, 1887, at the same hour and place.

JOEL F. LIGHTNER, Secretary. July 29, 1887. au10

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of August, 1887, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the Company's office, 408 California street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the eighth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINOARD, Secretary. Office, 408 California street, San Francisco. au10

Whitland Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Allen, H. H., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on Thursday, the twenty-sixth day of September, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco, California. au13

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. au10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the millor forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again revolve, where it passes down and into the circumferencio as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR.

For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley, the cost of the iron for the machine, without the iron-box, is about \$100. The box will answer of wood.

By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

QUARTZ MINERS, MILLMEN,

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

First Class Mill,

In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps.

For full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, J. B. HITCHCOCK, Millwright, Russ House.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

BY

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

NELSON & DOBLE,

AGENTS FOR

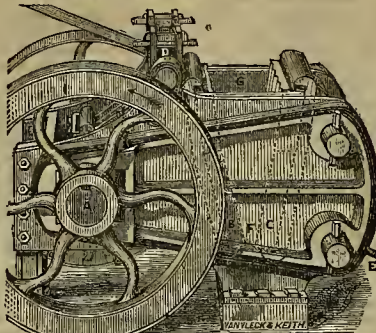
Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,

319 and 331 Pine Street,

Between Montgomery and Sansome, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling quartz, or other rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

No. 1 or 2 1/2 inch Crusher, capable of simultaneously crushing three to four tons of quartz per hour, no piece being larger than a walnut—price \$600

No. 2 or 3 inch Crusher, capable of simultaneously crushing through five to six tons per hour..... \$500

No. 3 or 4 inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

The frame is made of cast iron, bonded with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz will be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada, and many other places in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1865.

JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your best sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly pulverizing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$200 per Barrel.

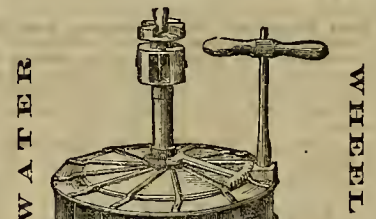
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866

BRODIE'S PATENT WIND BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in California, Nevada, and Nevada, and many other places. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press" of Sept. 22d, 1866.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S

American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, &c., &c.

CALIFORNIA REFERENCES.—E. Stocton, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coyne, Lexington, Santa Clara County; J. Y. Callaghan, Lexington, Santa Clara County. Send for Circular, to

KNAPP & GRANT, Agents for California.

267 1/2 31y 310 Washington street, San Francisco

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is particularly skilled in saving sulphurates, and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 267 1/2 31y

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Messing and Brass, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing, &c.

M. PRAG, 87 1/2 31y Stove Store, No. 125 Clay street, below Davis.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built order. Water Tanks built to order.

No. 28 Second St., and 108 and 110 Jessie St., 27 1/2 31y San Francisco.

Golden City Chemical Works.

LABORATORY, Corner of Seventh and Townsend Streets.

OFFICE Corner of Montgomery and Bush Streets.

CAPITAL STOCK - - - \$500,000

Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNINO, THOS. BELL, CHAS. E. McLANE.

H. P. WAKELEE.....MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muric Acids of superior quality, in quantities to suit.

Orders will be received at the office only for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed.

9 1/2 31m

FIRST Paint Manufactory

IN CALIFORNIA.

EPES & E. H. R. ELLERY

Have the Patent Right for the Pacific Coast to manufacture, sell and use

Ellery's Patent India Rubber Cement & Paint.

It is for all exposed surfaces; impervious to wet; will not rot, peel, blister or crack, in any climate. A superior Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, which had been in such bad condition it was about to be taken off ten years since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT, making a good tight roof. A coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Adams Lead Works use our Paint only.

NEW CLOTH ROOFS put on; copings and all seams cemented and saturated; then coated with the India Rubber Cement and Paint—the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others, the roofs of all the horse and steam cars, decks of steamboats, etc., around New York—for eight dollars per one hundred square feet, according to size and condition of roof. Good men do the best materials used.

We have just cemented and painted old tin roofs of Dr. H. D. Cogswell, Tubbs & Co., D. J. Oliver, etc., and the wood work of Sheriff Davis's building, 88 feet front, on Folsom street, between Third and Fourth streets—only one coat. The work will speak for itself. Now painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—one coat. See the above and further references at our office.

ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT is composed of India rubber and other gums, dissolved in linseed oil, mixed with the various coloring matters, and ground in any color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—retaining sufficient elasticity to give and take with the heat and cold. Fifteen hundred fishing vessels at Cape Ann use the India Rubber Paint, finding it superior to all others.

E. P. E. H. R. ELLERY are now prepared to make good roofs, and cement and paint new or old ones, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No asphaltum or coal tar used.

Office, No. 22 1/2 Jackson street, corner Battery, San Francisco, Cal. 6 1/2 31y

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM.

For sale only by DANFORD & AYERS, 27 1/2 31y 417 Washington street, Post Office, S. F.

Assayer and Chemist.

A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating departments of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given. Inquire at this office. 3 1/2 31y

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

66,499.—AMALGAMATOR AND CONCENTRATOR

George Johnson and Edwin G. Smith, Auburn, Cal.

We claim, 1st, The revolving belt or apron, F, with its raised edges, o, having a shaking or rocking motion from side to side, substantially as and for the purpose described.

2d, The amalgamating plate, E, in combination with the revolving shaking belt or apron, substantially as and for the purpose described.

3d, The box, M, with its jets in the direction of the motion of the belt or apron, together with the roller, N, substantially as and for the purpose described.

The object of the above invention is to provide an improved amalgamator and concentrator for saving gold, amalgam, quicksilver or sulphurets from sand or tailings, or from the pulp of quartz mills. This is accomplished by constructing a machine with copper plates and an endless revolving apron of caucas. After passing over the copper plates, the sand falls upon this revolving apron, which moves upward against the current, with a shaking and revolving motion, which former greatly aids in the saving of the sulphurets, etc. This invention has already been fully noticed in our columns.

66,665.—ANCHOR.—G. A. Lloyd and C. A. Stewart, San Francisco, Cal.

We claim the lugs, a, a, on the flukes in combination with the stops or projections, d, d, on the shank, for the purposes set forth.

We also claim making the flukes to stand at different angles, so that one will catch first when the anchor is one side up and the opposite one when the anchor is the other side up, substantially as described.

The object of this invention is to provide an anchor which shall do away with the awkward stock or cross-piece of the old style; one which cannot be "tripped" by the anchor becoming "fouled" with its own chain; one which shall decrease the weight without losing anything in efficiency, and one which, when hoisted to its place, will lie neatly against the side of the vessel. It is claimed that all these points are accomplished by this invention, which was more fully described in our issue of March 2d, 1867.

66,540.—JOINT OF METALLIC CASES, ETC.—Maximilian Wappich, Sacramento, Cal. Ante-dated June 29, 1867.

I claim my improved mode of rendering impervious the joints made in barrels, tanks, or other vessels which are constructed of sheet or plate metal, by the insertion of a packing of soft metal or alloy in grooves provided for that purpose, which are not in line with the rivets or bolts, and are so constructed and arranged that such packing may be inserted after the riveting has been completed, substantially as and for the purpose described.

RECENT INVENTIONS.

PNEUMATIC PUMP.—Mr. John S. McCann, a printer in the office of the Gold Hill News, Nevada, has just filed a caveat for an invention in which air is employed as an auxiliary power in raising water. By means of force-pumps (hydraulic and pneumatic), water and air are forced into the lower end of a discharge pipe in alternate volumes. Each injected volume of air, from its specific lightness, forces its way up through the water above it in the discharge pipe, carrying a portion of the liquid with it—acting much as do the pistons or pallets of a chain pump when in operation. The air, of course, when once within the discharge-pipe, is self-acting in its upward movement through the water; the natural law of atmospheric pressure is, as it were, reversed—causing an upward flow. To be most effective, the quantities of water and air injected must be properly proportioned and the movement of the machinery properly timed. In raising water to great heights, the effectiveness of a pump of this kind can be greatly increased by renewing or adding to the supply of air, at proper intervals, by additional air pumps. This being an improvement upon, or application of a



new principle to, an apparatus long in use (the force-pump), rather than an entirely new invention, a minute description of its mechanism is unnecessary.

**TAKING TIRES OFF OF WAGON WHEELS.** The Dalles Mountaineer speaks of an invention by Mr. F. W. Ayers, of that city, which is considered a useful and convenient instrument for blacksmiths. It is not described.

**AN IMPROVED SAFE.**—Something new in the way of fire-proof safes has recently been invented in New York. They are made cylindrical in form, double, the minor cylinder revolving, adding greatly to its security against attempts of burglars, as well as fire, while the form of general structure gives great strength. A sample of the safe was recently on exhibition at 344 Broadway, and attracted much attention.

**AN IMPROVED WATCH.**—John Finley, of Sharon, Ohio, has invented an eight-day watch, with only two rounds on the winding barrel.

**A NEW VEHICLE** for hauling dirt, by J. S. Lake, Smith's Landing, N. J., was exhibited before the American Institute in New York. It lays a track as it is hauled by a team, and is now in use for grading a railroad track. A span of horses is able to haul five tons over sandy ground, when on a common wagon they could scarcely haul half a ton. A smooth, level surface is required. The members thought it might be useful, among other things, for hauling out manure over meadows.

**A CALIFORNIA INVENTION IN NEW YORK.** A new apparatus for reefing and furling sails from the deck of a vessel, thus dispensing with the necessity and danger of going aloft, is now attracting considerable attention amongst those interested in marine improvements in New York. It is very simple, and reduces the number of ropes now used in the operation of furling and spreading sail to two—the sheets and clewlines. These are attached to two booms, one at each end of the bottom of the sails upon which, in furling, it revolves, being, as it were, rolled up. In setting sail, all that is necessary to do is to slack the clewlines and haul in the sheets, when the sail is let down, assisted by its own weight. In furling, the press of the wind upon the sail aids in rolling it up, besides which it is all the time taut, thus enabling it to be carried to the very last minute in bad weather. A great saving is made here both in canvas and rope, it being well known that the friction of the many ropes used in the old style of rigging is very destructive. The invention is the property of Charles Peterson, a practical seaman of many years' experience, by whom it was conceived and brought into working operation some few months since in this State. The invention has been applied to the clipper ship Guardian, of Comstock's line for San Francisco, which is now on its way to this port.

**SANTA CLARA COLLEGE, S. J.**  
SANTA CLARA, CAL.  
Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867.  
TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.  
For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.  
5v15-1m REV. A. MASNATA, S. J., President.

**The Commercial Herald**  
—AND—

**MARKET REVIEW**  
Will be issued early on  
**EVERY STEAMER-DAY MORNING.**  
(TRI-MONTHLY).

OFFICE—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

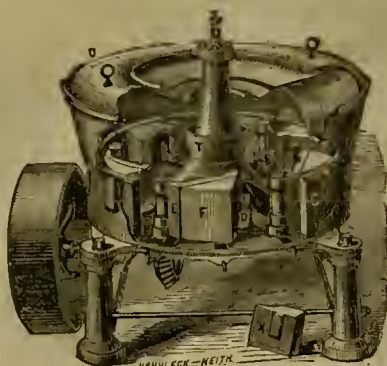
**The Letter Sheet Market Review,** containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

**Weekly Stock Circular.**  
Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**Favorable to Inventors.**—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

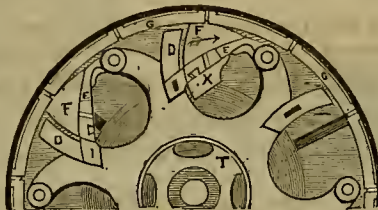
Patent dated April 10th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

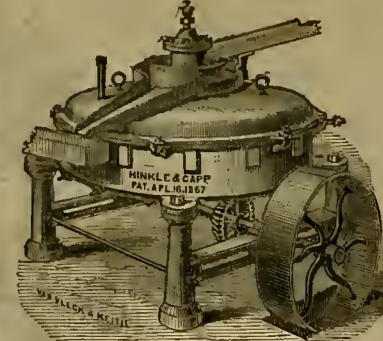
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, stick points or iron, accidentally introduced with the crushed ore, as these can readily pass each muller separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each muller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five stamp battery, with No. 4 or 5 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, muller-hanger, F, muller plate or shoe, G, side dies, I, supporting lip, D, bearing surface, K, feeder, X, weight to counter-balance wear of muller plates or shoes, U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

dies are easily removed at any time, or when worn out, and an extra set of mullers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or muller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of mullers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$340, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE, and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco. 25v14-1f

**Portable Steam Engines!**

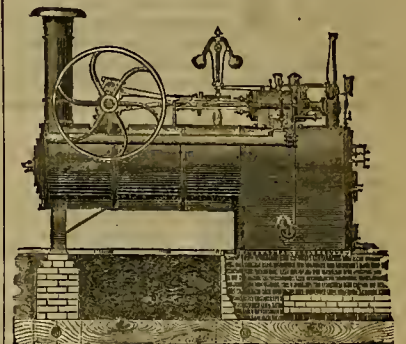
"Hoadley's" and "Hittinger's" Make,



HOADLEY'S.

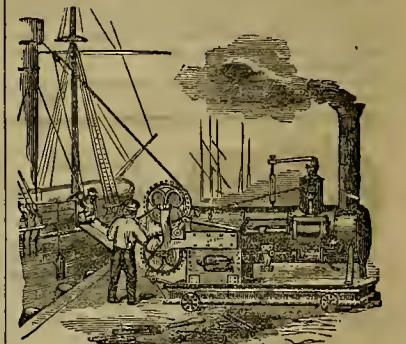
FOUR SIZES,

8, 10, 12, and 15-Horse Power,



HOADLEY'S.

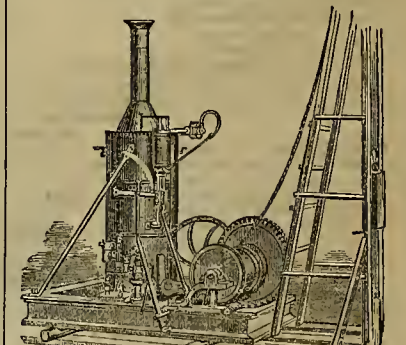
3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES,

5, 7, and 10-Horse Power



HITTINGER'S.

TWO SIZES,

5 and 7-Horse Power,

COMBINING THE MAXIMUM OF EFFICIENCY, DURABILITY, and Economy, with the Minimum of weight and price. These Engines are favorably known, a large number being in use on this coast for hoisting, pumping, threshing, milling and mining purposes. Steam can be got up in these Engines in fifteen minutes after reaching the place of operation, and the true expense of setting boilers, machinery, and "construction account" saved, (which is often the difference between the successful and unsuccessful prosecution of mining enterprises), in fact, the portable principle is the miner's friend, and enables him to draw engines on their own wheels to his cabin door, and plant on the outposts confines of civilization the saw and grist mill, and it has done and will do more to help subside the continent than any other of the modern motors which are crowding society and normalizing the world. All sizes on hand from 3 to 30 horse power, with and without carriages. Also, Portable Saw and Orist Mills. For sale by TREADWELL & CO., 9v14-6m1p Corner of Front and Market streets.

**Stair Work of all Kinds,**  
MADE TO ORDER  
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**N. P. LANGLAND, STAIR BUILDER,**  
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Newel Posts and Balusters CONSTANTLY On Hand and for Sale.

**THE CENTRAL PARK OF THE PACIFIC.**

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THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast. The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic. To all departments new attractions are being constantly added. These Gardens are accessible by the Howard, Folsom and Market street Cars. Entrances on Mission and Valencia streets, between Thirteenth and Fourteenth. OPEN EVERY DAY. Admission to all parts, 25 Cents. Children, under 12 years, half price. 2v14-1r

**THE WILLCOX & GIBBS IMPROVED NOISELESS Family Sewing Machine**  
Challenges the world. It has beaten the Florence badly Come and see it, or send for Report of trial. SAMUEL SWIFT, Agent, 203 Kearny street, near Sutter. 13v14-6m

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FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 25 cents and \$1 per bottle. For sale by all dealers in medicine. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 534 Sacramento street, opposite What Cheer House, San Francisco. 10v14-1y

**GOVERNMENT HOUSE,**

Corner of Sansome and Washington sts. SAN FRANCISCO, CAL. THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes. The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels. SANBORN & CO 10v13-6m

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WAGES OF MINERS IN ENGLAND.—The general average wages of the working miners in England, according to a correspondent of the London Mining Journal, (exclusive of captains, inspectors, etc.) does not exceed an average of \$12 per month, or \$2.75 per week; and that with flour higher than it is at the mines in this State, and potatoes and beef nearly as high. How a man and his wife, and two or three children, the latter too young to work, can live for \$2.75 per week, is something of a mystery to an American. The same class of workmen in Virginia City are demanding \$4 per day, with the cost of provisions not more than twice the cost of the same in the English mines.

SECRETARSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v14tf

Gold Bars, of whatever size, if well cast, assayed for two dollars, at A. P. MOLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14 3m

JACOB SAEW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street), takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tf

Brown's Filtering Heater.—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is in operation in fuel and boiler-repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v14 1 v AUSTIN A. WELLS, Agent.

FOR CABINET PHOTOGRAPHS, or Enamelled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos 25 and 27 Third street. Every picture warranted to give perfect satisfaction. 5v15qr B. F. HOWLAND, Artist.

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty. Call and examine the work. Finest quality of artificial work also manufactured. 16v14 tf

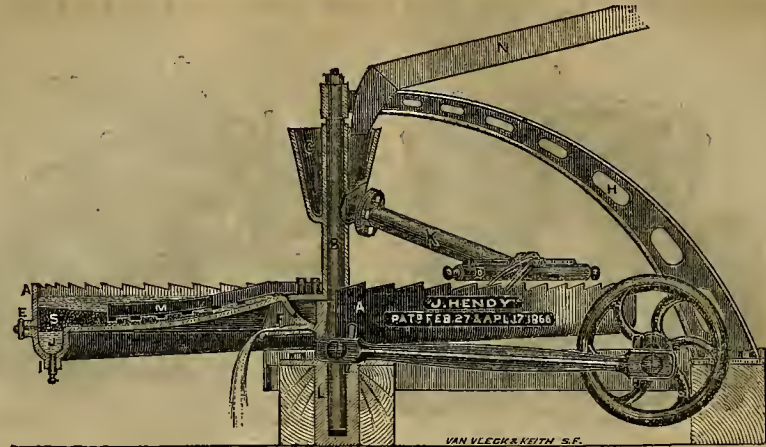
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- Florentine Tooth Wash; Saponaceous Tooth Powder; Rosemary and Castor Oil; Wine of Peppine; Guaiacum; Devine's Pitch Lozenges; Verbena Water; Bny Rum; Cologne Water; Aurantique; Oriental Perfume, for the Handkerchief; Sparrow Perfume, for the Handkerchief; Glycerina Lotion, for the face and hands; N. E. Rum, quart bottles—a superior article; Solution of Citrate of Magnesia; Oranular Effervescent Citrate Magnesia; Cold Cream of Roses; Keith's Cholera Mixture; Electro-silicou Polishng Powder. Kissengen Water, Vichy Water, Carlsbad Water, Seltzer Water. WM. H. KEITH & CO., 5v15qr 520 Montgomery st., San Francisco.

Foundry for Sale. A One-half Interest in the UNION IRON WORKS, SACRAMENTO, Owned by William R. Williams, is offered for sale on the most favorable terms. A Good Bargain May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lots 35 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets. Inquire at the office of the Foundry, or address WILLIAM R. WILLIAMS, Sacramento, Cal. 25v13tr9-16p

HENDY'S LATEST IMPROVED CONCENTRATORS,



FOR GOLD AND SILVER ORES, With Revolving Stirrers and Rotary Distributor. Can be seen in Operation at the Union Foundry, First St., San Francisco.

Directions for Operating Hendy's Concentrators: The sulphurets are drawn off while the Concentrator is in motion, in the following manner: FIRST—Set the Pan, A, level, by its inner rim. SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.] THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned. FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in future, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length.

The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

References:

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use: FOREST SPRINGS MILL..... Grass Valley, Nevada County. EMPIRE MILL..... Grass Valley, Nevada County. ONEIDA MILL..... Jackson, Amador County. INDEPENDENCE MILL..... Brownsville, El Dorado County. HUMBOLDT CANAL CO..... Humboldt County, Nevada. EL TASTE CO..... Sonora, Mexico. BENTON MILL..... Bear Valley, Mariposa County. LOUISIANA MILL..... Coulterville, Mariposa County. PEOPLE'S MILL..... Alleghany, Sierra County. TYRON & CO'S MILL..... Prescott, Arizona. WOOLSEY & CO'S MILL..... Prescott, Arizona. NOYES & CO'S MILL..... Prescott, Arizona. GUADALUPE & SACRAMENTO G. & S. M. CO..... Sinaloa, Mexico.

- RECENTLY ORDERED FROM THE UNION IRON WORKS: VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators)..... Nevada County. GOULD & CURRY G. & S. M. CO. (4 Concentrators)..... Virginia City, Nevada. VULTURE CO. (4 Concentrators)..... Prescott, Arizona. MIDAS MILL CO. (4 Concentrators)..... Virginia, Montana. PLYMOUTH ROCK MILL CO. (2 Concentrators)..... Mariposa County. B. F. BROWN (1 Concentrator)..... Melbourne, Australia. MOREY & SPERRY (1 Concentrator)..... New York. And in use in many other parts of this coast.

These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular. Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

CAUTION.

All of HENDY'S PATENT CONCENTRATORS are marked thus: "J. HENDY, Patented February 27th and April 17th, 1866." Orders or letters of enquiry, address, JOSHUA HENDY, Patentee, Union or Fulton Foundry, San Francisco. March, 1867.

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DEWEY & CO., PUBLISHERS,  
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SAN FRANCISCO, SATURDAY, AUGUST 24, 1867.

VOLUME XV.  
Number 8.

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## The Farmers' Rocking Horse.

A NEW CALIFORNIA AGRICULTURAL INVENTION.

We give herewith a very full illustration of a new cultivator, invented by Mr. A. W. Putnam, of Pleasant Valley, Solano county, a gentleman who has had many years experience in the practical study of agriculture and agricultural machinery. This invention was first patented, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, April 2d, 1867, under the name of the "Rocking Chair Planter and Cultivator." Since the application for that patent, several important improvements have been added, for which a new application for patent has been made, through the same agency. The present improved machine is called the "Farmers' Rocking Horse;" that name having been suggested by the saddle-shaped seat used, and the addition of the roller, as seen in Fig. 2.

This machine appears to be one of the most complete and effective cultivators which has yet been introduced to the agricultural public; and we take especial pleasure in giving it the present full and intelligible illustration, both for its intrinsic merits and from the fact that it is the result of California ingenuity, and will be manufactured in our midst—thus adding another item to the rapidly increasing branches of California industry.

It can be used as a combined cultivator and planter, a combined cultivator and roller, or as either, separately. The seed-dropper can be regulated for any size or amount of seed. It will drop wet or dry seed. The wheel working the dropper is six feet in circumference, having holes bored near its periphery for a given number of pins, the arrangement of which can be seen by examining B and I, in Fig. 1. With twelve pins in it, it drops every six inches; with six pins, every foot; four pins, eighteen inches; three pins, two feet; two pins, three feet; one pin, six feet.

The markers and coverers are so constructed that the seed can be dropped on the top of the ground and covered by gathering the dirt from each side, thus forming a ridge; or it can be dropped at any depth required, and the amount of covering regulated as desired. The marker can be so arranged as to move away any dry dirt or weeds that may be lying upon the surface

## THE FARMERS' ROCKING HORSE.

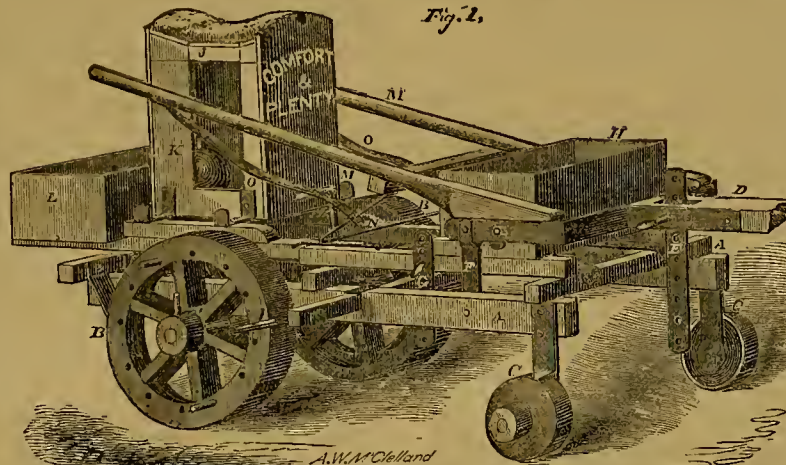


FIG. 1 shows the machine without the roller or cultivator frame attached. A, the main frame; B, the driving wheels; C, G, the small bearing wheels; D, a section of the pole; E, the Draft iron, connected (when at work) with the pole at one end and the cultivator or planter frame at the other end; F, a hinge by which the pole and arms are connected with the main frame; O and E, connect the cultivator frame to the main frame; H, the seed box; I, the lever working the seed dropper; J, the seat; K, the canton box; L, a balance box to carry weights when needed; M, N, arms for lifting the cultivator frame from the ground; N, a rod holding the arms up when raised; O, straps by which the rod N is pulled back to lower the frame.

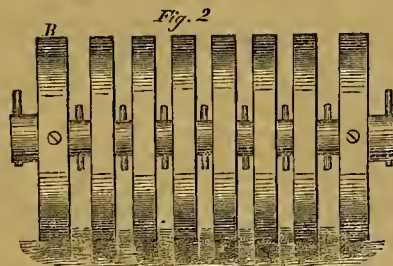


FIG. 2 shows the roller. When it is used, the roller-shaft takes the place of the axle in fig. 1.

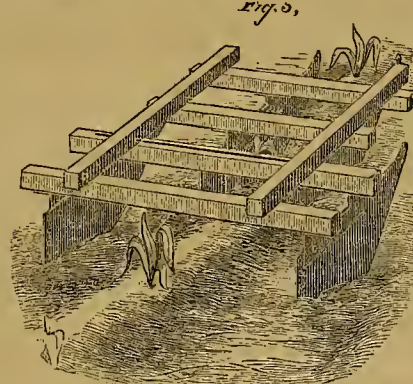


FIG. 3—Cultivating one row.

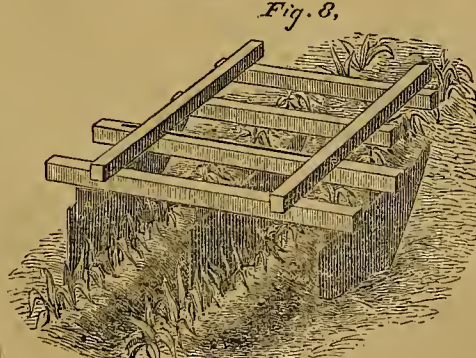


FIG. 4—Cultivating two rows.

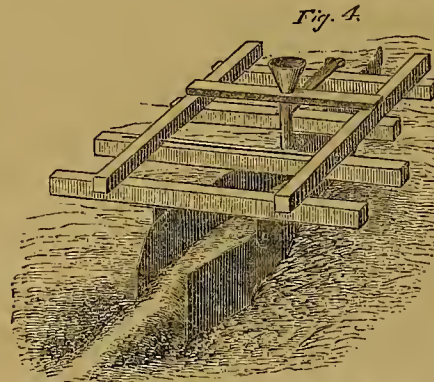


FIG. 5—Planting two rows and not ridging the ground.

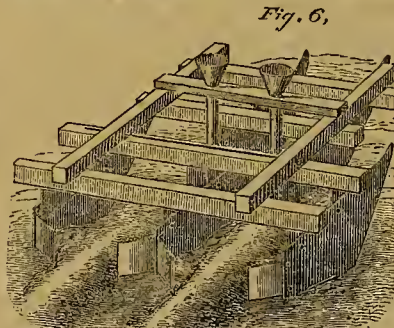


FIG. 6—Planting two rows and ridging the ground.

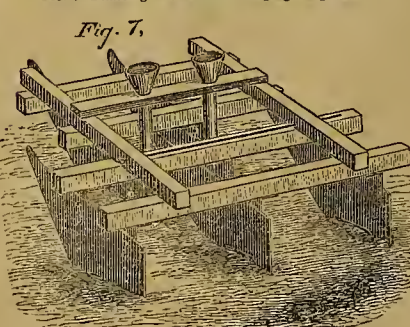


FIG. 7—Planting two rows and not ridging.

of the ground, open a channel for the seed to where the dirt is clean and moist, and cover with clean moist dirt free from lumps or weeds. The construction and practical working of this machine may be readily learned from a careful observation of the annexed illustrations.

The application of steam to farm labor is

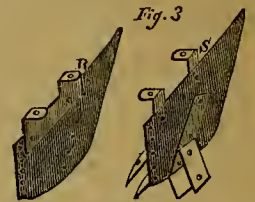


FIG. 3—R shows a center of the cultivator teeth, with the bolt-holes for putting on the shares or planter-iron; the same centers answering for all the different kinds of work; S shows a cultivator tooth with two sets of shares.

one of the most difficult things to be accomplished satisfactorily, from the fact that so few who use such machines are mechanics, in the proper sense of the word. The inventor of this machine appears to have been most happy in both the conception

and in the mechanical development of his invention. It has been brought gradually to its present state of perfection by much study and large practice. Between 300 and 400 acres have now been planted and cultivated with it during the last two years. During all this time the inventor has been constantly experimenting and perfecting his invention, until he has now arrived at what he considers a perfect machine.

The machine will plant one row at a time, three feet or more apart, or it will plant two rows at a time eighteen inches apart. I works with great ease, economy and accuracy—puts the ground in good order for the seed, and puts the seed in just the best place for it to get a good start. The invention is equally adapted to all kinds of cultivation, whether orchard, vineyard, field or grain. The machines will be manufactured in this city.

The inventor has promulgated some novel views with regard to grain culture, to which we shall refer at length in a future issue of the Press.

THE working classes in England make more money than all others combined. The income of the laboring people is estimated, in the aggregate, at \$2,000,000,000 annually. This is at least \$340,000,000 more than the total income of the wealthier classes.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

The general plan and arrangement of the Exposition Universelle of 1867, is the result of the observation and experiences of the former great international exhibitions at London in 1851, at Paris in 1855 and at London in 1862. In those, grand architectural effects were attempted, and large sums were expended in exterior and interior decoration. In the Exhibition building of 1867, all architectural display is subordinated to the convenience of grouping and display of the various objects contributed. The leading feature of the place is the division of the space into seven consecutive galleries, each one devoted to a particular group or class of objects. The form of the building is generally considered to be nearly elliptical, but it is in fact a parallelogram, with rounded ends. Its greatest length is 482 meters (527 yards), its breadth, 307 meters (406 yards). The outer gallery is 1,200 meters, or three-fourths of a mile in length. A central space is reserved for a garden, with fountain and statuary. The whole building is bisected in its length by a main avenue, crossed at right angles by three others, which, together with avenues or passages radiating from the central space, give convenient passage from one gallery or group to another. The whole space, thus divided, measures 146,000 square meters, or thirty-six acres. The superficial area of the building, with the park, is nearly 100 acres. The total superficial area of the building of the Great Exhibition at London in 1851, was about 20 acres, of the palace and its dependencies at Paris in 1855, about 37 acres, and of the International Exhibition of 1862, at London, about 24 acres.

Of the total space of 151,750.46 square meters in the building of 1867, according to the official table, France occupies 63,640.88, Great Britain, 21,059.87, Prussia, 12,765.27, Austria, 8,362.58, Belgium 6,993.10, Russia, 6,060.70, the United States, 3,944.74.

In the Exhibition of 1851, the total number of exhibitors was between 15,000 and 16,000; in 1855, 23,954; in 1862, 28,653, and in the present exhibition, the number reaches 60,000. Of this number, France has 11,645 exhibitors, England 21,000, and the United States 778. According to the official report of M. Rouber, Vice-President of the Imperial Commission, read to the Emperor on the 1st of July, the weight of the different objects exhibited is not less than 28,000 tons. The communication established by rail between the palace and the railroads of the continent, furnished the means of conducting and installing with the necessary care and celerity, this enormous mass of material which, for the most part, arrived at the end of the month of March.

The motive power required to put the various machines exhibited in motion is more than that of 1,000 horses. The supply of water for the building and park is equal to that required for a city of 100,000 inhabitants. The iron pillars and girders used in the construction of the building weigh 13,500 tons; the windows and skylights required 65,000 square meters of glass; the masonry 52,000 cubic meters of stone and brick, and the woodwork 53,000 square meters of plank. The length of the sewers is five miles. The steam for the engines is generated outside of the building, and is conveyed by pipes under the surface of the ground.

The visitor to the Exhibition is at once forcibly impressed with the importance and extreme interest of the Park as part of the Exhibition. It is most tastefully laid out with avenues and winding paths, and is adorned with trees, shrubs and flowers, all planted since the ground was first broke for the foundation of the palace, on the before barren and indurated surface of the Champs de Mars. Here may now be found exam-

ples of the peculiar architecture of almost all the nations of the earth, from the tent of the wandering Arab to the gilded palace of Europe. In the vicinity of the Yankee school-house, one may see a palace of the Bey of Tunis, an Egyptian temple, the catacombs of Rome, the temple of Xochicalco, Mexico, with full sized models of its ancient altars, a Protestant church, and a Turkish harem.

The main entrance to the Exhibition is at the end turned towards the Seine, opposite the Bridge of Jéna. A grand avenue about 40 feet wide here, leads directly through the Park to the building. This is the official avenue, and it is bordered by tall ornamental columns, which sustain a canopy of green velvet, studded with golden stars. At the gate you pass between two monumental bronze fountains about 40 feet high, and with basins 50 feet in diameter. That upon the right is of cast iron, from the celebrated foundries of Durenne, at Sommevoire, which contributed many other objects of interest to the interior of the building. A little beyond, six tall columns of polished marble, of different colors, ornament the border of a path leading to a good sized gothic church on the left, which commands attention by the beauty of its form and finish, and its evident solidity and apparent permanence, although only a temporary edifice. Its roof affords an opportunity for the display of tiles of various patterns and colors, and its windows for the exhibition of stained glass-work by different artists. Near the church is an iron lighthouse rising from the water of an artificial lake. Two buildings of iron and glass, one on each side of the entrance, and next beyond the large fountains, are devoted to exhibitions of iron and of steel. One contains huge ingots of cast steel, three feet square, and broken across, so as to show the nature of the grain. Here, too, are enormous girders in one piece, railroad rails as straight almost as the bed of a planing machine, and again twisted into spirals and tied into knots, so as to display to advantage their extraordinary strength and toughness. Beyond, but yet at the side of the grand avenue, is a building devoted to the display of English ordnance and munitions of war, from a rifle to the celebrated Whitworth and Armstrong guns of different sizes, with the shot and shell peculiar to each. "John Brown & Co. limited," exhibit a bar of steel thirty feet long, three feet six inches wide and six inches thick, weighing eleven tons. It is planed as true as a ruler on the edges and ends, and appears to be compact and homogeneous throughout. Alongside of this building, there is a vista over green lawns and *partie* of flowers to the American *annexe* beyond, where may be seen the beautiful locomotive, and various agricultural machines. On the left of the avenue is a building for the display of windows of stained and painted glass, to which the art of photography has lent its aid. Portraits and photographs are there reproduced in all the brilliance and permanence of color of stained glass.

Continuing the walk toward the entrance to the building, we reach a model English cottage of striking beauty, adorned with several varieties of exterior finish in incised plaster, in parti-colored brick, in beton, slate, and in tiles of different patterns. In the interior the different manufacturers of glazed and encaustic tiles have vied with each other in producing the most pleasing patterns upon the floors and walls. The different forms of ranges and stoves are here displayed in almost endless variety. A few steps beyond bring us to the Imperial Pavilion, in Moorish style, and superbly furnished with the choicest productions of France. The marble steps are inlaid with fine mosaics, and are guarded by two Imperial eagles in bronze, standing upon gilt spheres. The building contains three apartments, and is occupied by the Emperor when visiting the Exhibition.

These details upon some of the structures met in passing through the park, will serve to show the general character of the other portions, crowded with buildings of the greatest interest in themselves, and for their contents. Many of them contain collections which are complete exhibitions in themselves. Spain, for example, has filled a large building with a representation of its mineral and agricultural productions. Russia has several buildings—one, a model farmhouse, is devoted to the products of its fisheries, to its furs, costumes of its interior tribes, and to its agricultural machines and products. A large stable contains the different heads of horses, represented by choice individuals. The Russian Commissioners have an office in a model Russian cottage. In the part of the Park given to Holland, a brick building, standing by itself among the shrubs and trees, is a complete diamond-cutting establishment, where several work-

men are constantly engaged in cutting and polishing diamonds—an art that is seldom exhibited to the public.

The machinery of the Exhibition is placed in the outer gallery or circle, and may be safely viewed from above, by means of a raised platform in the middle, that extends around the whole building. A large part of the French space in this department is occupied by the various weaving and spinning machines. There are also some very interesting hoisting machines, and engines with their appurtenances for deep mining, and machines for drilling rocks and cutting tunnels.

The most impressive display amongst the new materials is that of iron, in its ore, and in pig bars and steel. The forest trees, timber and boards of almost all European countries are very fully represented. The United States have not done themselves justice in this, as in many other respects in this Exhibition. With the exception of a few bundles of shingles from the west, J. D. Boyd, of San Francisco, is the principal exhibitor of our native wood.

The space occupied by the United States is a segment of the great elliptic. It forms a narrow wedge-shaped figure about 450 feet long and 100 feet broad at the exterior of the building, and converging to a point upon the garden, at the center. In addition, there is a large space in the building in the Park. The principal part of the space, exclusive of the machinery, is occupied by the minerals and pianos. The mineral display is extensive, but is not by any means what it could and should have been if a suitable effort had been made. Idaho receives a gold medal for specimens of the silver ore from the Poorman lode; California receives two silver medals for the two collections sent from San Francisco, and Colorado receives a gold medal for the display of minerals from its gold region.

The work of the juries commenced as soon as the Exhibition opened, and the awards were made very soon thereafter, and in many cases before some of the contributions were fairly placed and labelled. The grand ceremony of the distribution of prizes was on the 1st of July at the Palace of Industry, the building erected for the exhibition of 1855. The recipients of grand prizes and gold medals received them from the hands of the Emperor, in the presence of 17,000 spectators, all comfortably seated in that magnificent hall.

The idea of an Exposition, as well as an Exhibition, has already in a great measure been realized. The arrangement and grouping is such as to invite and stimulate comparison, as well as to afford the greatest convenience for the study of different departments. Nearly all the different countries represented, have prepared and published, or are now preparing special catalogues and reports, giving the latest information and statistics of their various industries. The commissioners charged with the duty of reporting, are eagerly seeking such information. Statistics of the Pacific coast are much sought for. Mr. D. Buel, the Commissioner from Nevada, has just received the minerals from that State, and will soon place them in the building. He will shortly publish a map of Eastern Nevada, accompanied by a volume of statistics.

MINING NEAR BOISE CITY.—Our occasional correspondent, "W. H. M.," writes as follows from Boise City, under date of August 7th: "V. S. Anderson and Capt. Kelly, have erected and are running, by water power, a small 2-stamp mill, with pans, etc. They work the affair themselves, and are in high spirits, as they have plenty of first-class ore. If this plan was followed up, by two or three in company, men of very small means could work quartz mines, just as well as capitalists, especially in such places as Yuba, where water power is abundant. There is no reason why this should not be done; a small company thus working simply as partners, could by this means profitably work twenty or thirty feet of lodes, or even less. At any rate, work done in this way, by the actual owners, would be much preferable for all quartz owners, and for the whole country, than that the gold should remain in the lodes; and further, it would tend to induce capitalists to take hold, as they would reason thus: If a 2-stamp battery will pay, a 10-stamp battery will also pay. Reports of rock crushed, and gold and silver taken out, would cause a true and just inquiry into the character and richness of the veins, and thus enable capitalists, with more certainty, to know what they are investing in, when taking stock in gold and silver quartz mining companies. This county has not been prospected; it

has merely been "scratched over," and from the hills close around us here at Boise City, I have seen some very good specimens of both gold and silver bearing quartz; but the owners are very close as to the whereabouts of their discoveries.

The Greenback (Defree's) at Yuba, has had a clean up from Atlanta rock, but have not made the result public. However, they immediately went to work again on some more ore from the same lode, and entered into negotiations for the purchase of more of the Atlanta lode.

There is considerable excitement near Owyhee about a new quartz discovery, but I do not yet know the details."

LOOSE STATE OF SOCIETY IN ANCIENT ITALY.—There is one matter in relation to the recent discoveries at Pompeii, about which but little has been said by letter writers, or others. That a horrible state of depravity existed there, at least during its latter days, and probably throughout all Italy about the time of the reign of the infamous Nero, as too surely witnessed by the recent revelations of the pick and shovel among the ruins of Pompeii. No wonder the fate of Sodom and Gomorrah was visited upon that city of abominations. The consuming fires which buried the twin cities of Italy, fell upon a community which could not have been a whit more deserving of a better fate than were their sisters in iniquity, whose remains are now covered by the loathsome waters of the Dead Sea. A late correspondent of the *Chicago Tribune*, writes as follows:

The horrible depravity of the Pompeians, is illustrated by the frescoes, mosaics, sculptures, and bronze statues that are now being found. Hundreds of these vile objects have been carried away to the museum in Naples, and put into a room which no woman is allowed to visit; but there are still houses in Pompeii that are kept locked, and others that have such sculptures over the doors on the outside that the guides hurry past when there are women in the party. Even in private houses there are scores of frescoes, magnificently executed, too, which one would not dare to visit in company with ladies; and in other houses pictures and statues than which none can imagine anything worse. I cannot understand why the writers on these matters have been so anxious to conceal the faults of the ancients. It is a fact that deserves to be generally known. Great God! what a picture of corruption in Imperial Rome is revealed to one who looks into Pompeii with anything like thoroughness. The very stone of the door tells a tale more damnable than was ever invented by modern thought. Sodom was clean and Gomorrah was pure, compared with Pompeii. Where was ever a people on earth, before or since Pompeii, that "advertised the ways that lead down to hell" by sculptures placed in the open light of the street?

EXTENSIVE COÖPERATION.—Sir Francis Crosley, of England, the most extensive tapestry, velvet and carpet manufacturer in the world, has gone extensively into the coöperation system. He gives employment to over 4,000 men, over 1,000 of which have been admitted to partnership with him in business. The experiment has thus far worked most admirably.

IMPORTANT MINING SUIT DECIDED.—The suit of Robert Robinson vs. the Imperial Mining Company, to recover possession of some valuable mill property near Dayton, was tried in the District Court of Lyon county, on the 16th inst., the jury returned a verdict for the plaintiff. The amount of property involved was \$125,000.

THE OIL OF ROSES comes almost exclusively from Adrianople. No farm crop pays like roses so applied. No country equals California for roses, and it may be profitable to inquire if otar of roses cannot be produced here with paying results.

THE first shipment of bullion from Alpine county this year, was made on the 13th inst. It consisted of 1,500 ounces from I. X. L. ore, worked in the Davidson mill.

FIRST VESSEL.—It is stated that the British ironclad steamer Zealous will be the first vessel placed in the new dry dock at Hunter's Point for repairs.



## Mechanical.

## Improved Motive Powers.

Two very interesting exhibitions of motors were recently made at a *conversazione* at the Pharmaceutical Society of London, England. One of these motors was a hot-air engine, and the other a new gas engine. Quite a lengthy description is given of the former, as follows:

The hot-air engine is based upon the fact, long known to scientific engineers, that the most economical mode of obtaining power from heat is by its direct application to the expansion of air, or other permanent gases, rather than by that of steam or any other vapor. A hot-air engine has recently been exhibited in London, which differs from the so-called "caloric engines" in general use in several essential particulars as to its construction, and is free from those defects which have hitherto prevented the practical carrying out of the caloric theory. In this engine, the motive power, instead of being derived from the expansion of air heated in a separate generator, as in former engines, is produced by the expansion of air heated by contact with the fuel itself, and, in addition to this source of the power, by the action of the expansive force of the gaseous products of the combustion of the fuel, which heretofore have been permitted to escape into the chimney without being in any way utilized by the production of power. This result is accomplished by placing the fuel in a grate which can be hermetically closed, and forcing the air required for combustion into it by means of an air-pump worked by the engine itself, so that no part of the heated air or the gases produced by the combustion of the fuel can escape without passing through the cylinder, and there doing duty in the production of force. It is obvious that by such an arrangement the employment of separate iron generators for the purpose of heating the air is dispensed with, and that thereby one of the chief difficulties of the old caloric engine is avoided; for in the hot-air engine the fuel is contained in a fire-clay furnace, surrounded by an air-tight iron casing, which in this way is entirely protected from injury. The fuel, which may be anthracite, smokeless coal or coke, is thus burned under pressure with great regularity, and with the production of a uniform temperature, and at a rate exactly proportionate to the duty the engine is called upon to perform, thus avoiding all waste of fuel—a result which has not been attained with any form of engine yet introduced.

The heated air, together with the gases produced by the combustion of the fuel, pass from the fire-box directly into the cylinder, so that every unit of heat produced is converted into force. The piston consists of a hollow plunger, to which the piston-rod is attached; the packing is placed around its upper circumference, where the heat is so moderate as to permit of efficient packing and lubrication. By means of an air-pump worked by the piston, a supply of air is forced into the grate. It here comes in contact with the fire, and a portion of it, in maintaining combustion, combines with the carbon, producing carbonic acid, etc.; while another portion of the air in excess takes up heat, and is thereby expanded. The mixed heated air and gaseous products of combustion speedily accumulate such an amount of expansive force as to set the engine in motion, by pressing on the piston. At the end of the stroke the expanded gases escape by the waste-pipe, which may be connected by a common stove-pipe with an ordinary chimney. Each upward stroke of the piston produces a downward corresponding stroke of the air-pump, and forces a fresh charge of cold air into the grate to maintain the combustion of the fuel, thus keeping up a continual supply of heated air and gaseous products. The power is increased or diminished by dampers, which pass the air through or over the fire, according to the amount required.

The chief advantages of the hot-air engine will be found in the very important facts that there is not the most remote danger in its use. The furnace is perfectly insulated, so that all risk of fire is entirely avoided, and the presence of water, whether in large or small quantity, is dispensed with; so that this engine can be employed under circumstances where it would be impossible to use a steam engine. The name of the inventor of this machine is not given in the authority before us—the *Chemical News*.

## AN IMPROVED GAS ENGINE.

The improved gas engine alluded to appears to be of sufficient interest to merit a short description in connection with the

above. This engine is the invention of M. P. Hagar, and is worked without the use of electricity to fire the gas. It may be run the whole day without any supervision whatever, requiring nothing but turning on and lighting the gas to set it in full work. When once started, it may be *locked up and left to itself*, requiring nothing but occasional oiling. There is no possible danger from explosion or fire, and its presence in any building will not affect insurance. The expense of power, at the London price of gas, is said to be about *one cent per hour* for each man-power used. The owner moreover possesses the power of instantaneously stopping and discharging it at any moment, paying for keeping up the power only when the engine is at actual work; while in a steam engine, a constant magazine of power must be kept in constant readiness from hour to hour, even while not in use, and at a constantly accruing cost. If even the half that is claimed for these two engines is true, each must possess advantages peculiar to itself, while both are free from many drawbacks attending the use of steam engines. They require no skilled labor (as of an engineer), no water, do not increase insurance, make no dirt, and are entirely free from danger. These are all great advantages, especially in a city or populous neighborhood, where a small power only is required, and that only at intervals.

## Mechanical Precision.

There seems to be no limit to mechanical precision, or at least none save that due to the expansion and contraction of the tools employed, from the breath or touch of the operator. The first element of precision is the true plane, and for the existence of that plane in its present state of perfection, we are indebted to Mr. Whitworth, of England. That gentleman was the first to produce what is now known as the surface plane. He astonished the mechanical world, in 1840, by the exhibition of his wonderful plane surfaces at the Glasgow meeting of the British Association. This acquisition of a true plane has since become the means for measuring length with accuracy far beyond anything previously known. By it, Mr. Whitworth has been enabled to measure and regulate lengths to the *one millionth part of an inch!* The apparatus for measurement operates by the contact of true planes, and varies from absolute perfection only by the minute changes due to differences of temperature. The amount of precision above named is the limit of *possibility*; the actual practicability of measurement by these appliances may be set down at the one ten-thousandth part of an inch!

The limits of the truth of work are the limits of measurement; we cannot work more correctly than we can measure. Hence the necessity for the utmost exactness in measurement. There are those who believe that we have reached human perfection in that direction, and yet we know there are distances we cannot measure. For instance, when we look upon the surface of the smoothest polished plate, we notice bright and dark spots. Reason teaches us that these spots are produced by elevations and depressions; yet they are beyond our means of measurement, minute as those means now are. We know that iron is elastic. Hence, when we change a heavy bar of iron from a horizontal position to a perpendicular one, we decrease its length. Can we measure the difference? If we bore a small cylinder in a vertical position, perfectly round, that cylinder will become elliptical when we lay it down horizontally. Can we measure the change? Although we may not be able to reach such perfection now, have we any right to limit human perfection by saying that we *never* can? We say, no! The human mind will be ever reaching out for something that is beyond, and it will be ever progressive. We believe that to limit human precision or human wisdom was never contemplated by the Creator—will never be reached, not even by the latest man of the latest generation of the dwellers upon the earth. Man was created a progressive being; it is a part of his mission upon earth to advance in knowledge and precision, continually, even to the end of time.

## Scientific Miscellany.

## A Chapter on Rats.

The common house or brown rat was unknown to the ancients. For ages the only representative of the rat family was the mouse. This mischievous little quadruped was the only representative of his kind which made any pretensions to domestic habits until long after the Christian era. His only enemies were man and the cat. Some time during the middle ages, an animal very similar in his habits to the mouse, made his appearance in Europe, from—nobody knows where. This was the *black rat*. This animal soon spread over Europe, and was carried by shipping to other portions of the world. The rat was unknown on this continent at the time of its discovery. No sooner did he appear in Europe than he immediately commenced a ferocious war upon the mouse, and soon fairly established himself in our dwellings in his stead. To this day the rat is as bitter an enemy to the mouse as is the cat to both. Its greater strength, ferocity and fecundity has enabled it to maintain its position.

The brown or Norway rat is quite a different animal still from the black rat, and more ferocious and destructive. This animal made its first appearance in Europe about the year 1700. It was brought in merchant vessels from India. No sooner did it gain a good footing than it commenced a war of extermination against the black, and they, in turn, are fast going the way of the mouse. The brown rat first appeared, in considerable numbers, in England in 1730; twenty years later, it made its appearance, in force, in France. When Buffon wrote his immortal work, not a specimen of the kind had been seen in Paris, although it was found along the seaboard of France. To-day, not a black rat can be found in Paris. The brown species has now entirely supplanted his less ferocious brother. The brown, unlike the black rat, takes kindly to the water, and will make its way up and down rivers, moving slowly along its banks, each generation proceeding a little farther up stream than its progenitor. There is a black variety of the brown rat which is sometimes met with, and not unfrequently mistakenaken for the black rat; but the black is fast disappearing from both Europe and America. What kind of vermin will succeed this third scourge is yet to be seen.

It is the brown or Norway rat that has become such a pest in California—having been brought hither, by sea, in 1849. The mouse was already a resident of the State. If we are not mistaken, there were no rats in Marysville, Placerville, Nevada, or any of our interior mountain towns, until 1851 or '52. If our recollection serves us right, the cloth houses of Nevada were full of *mice* in the summer of 1850, while no *rats* were to be seen there. We have a very distinct remembrance of being kept "awake o' nights" by their racing, in legions, back and forth on the cloth lining of our lodging room, overhead.

Rats are sometimes voracious wretches. We gave an account, last week, of their attack upon a hog, which they "slew and eat." They sometimes, in the lack of better food, attack wearing apparel, beds and bedding, and even leather. There are hamlets in Europe where tenants have actually been forced from their houses by these voracious and destructive animals. When they are numerous and on the increase, very few cats like to tackle them. We have repeatedly seen them hold their old and natural enemy at bay.

Ever and ever, since the dry land first appeared, has the sea been at its monotonous toil; ever and ever murmuring, surging, undermining, hurling down the earth, night and day toiling and laboring at work even in its placid moods; when, without a ruffle on its polished face, with gently heaving breast it idly chafes the pebbles of the shore.

## TRANSPARENCY OF RED-HOT METALS.—

The eminent Italian *savant*, Father Secchi, of Rome, lately communicated to the world what he considers a fact, that iron, steel, platinum and copper, are transparent when at a bright red heat. The manner in which this *savant* discovered this property in iron is as follows: He had ordered a strong iron tube to be made. As it was intended for an apparatus requiring a vacuum, it was essential the tube should be perfectly air tight; but having some doubts about it in this respect, and wishing to set them at rest, the tube was made red-hot and taken into a dark place, where Father Secchi distinctly perceived *through the iron*, which was half a centime thick, a crack inside the tube, and which did not reach the outer surface. The above facts are also attested to by A. Adriani in the *Chemical News*, who asserts that he has witnessed the same phenomena while working in an engineering establishment connected with a sugar refinery. The editor of the *News*, however, appends to the communication the following note: "The above statements are so much at variance with all previous ideas on the subject, that much stronger evidence will be required before the transparency of red or white-hot metals can be accepted as proved."

TO RENDER RESINS SOLUBLE.—Copal and other refractory resins are soluble in oil of turpentine, etc., if, after they have been kept heated for fifteen or twenty minutes to a temperature of 350° or 400°, of course in closed vessels. The best way of operating is to heat the resin for a few minutes in an open vessel; five or six per cent. of water are by this means expelled. The vessel may then be safely closed, and the heating continued. The product gives very excellent varnishes. To avoid the necessity of heating the varnishes so made, in order to lighten their luster, the oil, etc., which it is intended should be used, may be heated together with the resin. The product then simply requires dilution.

CURIOUS SCIENTIFIC FACT.—In the course of some remarks on the precipitation of silver, Mr. Carey Lea describes a curious fact in relation to the color of the deposited silver. He says: "A plate was covered with a considerable thickness of ammonia nitrate solution, to which was added a dilute solution of Rochelle salt. The plate was then placed in sunlight, and left for some time. Reduction took place, and evaporation, which went on simultaneously, had extended over about one-half the plate, when it was removed from the sunshine. It was then carefully washed. All that part of the metallic silver on which the solution had been suffered to dry in the sun was pure steel-grey, whilst that which was removed still wet had a strong reddish bloom." The contrast remained permanently, and evidently depended upon some difference of molecular arrangement. "It would be interesting to observe," says Mr. Lea, in connection with this, "whether negatives which are dried in the sun are not thereby somewhat different from the same or corresponding negatives dried in the shade; and, also, whether positive proofs on paper could not be affected for good or for evil by drying in the sun."

DEODORIZED NITRO-BENZOL.—Nitro-benzol may be obtained nearly colorless, entirely free from the unpleasant tarry smell which usually accompanies it, and in fact with a pure, fragrant odor, by distilling it, much below its boiling point, in a current of steam. The first portion of the distillate should be rejected.

ASBESTOS is found to make a superior base for the plates of artificial teeth. It is light, and is not affected by the acid secretions of the mouth. It is said to be far preferable to rubber. It is prepared in the form of a paste combined with other materials, and it adheres firmly to gold and aluminum plates.

A FRENCH chemist has proved, by a practical test, that fresh milk can be kept for almost any given period, perfectly sweet and good, simply by the complete exclusion of atmospheric air.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

66,798.—COMBINED INSTRUMENT FOR WATCH-MAKER'S USE.—Charles E. Collins, San Francisco, Cal.:

I claim an improved instrument for watch-maker's use, formed by the combination of measuring gauges for watch-crystals, main-springs, and wheel-pinnions, a revolving bench-key, and a case-opener, all united and connected with one handle, substantially in the manner as herein described.

66,859.—GRAIN SEPARATOR.—A. W. Lockhart, Sacramento, Cal.:

I claim, 1st, Adjustably attaching the fans to the fan-shaft so that they may be set at any desired angle, substantially as herein shown and described.

2d, The combination of the fan-boards, D, jointed arms, C, C', and curved arms, E, or equivalent, with each other and with the fan-shaft, B, substantially as herein shown and described.

3d, The combination of the curved adjustable blast-boards, I and J, with the air-chamber, A, blast-chamber, K, and with the shoe of the machine, substantially as herein shown and described, and for the purpose set forth.

66,990.—HAY ELEVATOR.—William L. Oversher, Stockton, Cal.:

I claim the single rope, I, in combination with the pulleys, H and K, and the block, L, for the purpose of effecting the simultaneous motions of the forks, M, in opposite directions, substantially as described.

## RECENT INVENTIONS.

LEPURTANT IMPROVEMENT IN WEIGHING SCALES.—Mr. E. Simpson, (residence not given in the account before us), has recently devised a most important improvement in scales for the weighing of heavy articles, which is said to be unequalled by anything heretofore used for such purposes. First, is the platform scale. The levers are placed in the corners and are only nine inches long, and connected with short links and yokes, forming a series, along which the weight is transmitted. The friction caused by driving on the loads and the sudden jarring of heavy weights, are spent on the links, and not on the pivot edges; hence they will last an indefinite length of time.

Nothing surprises the spectator more than to see these scales weigh small weights. A pound, or a half pound, is indicated as unerringly as two, five or ten tons; and when any small weight is added or withdrawn from enormous ones, it is shown as quickly as on the grocer's counter scales in weighing tea or spice. So simple is the construction, that the pieces of scales to weigh ten tons can be packed in a box five feet long and one foot square.

This same invention is applicable to weighing canal boats, and one great advantage is, no other house is required than the small structure used for the weighmaster's office; thus saving \$5,000 or \$6,000 in the erection of a building, since it is built into the lock itself, and not suspended from above. So exact are these lock scales, that the taking out of a heavily loaded boat a couple of pails full of oats is indicated on the bar. These scales are in use on the Champlain Canal at Waterford, and at other places, and the State engineers and surveyors have testified to their excellence and economy. They are also in use on the Hudson River Railroad, and other roads, giving particular satisfaction from the fact that the passing of the cars over them produces no friction on the knife edge bearings. On a trial at Elmira, New York, where various very heavy articles were weighed, a watch belonging to one of committee turned the beam.

Finally, there is an automatic scale for weighing grain, which one cannot see without wonder. First, there is the bin for holding grain. At the bottom is a valve through which the grain runs into a hopper on the scales below. When the required amount—say 100 bushels—has descended, what is equivalent to the bar rises and closes the valve. By the same power a cog-wheel turns, and indicates on a clock-face the amount of grain weighed, and at the same time a valve in the bin opens, when the grain is discharge by a spout into cars or a vessel. Then the valve at the bottom of the hopper closes, when the valve in the bin opens again, and the process is repeated. All these various operations are performed by the weight of the grain alone, and the human hand is not required to lift a finger.

Thus all these various modifications of the invention show that they meet the new demands of the age.

IMPROVED STEERING APPARATUS.—A New York paper thus refers to a new steering apparatus in use upon some of the steamers of that port: It consists of an instrument with two dials, placed on the bridge, and each of these dials is connected by strong copper chains, one, the "transmitting dial," with another dial in the wheelhouse in which the orders "Port," "Starboard," or "Steady" are revealed, a gong sounding at the same time to call the helmsman's attention to the order sent, while the other, the "reply-dial" is connected with the rudder head; although the distance between the bridge and wheelhouse is 198 feet, the orders are transmitted instantaneously, and as every movement of the rudder is registered upon the reply-dial, the officer on duty can see whether his orders are properly obeyed. This instrument is the invention of John S. Gisborne, is simple in its construction, and its operation being entirely mechanical, is not liable to get out of order. The committee appointed by Congress to examine life-saving inventions, have reported favorably upon this, as also have the New York Board of Underwriters.

A NEW MINING MACHINE.—The Idaho *World* speaks of a new mining machine which has recently been invented in that place by a miner named Emerson. The principle is described as follows: The sluice boxes lead to an endless revolving chain, to which strong metal scooping cups are fastened, similar in kind to the elevators in a flouring mill, which take the refuse dirt and deposit it in a sharp, sloping, great sluice box, which is rigged to move from side to side, so as to equalize the dumping heaps. A Chinese wheel drives the endless chain, and the water from the wheel is thrown back, as its force is used, into the sluice boxes, thus effecting an economy in water. We heard some miners who had given the model a close examination express rather favorable opinions of it.

An improved knitting machine has recently been invented in New England, which, it is claimed, will knit fifty pairs of stockings in a day, and is so simple that a child can work it.

THE PACIFIC RAILROAD GEOLOGICAL SURVEY.—The Government geological survey of the Pacific Railroad route through Nevada, Utah and Colorado, has commenced, and the corps has been pursuing its labors in the vicinity of Pyramid Lake, extending its explorations as far as the Black Rock region and some of the Humboldt districts. It is under the direction of King, of the Engineering Bureau, and consists of twelve scientific assistants, ten laborers, and a small escort of soldiers. The Virginia *Enterprise* says:

In a few weeks, King will locate his headquarters in Virginia, and devote the winter months to the examination of the Comstock lode. The plan of the expedition embraces a geological, mineralogical, topographical, botanical—in short, a thorough scientific survey of a belt of about seventy-five miles on either side of the great national highway, extending from the Sierra Nevada to the eastern base of the Rocky Mountains. Fortunately for us, the most important regions of Nevada are included in its range, and our State will gratuitously reap the benefit of a more complete exploration than it could ever hope to procure by its own means. The survey is being conducted under the direction of the Engineering Bureau of the War Department, and six years are allowed for the completion of the work; considering which circumstances and the eminent scientific abilities of the gentlemen to whom the Government entrusts the execution of such projects, it is but reasonable to suppose that the survey will be performed with that thoroughness which has characterized every similar undertaking of the Government.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

JOURNEYMEN BOOT AND SHOE MANUFACTURERS COOPERATIVE UNION.—San Francisco, Aug. 21. Capital stock, \$50,000, with right to increase to \$100,000; 1,000 shares, \$50 each. Trustees: William F. Meagher, Elliott Wescott, Albert B. Pingstone and Benjamin F. Mains.

BAY VIEW PARK HOMESTEAD ASSOCIATION. San Francisco, Aug. 19. Capital stock, \$500,000. Trustees: Henry A. Crane, Wm. H. Bryan, Arthur R. Street, Henry O. Howard, Joseph DeForest, Wm. A. Woodward and Silas Selleck.

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,  
August 24, 1867.

## City Stocks.

City stocks, for the most part, are inactive, but the sales generally show a considerable advance over our previous quotations. Spring Valley Water Co. is in better request, selling at \$69@70 per share, then at \$68 50, and at the close \$69 is asked. California Steam Nav. Co. is also in better favor, twenty shares realizing 72½ cent, seller 30. San Francisco Gas Co. also shows an improvement, selling at \$64 50; at the close \$64 is bid. A considerable amount of Fireman's Fund Insurance stock changed hands on the street at 91 cent, or \$9 10 per share. This company recently availed itself of the provision in its by-laws relative to marine insurance, and since the first instant they have been prepared to take risks upon this class of property in addition to their regular fire insurance business.

Considerable sales of Legal Tender Notes were made during the past week at 72@72½ c.

We refer our readers to the third page of this circular for full quotations of city and miscellaneous stocks.

## Mining Share Market.

The mining share market has been quite sensitive during the past week, developing a general disposition to make optional purchases, and this at all times has a tendency to produce less firmness; however, most descriptions continue to be well maintained, and the extended sessions of the Board show a largely increased volume of transactions.

CROWN POINT—continues to manifest considerable activity under fluctuating prices, opening at \$1,300@1,350, falling to \$1,150, rising to \$1,340, then dropping to \$1,160, and closing at \$1,243. Early in the period under review, in going east from the winze sunk from the 600-foot level, three and a half feet of pay ore were found, and including the developments in the winze, opened an ore body five feet wide. A late dispatch says the winze is fifty feet in depth and shows some improvement. The south drift from this winze, now about fifteen feet from the east drift on the 600-foot level, is said to be improving. The mine yields the usual quantity of ore, the average assays showing as good a quality as formerly reported.

CHOLLAR-POTOSI—was the feature of the week in stock circles, nearly 1,500 shares changing hands under the regular transactions of the Board, rapidly rising from \$340 to \$442 50, receding to \$410, rallying to \$430, then dropping to \$395, improving to \$427 50, and closing yesterday at \$429. During the week ending August 15th, 2,200 tons of ore were sent to custom mills, showing an average assay value of \$50 per ton. The rapid appreciation of this stock early in the week was due to the finding of ore in the new shaft at a depth of 860 feet, this being the greatest depth at which ore has yet been found on the Comstock Lode. On the 20th inst. this deposit was ascertained to be three feet thick, and reported to be of good quality, but later telegraphic advices proved less encouraging, and had the effect to depress the stock considerably for the moment; however, we have still later information which is of a more encouraging nature, assays of the ore found at the bottom of the shaft showing a yield of over \$65 per ton.

SAVAGE—has attracted considerable attention this week and is in better request, opening at \$218, improving to \$224, and selling yesterday at \$223. We learn that the ore at the north end of the seventh level is still over sixty feet wide, and continues to be of a fine quality. The north drift from the third station is said to be improving, giving great confidence as to the future productiveness of this portion of the mine; in fact, well informed parties express the opinion that this level will largely exceed the product of the one immediately above. The fourth station drift is 110 feet from the shaft, running in hard rock, and the E street shaft has attained a depth of forty feet below the fourth station. During the week ending August 17th 2,210 tons of ore were taken from the mine, showing an estimated value of \$94,996, or \$43 per ton; in the previous week the yield from 2,012 tons was equal to \$41 22 per ton. The north and middle mines of the seventh level produced 1,884 tons.

KENTUCK—has been less firm under more restricted transactions, declining from \$360 to

\$320, advancing to \$366, then selling at \$348@345, and closing at \$357. The developments on the 550-foot level, mentioned in our last issue, have widened to twenty feet, and are stated to look well. The placing of a new reel will not interfere with the raising of ore, if they so desire, since they have the privilege of hoisting through the Yellow Jacket shaft; however, the supply at the dumps is said to be sufficient for the present month.

YELLOW JACKET—sold at exceedingly fluctuating rates, improving from \$930 to \$1,025, falling to \$890, advancing to \$965, receding to \$905, and closing at \$920. The meagre information at hand regarding this mine is not of an unfavorable nature, and it is pretty evident that "hear" operations contribute largely to the present depression.

OVERMAN—declined from \$92 50@77 50, and closed at \$78. Encouraging news continues to be received at the office of this company concerning the future prospects of the mine. The receipts of hullion during the current month to date, including shipments advised by telegraph, aggregate about \$10,000.

EMPIRE—has been quiet; small sales transpiring at \$170. The actual receipts of this company in July amounted to \$26,230 30. The mining operations are confined to the upper works, from which they are obtaining a large amount of low grade ores, the revenue from the sale of the same being very considerable. The amount reduced at the mill shows an average yield of \$22 to the ton.

GOLD HILL QUARTZ—is in better favor, mostly selling at \$130 per share. Seventy-seven tons of ore reduced during the week ending August 19th yielded \$2,936 in hullion, which is a very material improvement over the previous receipts in the present month.

CONFIDENCE—advanced from \$70 to \$87 50, and at the close sold at \$90. The west drift, on the third level, was 345 feet from the shaft on the 20th inst., and with the exception of a small mixture of clay and quartz, shows very little change. The present yield of ore is considerable. Late advices state that in all probability the Winters' ground will be reached in the course of a week.

IMPERIAL—advanced from \$135 to \$145, then sold at \$140 buyer 30, and closed at \$136. The Robinson suit, which was decided against this company in the lower courts of Nevada—contrary to all expectations—involved the sum of \$150,000; however, counsel are confident the decision will be reversed before the Supreme Court.

SIERRA NEVADA—has been less active this week, improving from \$36 to \$44, declining to \$35, and closing at \$35. A recent telegram says the mine is now clear of water, and work has been commenced in the several drifts.

GOULD & CURRY—was in the market to a limited extent, selling at \$630@580 per foot. We have nothing new regarding this mine..... OPHIR has also been inactive, steadily declining from \$102 50 to \$85, and closing yesterday at \$85. The sinking of the new shaft will soon be commenced.

ALPHA—two feet sold at \$450. We can learn nothing about this claim..... BELCHER realized \$220@195..... BULLION sold at \$35@30, closing at \$31.

DANEY—was sold to a limited extent at \$20 per foot..... SEGREGATED BELCHER at \$8@6..... JUSTIS AND INDEPENDENT at \$21@13, then at \$10, closing yesterday at \$20.

EXCHEQUER—at the close, sold at \$11 per share..... Twenty shares AMERICAN COMPANY at \$5@4.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,855,331.

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VOLUME FIFTEEN

—OF THE—

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THE MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity.

DEWEY & CO., Proprietors.

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MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and Date of Assessments; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF DELINQUENT SALE, DAY OF MEETING. Lists various mining companies and their financial details.

Latest Stock Prices Bid and Asked.

Table with columns: STOCK, PRICE. Lists various stocks and their current market prices.

Table with columns: COMPANY, PRICE. Lists various companies and their stock prices.

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San Francisco Market Rates.

Table with columns: COMMODITY, PRICE. Lists various commodities and their market rates.

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San Francisco Metal Market.

Table with columns: COMMODITY, PRICE. Lists various metals and their market rates.

To Those Whose Interests We Represent.

While there is every reason for gratification at the circulation which this journal has already reached, we are yet well aware that there are great numbers of miners, mechanics and lovers of science to whom it might be made a source of much usefulness and profit.

We trust that it is needless to urge upon our readers the necessity of promptly renewing their subscriptions. The two indexes for volumes XII and XIII, which we have already published, and the 500 ample pages of reading matter, apart from advertisements, to say nothing of our numerous engravings and illustrations, speak more for the value which we give for the price of a year's subscription than we can say in this connection.

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RECOMMENDATIONS:

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Table with columns: BOOK TITLE, PRICE. Lists various books on mining, mineralogy, geology, and metallurgy with their respective prices.



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W. B. EWER, SENIOR EDITOR.

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## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. J. G. Yates is our duly authorized travelling agent, July 6, 1867.

Mr. A. B. Butler is a duly authorized travelling agent for this paper. July 15, 1867.

Mr. Alfred H. Nahor, is our duly authorized traveling agent for Amador and El Dorado counties. July '83.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Aug. 24, 1867.

## Notices to Correspondents.

ENGINEER.—Of the great railway constructions lately erected, and second probably only to the St. Lawrence bridge (one wholly completed by this time), is the great railway bridge at Runcorn across the river Mersey, a few miles above Liverpool, England. The following figures will best give an idea of this extraordinary undertaking: The total length of the structure, including the slopes on either side of the river (there being 65 arches on the Lancashire and 32 on the Cheshire side of the river), is a mile and a half. The river will be traversed by means of a huge iron bridge consisting of three "stretches" of wrought iron girders, resting on two stone piers rising from the bed of the river, and two on the margins at either side. Each of these "stretches" measures 305 feet, the height above the water at spring tides being 75 feet to the under edge of the girders, and 78 feet 6 inches to the surface of the rails. The framework of the bridge proper consists of four iron beams, which extend the whole length of the span, the outer beams being strengthened on both sides by a trellis work 40 feet in depth, which, while helping to bind the structure, gives to the huge mass a comparatively light and airy appearance. Of the arches which form the remainder of the viaduct, 88 have each a span of 40 feet, and 9 of 61 feet 6 inches. The total cost of the viaduct and bridge will probably exceed \$1,500,000, while the result will be a shortening of the distance between Liverpool and London of about a dozen miles. The cyclo-pian character of the work, and the rapidity with which it was executed may be conceived, when it is mentioned that in merely one of the chief girders, nearly two million pounds of iron were used, which enormous weight was wrought and fastened into its proper form, and fixed in its permanent position within eleven weeks.

MASON.—The generally accepted theory of the hardening of mortar is, that it is due to absorption of carbonic acid from the atmosphere, thus forming carbonate of lime. This, however, does not account for all the phenomena, for much of the lime for ages still remains in a hydrated form. In this condition Dr. Malcolmson found a large quantity, even from mortar which was extracted from the great Egyptian pyramids. All old mortar, when treated with an acid, yields a small proportion of gelatinous silica, clearly establishing the fact that one of the hardening properties of ordinary mortar consists in the formation of a hydrated silicate of lime, which is the chief substance that influences the rapidity with which mortar hardens, as is well seen in those cements called hydraulic, from their rapidly hardening under water.

The employes of the firm of Harpers have united with those of another New York house in establishing a cooperative grocery store.

## Rates of Interest in San Francisco and London.

The value of money in London and New York, as compared with its value in San Francisco, presents a most important theme for reflection. The current rate of interest in London is quoted at  $2\frac{1}{2}$  per cent. per annum, and at latest dates there was a prospect that it would fall even lower still. In New York, money can readily be had for five per cent. per annum; but in San Francisco, the lowest rates for large sums, even, is ten per cent., and from that to fifteen per cent. To borrow money here, even at the high rate quoted, the security must be undoubted. In the mountains, if to be had at all, money commands a still higher rate than in this city.

Thus it will be seen that gold, unlike all other productions, possesses less value the further we are from the source of supply. Although this fact is not new, since it has frequently been noticed by writers upon political economy, and laid down as a law; yet we confess our inability to fully appreciate or explain the same.

Why is it that in California, a State possessing innumerable resources, so many of them should languish for the want of capital; while that very capital, so much needed here, goes abroad, and is content with investment at perhaps one-fifth the rate it will command here? Surely such a state of things cannot be natural.

There is not a civilized community in the wide world that doubts for a moment the permanence and continued growth of our commercial and real estate interests, on which surety for capital is chiefly based. The future of San Francisco is brighter and surer to-day than the future of either New York or London. There is only one solution for this enigma—the lack of confidence—not in our growth, nor in the future value of our securities, but lack of confidence in the integrity of our people. The admission may be humiliating—it may be unjust. It is unjust to our people as a whole; but it is God's truth, and the plain practical question with which we have to grapple is, "What can be done to inspire confidence abroad?" The fact should be admitted, however undeserving, and the question should be met.

The information afforded by Mr. J. Ross Browne, in his forthcoming reports, may accomplish much in this direction. Cannot some of our correspondents also suggest something which will aid in effecting the object in view? What can we do to inspire confidence in us among capitalists in London, who have more money than they need, and are looking abroad for investment?

We want capital, to the end that we may provide profitable employment for the starving millions of Europe, who are looking, with anxious eyes, to these golden shores. As things now are, it is a wrong thing to hold out inducements to European emigration, unless those emigrants can bring a sufficient amount of capital with them to make business for themselves when they arrive on our shores.

A few of our earnest men are at work in the work in the right direction, and are holding out inducements, to a limited extent, promising employment to such as will come with a little means. The capitalist will, either directly or indirectly, advance, say \$500 of his money against \$500 of the emigrant's for the purchase and cultivation of land—and well they may do it. There is no possibility of loss in such an undertaking; but we want manufacturing industries, to furnish a market for the produce of the farmer. For that we need the capital, and must have it at a rate of interest at least approximating to that at which it can be had for employment at home; otherwise we cannot compete with the importer. Let us settle this question of personal confidence, and it will flow in to us in larger abundance than that in which it now passes out of the Golden Gate, for investment abroad, or to purchase that which we should produce at home.

## A New Sulphuret Process.

A correspondent of the *Atta* recently wrote from Sutter Creek as follows with regard to what appears to be a new process for treating sulphurets:

Nothing that I have seen in my trip has interested me more than the sulphuret works twelve miles east of Jackson. Here sulphurets are purchased, and are worked by a process known only to the proprietor, a German, named Thoss. Sulphurets are reduced elsewhere by chlorination, at a cost of about \$25 per ton, but all the silver is lost, and roasting is necessary as a preliminary; whereas Thoss does not roast, saves all the silver, and says he can catch ninety per cent. of the gold at a cost of eight dollars per ton. I look with suspicion at all new and secret processes, and I inquired of intelligent miners at Sutter Creek, Volcano and Pine Grove, who have had business with this sulphuret mill, and all spoke well of it. Mr. McLane, of the Sirocco mine, said he paid \$80 per ton for working sulphurets, and had received a return of \$240 per ton. No one seems to have any idea of the nature of the process. The sulphurets are ground in an arastra, which anybody can use, and are then discharged into a small, close, dark chamber beneath, to which nobody, save the proprietor, has access. Much of the ore near Pine Grove and Volcano is very rich in sulphurets; so there is abundant business there for a mill of this kind.

Faith in chlorination is, however, not extinct. The largest chlorination works in the State have lately been erected by Coney & Bigelow (the latter of Bigelow & Bros., San Francisco,) at Jackson. Their mine would not pay to work for free gold, but is very rich in sulphurets, yielding five per cent. of them, with \$200 per ton. The furnace has a capacity to roast three tons in twenty-four hours. There are two hearths, one over the other, and a ton and a half is kept in each hearth. After roasting twelve hours, the lower hearth is discharged, the contents of the upper are let down to the lower, and the upper receives a new charge, and so on. The chlorination works, under charge of John Agrell, Esq., had just started when I was in Jackson.

The proper working of sulphurets is now the great question of the day, both for gold and silver. It is more than probable that Mr. Thoss, above alluded to, is in possession of a valuable secret for the better and cheaper treatment of valuable sulphurets. It is not at all remarkable, however, that he is able to save the silver as well as the gold, as that may be readily done at any sulphuret works by a slight modification of the process generally in use; the cost is the only thing in the way.

There is a gentleman in this city, of undoubted scientific attainments, and who is a practical as well as scientific miner, who has repeatedly assured us that he is in possession of a process for working silver ores quite different from anything else in use, and which will reduce the cost of the present system fully one-half, and increase its percentage of yield more than thirty per cent. He has repeatedly offered to put his process to a practical test, and has several times been upon the point of accomplishing his desires; but has as often been bluffed off by some brainless pretender, whose oily tongue has been more powerful with the mine owners than the less smoothly spoken and less pretentious gentleman of science. The gentleman in question still retains his secret, hoping that some lucky turn of fortune may yet place him in a position to prove the value of his discovery at his own cost—in which case, as a matter of course, it will also be to his own profit.

The miners on this coast have no reason to doubt that, with all our present success, even, the working of sulphurets and refractory ores will, ere long, be greatly simplified and reduced in cost. Have patience; all will yet be well. We have sulphurets in abundance; they are the natural ores of gold and silver—the form which they most generally take on in the beginning; nearly every other description of ore being derived therefrom. The question of their profitable reduction is simply a matter of time, and will soon be solved.

## New Books.

CONFUCIUS AND THE CHINESE CLASSICS; OR Readings in Chinese Literature. Edited and compiled by Rev. A. W. Loomis: A. Roman & Co., San Francisco.

The Chinese are a mysterious people—numerous, but little known; ancient, but occupying only a small space in history. Hitherto they have been chiefly known by their singularities; but recent events having broken down their exclusiveness, the leading nations of the earth are now vying with each other in the cultivation of intimate commercial relations with that people. San Francisco occupies a geographical position, which gives her great advantages over all other cities in this enterprise. Hence it behooves us to become better acquainted with the history, institutions and literature of this singular people.

It was with this end in view that Messrs. Roman & Co. undertook to secure the compilation and publication of a volume to present, in a concise and popular form, a brief insight into the social condition of the Chinese, and the progress which they have made in general philosophy and literature. They seem to have been peculiarly fortunate in the selection of a compiler for such a work. Mr. Loomis was for a long time engaged in mission work in China, has an intimate acquaintance with their language and literature, and has gathered and arranged the facts for his volume in a most judicious manner. The book opens with a brief history of that ancient empire, before the Christian era, and then passes to the life and teachings of its great philosopher, Confucius. It gives a brief exhibit of the learning of the Chinese, their ideas and practice of government, their modes of thought, and their mental and moral character. It brings the reader, as it were, into direct contact with the people of which he is reading.

The larger portion of the volume consists of extracts from the writings of Confucius, who was to China what Plato was to Greece. Selections are also given from various other celebrated Chinese writers and teachers.

The compiler remarks that "Confucius taught much that our own people might find a useful study." He also gives a most encouraging account of the present social and intellectual condition of the Chinese. They are represented as essentially a reading people. As an evidence, he says that a single native publishing house in Fouchow employs over 100 workmen, and has issued fully 1,000 different publications. They have a great veneration for instructive literature, and pay but little attention to that which amuses, such as works of fiction and poetry. Their public buildings and highways are everywhere embellished with marble slabs, on which are engraven scraps of history or maxims of economy and morality. These sentences are committed to memory by the youth, and retained through old age. Similar choice fragments of literature are also met with on household utensils, such as teacups, vases, fans, etc.

It may not be generally known that many of the little placards posted over the doors of Chinese dwellings in this State, and which are usually thought to be signs or something indicative of the traffic within, are often, in reality, such sentences and maxims as those alluded to above.

The work is one of much interest to the general reader, and is designed to accomplish a large amount of good, in doing away with the unjust and mischievous prejudices which so generally prevail in the minds of our people against the Chinese. The publishers have done a good service to the cause of literature and commercial progress, and have not failed to present the same in a neat and attractive form and excellent in typographical execution.

STORED.—Considerable wheat, says the *Independent*, has been stored in Stockton during the past week, on account of its not being properly cleaned.



Popular Lectures on Geology.

Popular Lectures on Geology, is the title of a very interesting work translated from the German of R. C. von Leonhard, Professor at the University of Heidelberg, by Rev. J. G. Morris, A. M., and edited by Prof. F. Hall, M. D., formerly Professor of Natural Philosophy at Middlebury, Vt., and afterwards Professor of Chemistry and Mineralogy at Washington College, Hartford, Conn. This work, though among the earliest efforts of the kind to popularize the science of mining and geology, is nevertheless one which can still be read with much interest and profit. The work is embellished with numerous engravings, illustrative of the principles of those kindred sciences. These engravings are well executed for the time of their production (1839). We are indebted to a lady relative of the deceased editor of the work for a copy of the same, which has already afforded us many valuable hints, and from which we still further extract and condense as follows:

"The art of mining and geology mutually support and illustrate each other. As the geologist is indebted to the labors and observations of the miner, for many important facts relative to the formation of the crust of the earth, so the miner must possess some degree of geological knowledge, if he desires to ascertain the presence of useful minerals in his district, such as ores, precious stones, coal, rock salt, etc. He who abandons the simple and correct way pointed out by geological experience, runs the risk of groping in conjecture and doubt, and this is of particular importance in mining, for it is an enterprise brilliant and full of promise, and at the same time expensive and often illnsory."

Speaking of the silver mines at Andreasberg, Germany, which have been celebrated for nearly 400 years, the author says:

"Ho who has some knowledge of chemical affinities, and of the composition of those heterogeneous mineral bodies, which are found united at Andreasberg, cannot but wonder at the complicated chemical action which is hereso mysteriously displayed. They will become still more interesting and intelligible when we subsequently treat of ores and other productions of mines. We shall then again be reminded of the important reciprocal relations between mining and geology. Without the art of mining, these phenomena would have remained undiscovered to geology; and by the further aid of geology we hope to receive still more satisfactory information respecting such facts. Yet there is many a problem in these dark laboratories of nature, which can by no means be so easily solved. The more we reflect on the wonderful combination of minerals so entirely different in their character, the more doubts and difficulties arise."

ICE IN DEEP MINES.

The main entrance to the pits at Dannemara, (Persberg) one of the oldest and most celebrated of the Swedish iron mines, is a natural opening or abyss, of so large a circumference as to require some fifteen minutes to walk around its mouth. A scaffold is erected out, so as to overhang this abyss, upon which the hoisting machinery is placed. The observer can look down into this frightful abyss upwards of 500 feet, to which point the light of day extends, and beyond which all is shrouded in darkness, save when feebly illuminated by the dim lights of the miners. One of the most remarkable facts connected with this mine, is the large quantity of ice which is always present there. Says our author:

"The deeper you go, the more the ice increases. And in order to remove it from the pits it must be raised up in buckets. At some places the ice is ninety feet thick; it forms real glaciers, which are never diminished by any change of external temperature. This fact, however, should not be regarded as contradictory to another, which will hereafter be illustrated, and which is, that pits become warmer, in proportion to their depth. The phenomenon at Persburg, as we shall see, can be explained on natural principles. When the visitor has reached the bottom, he is conducted by his guide into vaulted chambers, through immense regions of ice. Many of these vaults are so large that fifty men can conveniently work in them at the same time."

This occurrence of ice in deep mines is not an isolated field. Ice is found in the pits of Ehrenfriedensdorf, in Saxony. Leopold von Buch tells us that formerly, in Norway, mining was prosecuted above the region of eternal snow. Wood, for the timbering, could not be had there, and its want was supplied by filling up a drift with water and allowing it to freeze; passages were then cut through the ice as they were needed, the balance of the ice being left in lieu of wood for timbers. It is also well known that the ancient Peruvians obtained ores on the Cordilleras, in places elevated above the perpetual snow line.

The mines of Rauris, in upper Austria, lie entirely within the glacier region, and most of the shafts open in eternal ice, clear as crystal; the miners' huts are surrounded with ice. On what is known as Gold Mountain, one of the shafts is sunk 100 feet through pure glacier ice.

A gold mine in the deep valley of the Alps, near Saltzberg, is the highest in Europe, which is now worked. There are two tunnels near this mine entirely surrounded with glacier ice. The miners of this region undergo great hardships from exposure to cold, and to avalanches, which often sweep them to destruction while going to and fro to their work, or while reposing in their cabins on the hillsides.

It is stated by one authority that there is a locality deep within one of the iron mines of Dannemara, already noted, where the mass of ice is 120 yards thick.

LATEST FROM PAHRANAGAT.—We have had the pleasure, during the past week, of an interview with Mr. William Flemming, who has recently been appointed superintendent of the Alameda mines at Pahrana gat. Mr. F. informs us that the company's property is being gradually developed, and with most encouraging prospects of success. The new superintendent is somewhat reticent with regard to the past operations on the mine; but we should infer that a considerable amount of money has been expended there in rather an injudicious manner. Two reverberatory furnaces and a cupola have been erected, which are of but little value. The company has also a small mill on the ground, but not yet put up, which is far from being what it should be. The superintendent will defer putting up the mill for the present; but will continue the work of opening the mine and getting out ore. This company owns 400 feet on the "List lode," which is considered the richest vein in the district. It also owns a large amount of other ground. The company is located at Logan City. There are five different settlements in the Pahrana gat District, representing as many different centers of mining, viz: Logan Springs, Crescent City, Silver Cañon, Hiko and Crystal Springs. The three first named are not more than five miles apart, and are all about twelve miles from Hiko, the county seat. Crystal Springs, the latest settlement, is five miles beyond Hiko. The population of the district is from 300 to 400.

There are several parties engaged, with good prospects, in developing mines. Among them are Messrs. Eisland and Raymond, and Capt. Dahlgreen. The former represents a large amount of English capital. A purchase was recently made by this party, which required \$5,000 worth of government stamps. The County Clerk required \$5,000 more under the State law, before he would record. If the document goes on to the record, it will cost the parties \$10,000 for stamps alone. This company has a 10-stamp mill at Hiko; Mr. Ostrom is the superintendent.

The Crescent S. M. Co. (a New York company), have their mill so near completion, that they have started up and crushed a small lot of rock for a prospect. They have a 5-stamp mill for dry crushing, with double discharge, two Wheeler & Randall pans, and one settler, with two reverberatory furnaces for roasting. The company

has 200 feet next south of the Alameda Co. on the List lode, besides other good mining ground. J. A. Bidwell is the company's superintendent. He went East on last steamer on business for the company.

RAZOR STROP MAN.—In our wanderings about the city, we came across the workshop of Mr. T. B. Rodgers, the well known razor vender, who is seen with his large torchlight every Saturday evening on the corner of Montgomery and California streets. We found him as usual entertaining his customers with the superior merits of his wares, exhibiting scintillations of wit, no less sparkling than those struck from his steel, and as keen-edged as the well-tempered blade in his hand. Iron seemed to be cut with the same impunity as lead, to the astonishment of the bystanders and a number of mechanics who had brought their tools to be tempered. Mr. Rodgers has commenced the manufacture and tempering of razors, carving knives, and other articles of hardware and cutlery, at No. 108 Leidesdorff street. All who have been badly shaved from purchases elsewhere, would do well to give him a trial.

GOLDEN STATE POTTERY.—We have seen, during the past week, some specimens of stove lining, which appear to possess the right kind of ring, at the salesroom of Messrs. Lobree & Co., 516 Commercial street, manufactured at Antioch, Contra Costa county. In the midst of a varied assortment of stone and earthen ware on hand, we noticed a beautiful water tank, a miniature representation of a well constructed edifice, with pillars and arches in front, surmounted with a dome, resting on columnar supports, intended, we understand, for exhibition at the approaching fair in Sacramento.

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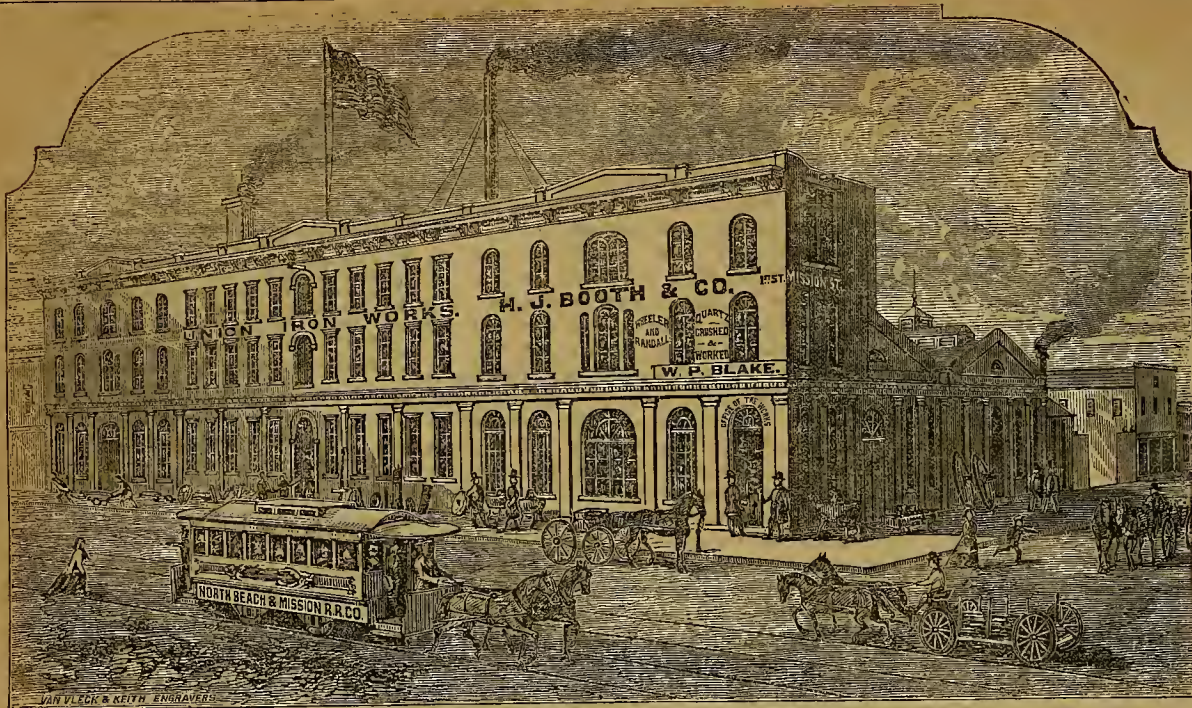
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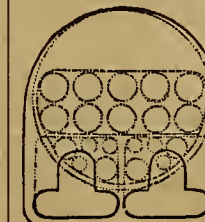
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ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Hinges, Ship and Steamboat Belts and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
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**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or any where else  
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Which only needs examination to be appreciated.  
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Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies."  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
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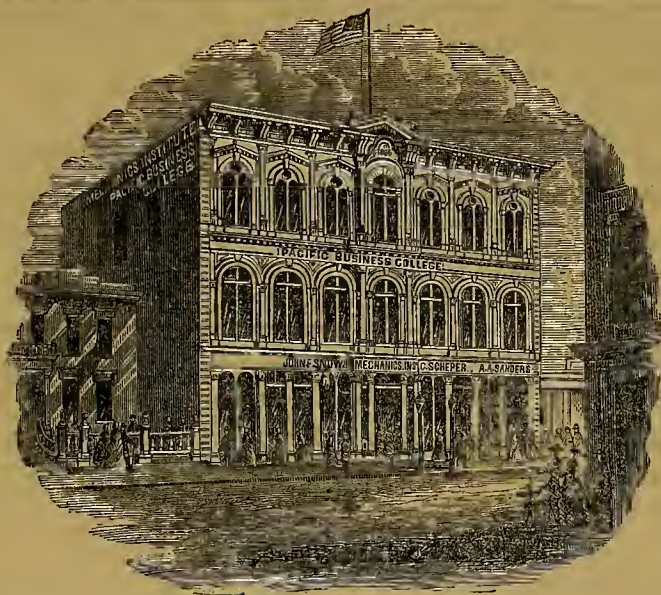
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13v12



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First & Fremont Sts., between Mission & Howard, San Francisco.  
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Brynn Battery, Varney's Amalgamators and Separators, Rycerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.  
**GODDARD & COMPANY.**



Office Pacific Business College and Telegraphic Institute.  
7v15-8m Mechanics' Institute Building, Post Street. [Exterior View.]

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Nos. 635 and 637 Commercial Street,  
WILL INTRODUCE  
**On Saturday, February 9, 1867.**  
An Entirely New Style of  
**Cloth Cashmere Hat**  
"YACHT HENRIETTA,"  
Which are the most dressy Hat ever introduced on the Pacific Coast.  
Call and see them. 8v14

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Have removed their works to the  
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**HOWLAND, ANGELL & KING,**  
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QUARTZ MILLS, FLOUR MILLS,  
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Steam Engines of all Kinds.  
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OIL WELL TOOLS, ROCK BREAKERS,  
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Machinery and Castings of all kinds, either of Iron or Brass.  
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Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.  
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THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator. As a purifier of the blood, acting swiftly, yet gently, on the secretions of liver and kidneys, they are unsurpassed and a most agreeable drink.  
For sale at all wholesale and retail stores on the Pacific Coast, and at the depot of TAYLOR & BENDEL, 43 and 45 Clay street, between Sansome and Battery, San Francisco.  
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NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of  
**WOOD'S SUB-POSITORY.**  
It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.  
Sold wholesale and retail by J. H. REDINGTON & CO., Nos. 416 and 418 Front street; GEO. GRISWOLD, corner of Mission and First streets; OLD FAMILY DRUG STORE corner Mission and Second streets; UNITED STATES DRUG STORE, Bush street, between Montgomery and Kearny.  
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24v14-3m

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IMPORTERS,  
AND DEALERS IN  
**ASSAYERS' MATERIALS,**  
Druggists' & Chemists' Glassware  
**Photographic Stock, Etc**  
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WE are receiving direct from MESSRS. LADD & OERT-LINO (London) and BEEKER & SONS (Antwerp, Belgium) their superior  
**ASSAY AND BULLION BALANCES,**  
And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, can constantly on hand.  
San Francisco March 6, 1865.  
11v10-4f



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Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth.

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FURNITURE. We beg leave to call the attention of the public to our ware-rooms, Nos. 312 and 314 Pine Street.

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THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at.

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Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers, AUSTIN, NEVADA.

G. W. MAYNARD, J. H. TIEMANS, MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York.

EUROPEAN METALLURGICAL WORKS, Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment in large or small quantities.

PRACTICAL MINING SCHOOL. The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms.

J. A. BAUER, Chemical Laboratory, AND DRUG STORE, 644 Washington Street. (Established 1849.)

Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc. Careful Analyses made of

Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Geology.

LACOUR'S SARSAPARIPHERE BITTERS. Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticisms of the trade.

LACOUR'S SARSAPARIPHERE BITTERS. They are the most efficient Blood Purifier, because they combine with the whole-some Sarsaparilla, which operates by cutaneous excretions.

Who Takes Them? The Old Man Takes them as a gentle stimulant and mild rejuvenator.

The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overtasked body.

The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health; to give a sparkle to her eyes, and sweetness to her breath.

The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family.

The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness.

Everybody Takes Them! PRO BONO PUBLICO! 2v15-6m







Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw the pulp to the center, where it passes down and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metallic amalgam.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The machine can be seen in operation

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR.

For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer for wood.

By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other materials are crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages.

BLAKE & TYLER, Agents for the Pacific Coast.

QUARTZ MINERS, MILLMEN,

And others contemplating the erection of Reduction Works, for either Gold or Silver Ores, your attention is called to a new, superior

First Class Mill,

In all respects, with Pans and Separators complete. The Mill is adapted for 20 or 40 Stamps.

Full particulars may be had by calling on Messrs. Palmer, Knox & Co., Golden State Foundry, or J. B. HITCHCOCK, Millwright, Russ House.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE,

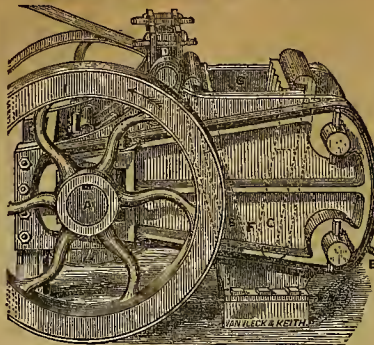
Corner First and Mission streets, or Box 2,077

NELSON & DOBLE,

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Flow, Blister and Toe Calk

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms: No. 1—Or 6 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut, price, \$600

No. 2—Or 12 inch Crusher, capable of similarly putting through five to six tons per hour, price, \$850

No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour, price, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The eccentric is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the lower is applied to the fixed jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to grade the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest work yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First Street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866.

JAMES BRODIE, Esq., San Francisco. My Dear Sir: I feel much pleasure to inform you that I have for the past three months had one of your latest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations, and I have no objection in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

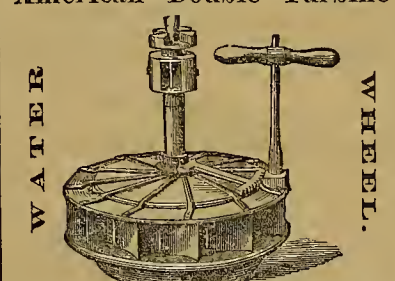
Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press, of Sept. 22d, 1866. BRODIE & MADCLIFF, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or of the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc.

CALIFORNIA REFERENCES.—E. Stockton, Polson; O. Simmons, Oakland, (Mill at Clear Lake); Moran, Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County. Send for Circular to KNAPP & GRANT, 310 Washington street, San Francisco.

25v13-lyq

Quartz Mill Construction and Superintendence

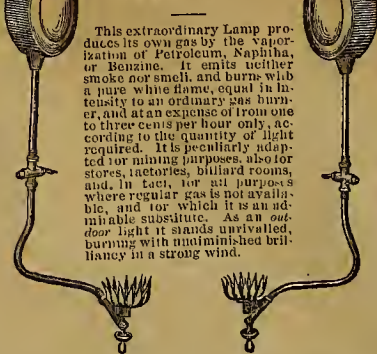
THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets, and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address M. M. SHAW, San Francisco, care Mining and Scientific Press. 25v13lm

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee our anti-suction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-ly Stove Store, No. 125 Clay street, below Davis.

Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of iron one to three cents per hour, according to the quantity of light required. It is peculiarly adapted for mining purposes, as directed for in the accompanying prospectus, Billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with unimpaired brilliancy in a strong wind.

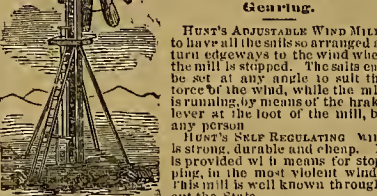
Directions for Use. Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUGGS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18v14-3n-3

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to haul all the sails so arranged that they turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds, and the mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Pumps built to order. No. 25 Second St., and 105 and 100 Jessie St. 2v15qy San Francisco.

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use. Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. THOMAS PATTINSON. 7v15-qy

NEW YORK PRICES.

C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY.

A large assortment of these Superior Watches, etc., in Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers.

The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewelry. 25v10-6m

NEW YORK PRICES.

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp. This Lamp burns equal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM For sale only by E. A. YERES, 417 Washington street, opp. Post Office, S. F. 2v16-qy

THE VITAL FLUID, OR ELIXIR OF LIFE.

A Frenchman, named M. Martin Ziegler, has recently obtained a patent, in France, for what he calls a "vital or organic fluid," which is collected, manifested and transmitted like the electric fluid. He claims that the use of this fluid, which is applied on the same principle as the electric fluid, is to rejuvenate the human system! He avers in his patent that, "Whenever azote and carbon are brought into contact, whether an azoted body and a carbonated body, or even a body strongly azoted and another which is only feebly azoted, there is disengaged an imponderable fluid, the presence of which is made known by particular effects on the organism of living things, animal or vegetable." He further says (which makes the matter as clear as mud): "If an acid or an alkali be made to act upon organic matter, a large quantity of vegetable or organic fluid is disengaged; also, that if the organic matter is devoid of azote, the disengagement of the fluid takes place, if an acid or an alkali be made to re-act upon a hydro-carburet, or even upon carbon." The grand secret of the astounding discovery is finally let out as follows: "A porous vessel or bladder is filled with caustic ammonia, and immersed up to the neck in molasses contained in an ordinary vessel. A silk thread is attached to the neck of the porous vessel, or bladder, and the end of a [another?] silk thread is placed in the molasses; the two ends of the silk thread being connected, the circuit is closed [established?], and the current of vital fluid passes. Its effect will become manifest on an organized being in the line of the current." The inventor further states that a number of these elements may be connected together, like the jars of an ordinary galvanic battery, to intensify the current. If our enthusiastic French inventor has made no mistake in his investigations, molasses and ammonia will hereafter be considered important agents in steadying the tottering steps and smoothing the wrinkled front of age!

A SCHOOL OF MINES IN MICHIGAN.—A School of Mines has recently been established in connection with the University of Michigan. The first class in this department graduates this summer. It consists of sixteen members. The Professor having charge of this department recently took the class out to see the mines in the Lake Superior region, in order that the pupils might have an opportunity to witness and familiarize themselves with a practical illustration of the theories which he had been laboring to engraft on their minds during their course of study in this interesting branch of education. The idea is a most excellent one, and will, no doubt, be followed up by each successive class in that department. Six of the party, says the Marquette Journal, from which we condense the above, remained for more extensive observations, and would return slowly, on their way back, as an exploring expedition down the coast. When shall we be able to chronicle a similar circumstance in connection with the "California School of Mines?" It is to be hoped no time will be lost by those having the matter in charge in maturing facilities for a thorough mining education on this coast.

MARBLE IN OREGON.—Mr. Gillette, correspondent of the Oregonian, writing from Ashland to that paper, says a Mr. Russell is manufacturing marble slabs from marble quarries in that vicinity. It is beautiful, and of peculiar formation, so that when polished it gleams like diamonds, like a mass of crystals cemented together.

STREAM vs. HAND LABOR.—A pound of cotton spun by hand can make a thread only one hundred and eight yards long; but when spun by steam, it will make a thread one hundred and sixty-seven yards long.



**DIAMONDS IN AMADOR.**—The Amador Dispatch says: Messrs. Phelps & Co. obtained from their mining claim, near Fiddletown, a diamond, some time since, which was found to be worth some \$54. Lately, we are informed that another has been found in the same claim, and it can now be seen at Mr. Ford's jewelry store in this place. Mr. Ford informs us that the substance in which these diamonds have been found is similar to that of the rich mining districts of South America.

**HEAVY SAWING.**—The Marysville Appeal has the following: The Oroville Record gives an account of some big sawing at a mill on the Susanville road, and asked "Who could beat it?" We are credibly informed, and can show the documents for it if necessary, that the Doon Lumber Company's old Clipper mill, in Butte county, cut last week in six days 116,159 feet of lumber—each day's work not exceeding 12 hours. And at no time during the season has the mill cut less than 101,000 feet per week.

**A New Ironclad** is being built for Prussia, in England, which, it is claimed, will be one of the finest vessel afloat. She is to be 305 feet in length, with a width of 60 feet, and will measure about 6,000 tons. She will be cased in iron eight inches thick, will have two inch turrets, each to carry two heavy guns, and will mount twenty guns on deck, of the heaviest caliber, protected by shields.

**SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL.**

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 24, 1887.

**TERMS**—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$35.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

5c15-1m REV. A. MASNATA, S. J., President.

**The Commercial Herald**

—AND—

**MARKET REVIEW**

Will be issued early on

**EVERY STEAMER-DAY MORNING.**

(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

**The Letter Sheet Market Review,** Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**Golden City Chemical Works.**

LABORATORY,

Corner of Seventh and Townsend Streets.

OFFICE

Corner of Montgomery and Bush Streets.

CAPITAL STOCK, - - - \$500,000

Trustees:

H. P. WAKELEE, THOS. H. SELBY,  
NICHOLAS LUNINO, THOS. BELL,  
CHAS. E. McLANE.

H. P. WAKELEE, MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muriatic Acids of superior quality, in quantities to suit.

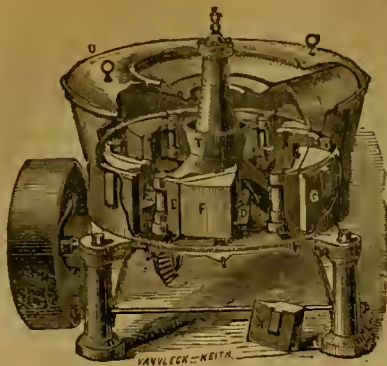
Orders will be received at the office only for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14 3m

**Just Published.**

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE Nervous System and Reproductive Organs, to be had by addressing and enclosing twenty-five cents, postage stamps to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13 1y

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

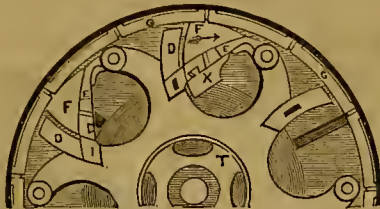
Patent dated April 16th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

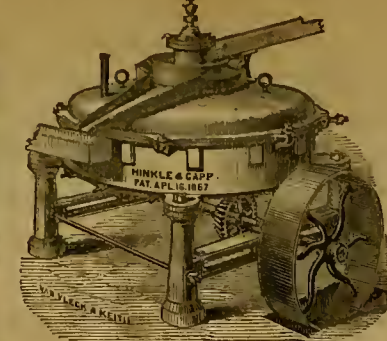
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular millers, pressed laterally by centrifugal force against perpendicular iron discs, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old millers and plates is as thorough and perfect as with new ones. The pulp enters readily between the millers and side discs, the pressure being light in front and heaviest at the heel of the miller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each miller separately, without interfering with or affecting the other millers, each of which is independent, or can rest upon the bottom below the millers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each miller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the millers in a groove, and in another groove on the cover of the pan, where all the pulp and amalgam pass continually over it without cutting or carrying it away. The millers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as first supplied by a five-stamp battery, with No. 4 or 5 screens. A "sluicer" or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, miller-hanger, F, miller plate or shoe, G, side disc, H, supporting lip, D, bearing surface, I, leader, X, which is counter-balance wear of miller plates, or shoes. Y, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

discs are easily removed at any time, or when worn out, and an extra set of millers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or miller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that, if when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1887.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six millers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of millers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$500 gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal., or personally to the above, or S. P. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE, and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco. 2v14-1f

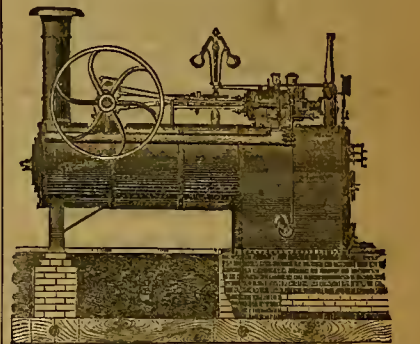
**Portable Steam Engines!**

"Hoadley's" and "Hittinger's" Make.



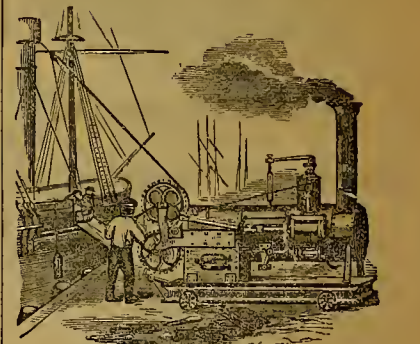
HOADLEY'S.

FOUR SIZES, 8, 10, 12, and 15-Horse Power.



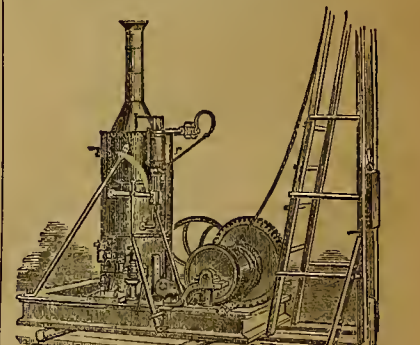
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To the Legal Voters of the City and County of San Francisco.

Prompted alike by a sense of duty to myself and to the public, and in compliance with the request of several hundred citizens, tax payers and friends of the Public Schools, representing the different political sentiments, religious creeds, nationalities and classes of the San Francisco community, I hereby announce myself an Independent Candidate, at the approaching election, for the office of Superintendent of Public Schools. In so doing, I deem it proper to say that I do not thereby appeal from the decision of any party or convention, but simply think it a matter of right, and, under existing circumstances, eminently fit to refer the subject of my candidacy directly to the people, the parties interested; and I think I may properly solicit, and with reason expect, the continued support of the friends of education, and that of all others who think I have faithfully and usefully discharged my duties during the past two years in the office to which I seek a reelection. I am induced to ask your support, and the more readily comply with the wishes of personal friends and the friends of Public Schools in becoming a candidate, since I am invited to do so "without respect to political considerations, which it is thought should be disregarded in the choice of school officers." Having devoted the best years of my life to the education of the young, and to the interests of this city and the State in that connection, I feel but just to myself and to the public which I have served, if success has attended my labors, that I should not be thrown out of a position of public usefulness and from needed employment, for no better reason than that another, however competent, wants my position, and seeks to be placed on it through preliminary political management and the discipline of a party organization. Such others as think with me in that respect, and believe a change of officers in the position I occupy is uncalled for at the present time, and that my reelection would subservise the interests of the Public School Department of this city, are respectfully requested to give utterance to that effect by casting their votes for me at the approaching election.  
Profoundly thankful for your generous support in a former election, I remain, respectfully,  
**J. C. PELTON.**  
San Francisco, July 29th, 1867. 5v15-sw

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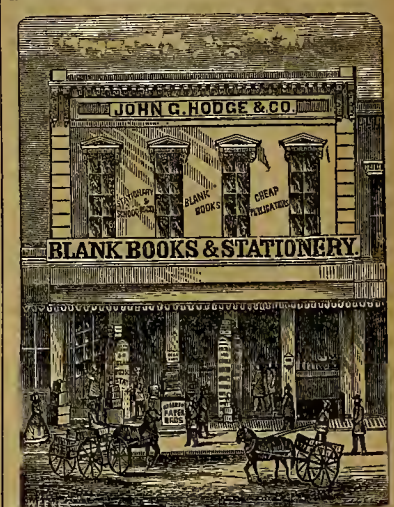
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When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.  
Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco.  
Departures of 18th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America.  
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An experienced Surgeon on board. Medicine and attend free.  
These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.  
Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.  
For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO.  
The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched September 3d, at noon, and will be followed by the CHINA, Capt. George H. Bradbury, October 14th, from wharf corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer CANTON, RICA, for SHANGHAI.  
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SAN FRANCISCO, SATURDAY, AUGUST 31, 1867.

VOLUME XV.  
Number 9.

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MECHANICAL MISCELLANY.—Expansion and Contraction of Steel. Floating Elevators. The Value of Mechanics. An Invention Wanted. Flexible Glue. SCIENTIFIC MISCELLANY.—Sporadic Changes in Glass. The Paris Exposition. Magnetism of Oxygen. Curious Facts. Another New Asteroid. Effect of Electricity on Wires. MINING SUMMARY.—Embracing late Intelligence from the various counties and districts in California, Arizona, British Columbia, Montana, Nevada, Oregon and Utah. New Incorporations.—List of Officers. Notices to Correspondents. San Francisco Market Notes. San Francisco Weekly Stock Circular. Stock Prices—Bid and Asked. San Francisco Metal Market.

### Gold in Old Stamp Heads, Etc.

EDITORS PRESS:—It is, I believe, but little known, that from the old iron, dies, shoes, etc., gathered in a quartz mill, a certain amount of gold may be taken out every year. In a mill of sixteen stamps, with the necessary amount of pans or Chili mills, etc., the savings of this kind may amount to from \$4,000 or \$5,000 every year if carefully collected and treated. The present process of working the iron seems to be to burn or roast it, and then work the gold out of it with the help of a knife or something similar to it. This is certainly a very slow process, and the object of my writing to you is chiefly to see if you could not recommend some other method cheaper, shorter and surer for the working of this iron, or rather the taking out from it of the gold it may and really does contain.

Brown's Valley, July 31, 1867. M.

We know of no better method than the one generally employed, as described by our correspondent. Is not the amount derived from that source, as named by our correspondent, rather large? There is a difference in the iron employed and in the manner in which the shoes of the stamps, and the shoes and dies of the pans are secured to their respective connections. Some iron is very porous—full of cavities, into which the fine amalgam will penetrate and pack very close. It is also extremely difficult to remove it from such cavities by the crevice process, and yet we see no other way to do it. When there are crevices or cracks in the iron, the iron should, of course, be opened or broken up. Shoes need never be cleaned, in the manner described, until they are ready to be thrown aside for remelting. If any of our correspondents can suggest any improvement in the manner of recovering the gold from old irons, etc., we should be pleased to hear from them.

WORK ON THE SEA WALL.—Mr. Houston, the contractor for the first sections of the sea wall, has commenced preparatory operations. He has purchased a dredging machine, and will begin work on the north side of Vallejo street and wharf, below Front street, and proceed thence northerly. The dredging will be the first process, and then the rock for the foundation will be thrown in. The material for this portion of the work will be excavated from a lot near the junction of Broadway and Sansome streets, but a few rods from the point where the work will commence.

### Westgate's Patent Sad-iron Heater.

We give herewith an illustration of another useful California invention, designed for the more economical and convenient heating of sad irons for ironing, than that which can be attained either from the ordinary mode of heating upon a common stove, or by any other special device hitherto offered to the public.

The nature of this invention consists in the employment of a furnace, with a sufficient number of holes in its top over which to place the irons; while the outer surface of the furnace is prevented from radiating its heat by an inner non-conducting packing, placed between the fire-brick lining

ironer to perform continuous work, in hot weather.

As a further improvement, the irons themselves are constructed in two parts, with a space between, which is filled with cement, by which the heat is prevented from radiating therefrom to the discomfort of the fingers of the ironer, while grasping the handle of the sad iron during work. The iron itself, by the same device, is enabled to retain its heat much longer than it otherwise would. The handles of the irons themselves are also thereby prevented from becoming heated.

This invention affords a great source, both of economy and comfort, in every household where it is introduced. As already

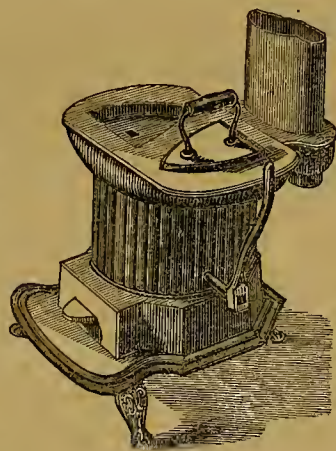


FIG. 1.

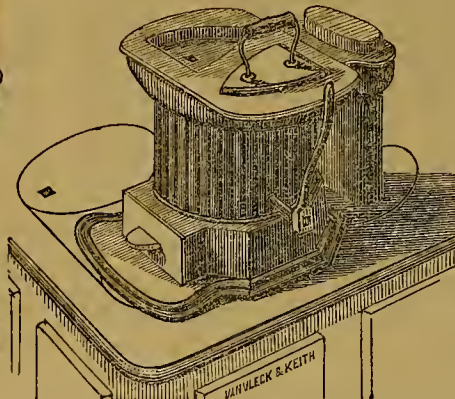


FIG. 2.

and walls of the furnace, by means of which the heat is prevented from escaping into the room, to warm up the same to an inconvenient degree, and at the same time to waste the heat given out by the fuel. To more effectually accomplish this end, both the top and walls of the furnace are made double, the interior being filled with the aforesaid non-conducting material.

Fig. 1 represents this furnace, or heater, standing independently, as it may, upon a table or elsewhere, so that an escape pipe may be connected with a stove or flue for carrying off the smoke and gases generated by the burning fuel. One iron is shown in place, for heating, while the depression in the top of the furnace is shown by its side, where another iron may also be placed for heating.

From fig. 2, it will be seen that the furnace is so constructed that it can be used on the top of an ordinary cooking-stove or range, without interfering with the cooking, as readily as any ordinary cooking utensil—the smoke passing downward into the stove. When not required for use, it can be easily set aside until wanted again.

It is claimed, and apparently with good reason, that this sad iron heater will save fully one-half the fuel required for heating irons with an ordinary stove or furnace, to say nothing of the great discomfort of an over-heated room, which is prevented by this apparatus, and which otherwise greatly interferes with the physical ability of the

stated, it is a California invention, and was patented in February last, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, by J. D. Westgate. Lock & Montague, of this city, are the agents.

WOMEN AS WATCHMAKERS.—Women have been found far more efficient in many delicate mechanical operations than men. Especially is this the case in watchmaking. Twenty thousand Swiss women earn a comfortable living by this business. They make the movements, and even mostly put them together. A few women are finishers. Geneva has refused to employ women, and totally lost the watch trade. None of the so-called Geneva watches are made there, but in Neuchâtel, where women have been employed.

A traveler says: We see women at the head of some of the heaviest manufactories of Switzerland and France in the watch and jewelry line. In England, women are employed in one London establishment, and in several others of the interior towns. We have already noted the fact that 500 are employed in one locality in making the delicate interior chains for chronometers.

American watches are made by machinery, instead of by hand work, which enables much work to be done in our establishments by men which is elsewhere done by women. Still a large number of women are employed in such work. The Waltham Company employ seventy-five. It is stated that the men, however, are more reliable, and do much more work in their particular departments. They are more thoughtful and attentive, more contriving and self-reliant.

### Death of Two Eminent Scientists.

Two eminent scientists have recently deceased. It is but a few weeks since we chronicled the death of Pelouze, of Paris; and now the telegraph has just announced the death of Faraday, of London.

THEOPHILE JULES PÉLOUZE died on the 31st day of May last, at the age of 60. He is known as the author of a great number of valuable treatises on various branches of applied chemistry, such as glass making, brick making, color and varnish making, washing and bleaching, etc., etc. His chief work is "On the Manufacture of Gas." So proficient was Pelouze as a chemist, in his youth, that the eminent Gay Lussac made him his assistant when he was but 20 years of age. Three years later he became Professor of Chemistry at Lille. He has published many of his researches, conjointly with Gay Lussac and Leibig.

MICHAEL FARADAY was born in London in 1794. He was the son of a smith, and received but little instruction in his youth. He was a self-made man, having commenced life as a book-binder. Sir Humphrey Davy early took him under his special care, and gave him that start which has since culminated in rendering his name famous among the scientists of the world. It is said that a friend of young Faraday, noticing his love for science, took him to Sir Humphrey and solicited a place for him as "bottle washer" in that gentleman's laboratory. Sir Humphrey received him kindly, was soon struck with his studiousness of character and aptness, and forthwith took him by the hand and assisted him heartily in the development of his latent genius. He soon became the friend and co-worker of that celebrated man, and has ever since been the only living, connecting link between the early and later schools of chemical science.

Mr. Faraday is the author of a large number of valuable works. He was eminent, both as a chemist, and as a natural philosopher. He is especially celebrated for his investigations into the principle of light and heat—electricity and magnetism being his specialties. His valuable services to England, and to the world generally, were appropriately recognized by his government, which in 1835 voted him an annuity of \$1,500. The Queen, in 1858, in consideration of his advanced age, and continued interest in behalf of science, and as a special personal mark of regard, allotted to him for the remainder of his life, a residence at Hampton Court, where he died. Thus has passed away his life of usefulness, honored in his old age, and his declining years, for which he himself never found time to make provision, were made smooth and happy by the generous acts of his country and his Queen.

IRON MINE SOLD.—The Oregonian says: "It is said that the St. Helen mine has passed into the hands of W. S. Ladd, Esq., of Portland, and Col. Hayward, of San Francisco."

QUITE AN interesting ceremony took place at Oakland on Saturday last, on occasion of the inauguration of the water works at the new college grounds near the bluffs.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Entered according to Act of Congress in the year 1856, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.)

## Formation, Distribution and Age of Igneous Rocks.

(Continued from Page 98.)

In order to make the foregoing proposition appear plain, it will be found necessary to divide the stratified rocks into six periods or systems, and I shall assume their average thickness to be seven miles, and the entire thickness of the earth's crust to be seventy-two miles. Each of the six periods will be assumed to have continued during the formation of 7,000 feet of stratified rock. The first period will be called, for convenience, the Gneiss period; the second, Clay state; third, Silurian; fourth, old Red Sandstone; fifth, Carboniferous; sixth, the new Red Sandstone period. The sixth, or new red sandstone period, will include all the formation from the new red sandstone to the tertiary, and perhaps later. As we have assumed the whole thickness of the earth's crust to be seventy-two miles at the present time, it must have increased in thickness twelve miles, for, and including, every 7,000 feet of stratified rock deposited, and we will divide the igneous rocks into six periods, corresponding with the division of the stratified rocks. The great difference in the general appearance and chemical composition of igneous rocks, fully warrants such a division. Indeed, so greatly do they differ, that the aqueous rocks, to a great extent, receive their character from the igneous rock erupted synchronously with their formation. We have an illustration of this in gneiss, which so closely resembles granite that it is sometimes difficult to distinguish the line which divides them.

The rock erupted during the formation of the gneiss system was granite; of the clay slate, feldspathic granite; of the silurian, the magnesian rocks; of the old red sandstone, metalliferous quartz—and trachyte was the eruptive rock of the carboniferous and new red sandstone systems. Sodium was the predominating alkaline metal in the original granite, potassium predominates in feldspathic granite, and magnesium predominates in the eruptive rock of the third period. Calcium seems to have been present in the eruptive rock of all three periods. Lithium is found in mica, and barium and strontium probably existed in the original granite. The useful and noble metals predominate in quartz, the eruptive rock of the old red sandstone period. They are not, however, confined to the quartzose stratum, for traces of iron are found in some specimens of granite from above, and in trachyte from below, this stratum. I have in my possession a specimen of soapstone containing gold.

The more numerous the alloys and compounds, or ores of metals produced by an elevated temperature, the wider appears to be its zone. Trachyte probably contains no trace of the alkaline metals, and very little of any other metal, if we except aluminum, and is the most nearly indestructible of all rocks. It is not affected by ordinary or natural chemical action, and only seems to yield to mechanical action.

I will further assume, that of the supposed seventy-two miles in thickness of the earth's crust, but forty-eight miles is solid, and the remaining twenty-four miles is plastic. This last proposition might at first sight appear extravagant, but we will find, after giving the subject due consideration, that there is every probability that at one time in the earth's history, twenty-four miles in thickness might have been rendered plastic by loss of heat in advance of the solid crust.

Every fact in physical science points to the time when our globe was a self-luminous body, and like the sun, with its atmosphere filled with vapors of burning metals, its surface was once covered with volcanoes,

like the pores upon a huge animal, and the internal heat was so great that they remained constantly in action. At a later period, as the residual heat radiated into space, the volcanoes would become inactive over large portions of the surface, which might be covered to great depth with the condensed vapors of the burning metals and rocks. These "spots" might be rent assunder and dissipated, again and again, by the accumulating fires beneath, or they might, in process of time, increase to such size and remain for such a length of time that the atmosphere above them might become sufficiently cooled for aqueous vapor to condense and fall upon them. It is in the nature of things, that the transition from a self-luminous to an opaque body should be gradual, from isolated patches of crust, which were dissipated to reappear, repeatedly, until our globe became completely and permanently covered with solid crust, with only here and there an active volcano. The earlier stratified rocks were deposited under the peculiar conditions attending this transition state. First, a long continued and extensive shower of volcanic ashes, to be saturated and acted upon when the temperature would permit the condensation of aqueous vapor, by the water, which was strongly impregnated with hydrochloric and carbonic acids. The volume of water must have greatly increased, during the formation of the earlier stratified rocks, by the combination of hydrochloric acid with the oxide of sodium, the resulting compound being salt water.

It will appear quite certain that the granite upon which the gneiss system rests remained plastic during the formation of the estimated 14,000 feet represented by the gneiss and clay slate systems. If we admit this proposition, which, as we proceed, we will find it hears every mark of probability, we will be enabled to comprehend the plan of the distribution of igneous rocks. It is a well known fact that when silica is fused with an excess of the alkalis, soda or potash, it is rendered plastic and fusible at a low temperature, and also soluble in water. As has already been stated, it is fair to infer that the metals sodium and potassium, owing to their inferior specific gravity, originally existed the most abundantly at and near the surface, and in diminishing quantities at a greater depth. Now the sodium, which is the base of the salt in the ocean, and in the immense beds of rock salt hundreds of feet in thickness and covering hundreds of square miles, must have once existed in the original granite, which was thereby rendered fusible at a comparatively low temperature. Some kinds of glass are plastic, so as to admit of being worked at a low red heat—say 1,000° or 1,200° F.—yet pure silica is scarcely fused at 3,000°, and some ores require a temperature of 4,000° or 5,000° for their fusion. Now we will suppose the temperature of the surface rock to have been 1,000°, and that it contained sufficient of the alkalis to have rendered it plastic, and the temperature to have uniformly increased one degree for every sixty-six feet in depth. That would be an increase of 80° in one mile, 963° in twelve miles, and 1,920° in twenty-four miles. Thus it will be seen that by the gradual change in the composition of igneous rocks, from the surface downward, a constantly increasing temperature is required to fuse them, and it is not improbable that when the earth had sustained a loss of heat sufficient for the granite immediately underlying the gneiss to become solid, that the crust might also have been rendered plastic to the depth of twenty-four miles. Owing to a lack (on my part) of sufficient data, the above calculation is simply an approximation; and I would again urge the necessity of ascertaining the exact composition, specific gravity, ratio of expansion at an increased temperature, and also the temperature required to fuse all igneous rocks, in order that we may know the manner in which they are arranged or their position in the igneous part of the earth's crust. There can be no good reason why we should not know this with all the certainty the astronomer knows the distance, volume and specific gravity of the bodies belonging to our solar system.

[To be continued.]

**CRUELTY TO CATTLE.**—Cattle are taken through from Chicago to New York, without water, for the whole distance. The confinement and jar of the cars produces a feverish condition of the animals, which, apart from the natural sympathy for a brute, which ought to save him from such torture, renders his flesh unhealthy and unfit to eat. A reform is loudly called for. The meat of such animals must lay the foundation for numerous diseases.

(Written for the Mining and Scientific Press.)

## The Paris Exposition.

BY A. S. HALLIDIE.

(Continued from Page 93.)

## AN EXQUISITE CHIME OF BELLS.

There is an exquisite chime of bells which is occasionally heard giving forth beautiful sounds, that arrest the steps of most wanderers through the park of the Exposition. These sounds proceed from a peal of forty-three bells, set up on a large wooden frame under a shed. They were cast at the foundry of Messrs. Bollee et fils Maus. There is an exquisite melody in them, not jarred by the discordant clang occasionally heard in every peal of bells. They are intended for the Cathedral at Buffalo, and are arranged to be rung by means of suitable machinery. The drum which rings them is about 54 inches in diameter, 78 inches long, and has holes for about 6,000 pins, which act on levers, causing the bell hammers to strike. This drum is driven by a weight of 2,600 lbs. A large clock, intended for the same cathedral, strikes the hours on the same bells, the heaviest of which weighs about 5,500 lbs., and the smallest 40 lbs. They attract universal attention, for their exquisite tone and harmony; and it is a real enjoyment to listen to the airs played, among which, "*Partout pour la Lyric*," seems to be best appreciated.

Messrs. Finlander, of Moscow, and Ichneukoff, of Toula, exhibit, in the Russian department, a fine peal of elven bells, which are especially remarkable for the beauty of their ornamental casting, surpassing in elaborateness of design and fine finish of line, anything else on exhibition. Bourdou, of Lyons, also has some bells on exhibition, which show a most remarkable polish of surface, as if burnished in a lathe; the metal being very white, and having several beautiful figures cast on it in bas relief. The mystery is, how the smooth surfaces were obtained without some polishing tool being employed.

There are numerous other bells, among which are two of cast iron, 12 feet in diameter, and near by another one 9 feet large, but not otherwise attractive.

## A REMARKABLE CASTING.

Close by, and immediately under the bells, is a casting of twenty-two car wheels, 3 feet in diameter, cast in one piece, being side by side, a shaft or spindle having been cast connecting them all together. They are just as taken out of the sand, except the two end ones, which have been turned off in the lathe. The cast iron shaft has been centered and used to turn them on, as a mandril. The wheels give no evidence as to how they were cast, whether endways or sideways—and there is great dispute as to the method employed. There are no lines to show where the flasks were joined, and opinion seems to be divided among the visiting foundrymen, as to how these car wheels were cast.

## GRINDSTONES.

Some persons need sharpening up, and if one needs to grind any axes in this imperial exposition, L. Meyer & Co., of Savern (Bas Rhen), have kindly provided the means by furnishing grindstones of all grades of fineness and all dimensions, one of which is 12 feet in diameter by 11 inches thick, and which shows itself to be an excellent stone, free from inequalities and faults.

## STEAM PLOWS AND PLOWING.

Messrs. Fowler, of England, the great steam plowmen, exhibit, among other things, a "clip pulley," which they use in their steam plowing. Instead of the ordinary groove, there is at the periphery of the wheel, and close to each other, a series of clips, which work on a spindle or pin in such a manner that when the rope heds itself in the groove-shaped clips, it forces down the bed of the clips (there being two, opposite each other), and brings the sides together in such a manner as to grasp the

rope, while the shape of the clips do not allow of any injury to the rope. When the rope begins to approach the point where it leaves the pulley, it releases itself, and the clips open to their original position. The device is very simple and good; but like a good many simple things, can be more easily explained by a diagram. It is well adapted for the purpose of conveying power. Both the Messrs. Fowlers and Ransoms, of England, exhibit their different systems of steam plowing, either of which, it is claimed, is able to plow up hard, tough land, which could not be plowed in any other manner. These machines do all kinds of plowing, cheaper and better than by the ordinary mode of such work. The plan of the Messrs Fowler is to place the steam engine at one end of the field, and a pulley at the other; a steel wire rope runs across the field, being drawn by the engine by means of the clip pulley already described, and attached to which rope are the plows, in a gang of four—a double set—one set plowing across the field one way, and returning, (to do which the engine has to be reversed) this set is raised from the ground and the other set does the work. The plowing is done at a total cost of from \$1½ to \$2¼ per acre.

For large square fields, it seems as if this must be more economical than hand and horse plowing, although, in California, horses are cheap, yet labor is high, and it is important to have the plowing done early in the season, and rapidly. Moreover, the engine, when not plowing does other work, such as thrashing, etc., and does not need feed or churning when not at work.

## How Indians Make Arrow Heads.

There are probably but few, if any of our readers who have not, at some time, seen and admired the heads of Indian arrows, spears, javelins, etc., found in almost every part of this continent; and who has not often wondered how they could be so delicately and truly formed, by a people who were strangers to the use of iron? Similar articles are also found in various parts of the European continent. The Hon. Caleb Lyon, before his return trip to the East from this coast, casually met with a party of Shasta Indians, who still used these points, although with most of the tribes, at this day, they have been succeeded either with fire-arms or iron pointed weapons. Among the number he also found one Indian who could make them, and induced him to go through with the various stages of manufacture, which he did, and which Mr. L. subsequently described to the American Ethnological Society as follows:

The Shasta Indian seated himself upon the floor, and laying the stone anvil upon his knee, which was of compact talcose slate, with one blow of his agate chisel he separated the obsidian pebble into two parts, then giving another blow to the fractured side he split off a slab some fourth of an inch in thickness. Holding the piece against the anvil with the thumb and finger of the left hand, he commenced a series of continuous blows, every one of which chipped off fragments of the brittle substance. It gradually assumed the required shape. After finishing the base of the arrow head (the whole being only little over an inch in length), he began striking gentler blows, every one of which I expected would break it into pieces. Yet such was his application, his skill and dexterity, that in little over an hour he produced a perfect obsidian arrow's head.

I then requested him to carve me one from the remains of a broken porter bottle, which, after two failures, he succeeded in doing. He gave as a reason of his ill success, he did not understand the nature of the glass. No sculptor handled a chisel with greater precision, or more carefully measured the weight and effect of every blow, than this ingenious Indian, for even among them arrow-making is a distinct trade or profession, which many attempt, but in which few attain excellence. He understood the capacity of the material he wrought, and before striking the first blow, by surveying the pebble, he could judge of its availability as the sculptor judges of the perfectness of a block of Parian. In a moment, all that I had read upon this subject, written by learned and speculative antiquarians of the hardening of copper, for the working of flint axes, spears, chisels, and arrow heads, vanished before the simplest mechanical process. I felt that the world had been better served had they driven the pen less and the plow more.



**Mechanical.**

**Expansion and Contraction of Steel.**

Mechanics who have been employed setting up various kinds of work, requiring great nicety of fitting, etc., have often been much troubled with the greater or less expansion of the steel; so that such pieces of work which would fit exactly in a soft state, will not come together at all when hardened. It must also have come to the observation of many, that there is a great lack of uniformity in the amount of expansion—a piece of steel of the same size often expanding more at one time than at another; the proportion of expansion due to a given size is also found to vary greatly.

Every one knows that iron or steel expands by heating; but every one does not know that while iron generally comes back in cooling to its original dimensions, steel does not; but usually remains permanently increased in size. It may often help the workman in his labor if he thoroughly understands the philosophy of this change in size of the metal upon which he is working.

When steel is at a red heat, the natural positions of its particles are disturbed—placed further apart; if, when thus red hot, it be suddenly immersed in water, a more rapid change takes place in the outside particles, than in the inside. It is for this reason that large pieces of steel, so treated, do not properly harden to their centers. When the steel is immersed in the water, the outside crust, in cooling, gradually draws toward the center, and in so doing has to compress, by the strain, the inner portion of the mass. While the surface is thus cooled in a state of tension, with the center in a state of compression, the particles near the surface must necessarily be more or less removed from each other when cooled, and the whole mass, when fully cooled, will occupy more room than before it was heated. In other words, the expansion of the outer steel amounts to more than the compression of the inner, and the piece increases in bulk.

But this is not always found uniform in practice; for sometimes the piece of steel actually diminishes in bulk. It is found that, under certain circumstances, the compression of the particles of the central steel predominates over displacement of the particles of the outer steel by heating. In such a case, the piece will be smaller than previous to hardening. The expansion of steel is prevented, in some measure, by repeatedly annealing it, previous to its being finished; for instance, after the first "skin" is cut from the steel, anneal it; again proceed with another cutting and annealing; repeat this, say three times, then harden. Those who have practiced this say that, although a considerable amount of work is thereby involved, there is nevertheless an actual saving of labor over that which would otherwise be required in fitting steel after being hardened.

Another hint may be useful in this connection. Articles made of steel which have been well forged, will always keep truer and preserve their original dimensions better, in hardening, than articles made of badly forged steel.

**THE CAUSE OF HARDNESS OF STEEL.**

It is thought by some that the hardness of steel is caused by the compression of the whole of the particles into a denser state. As an evidence of this, the fact is cited that steel, after hardening, always looks finer and closer, in grain, than before. If this were the real or only case, would it not seriously interfere with the well known fact which we have just been considering, viz: that the particles of steel are almost always actually further apart, after than before being hardened—that is, that hardening steel increases its dimensions? That theory will not stand, and we must look farther for the philosophy of the hardening of steel.

A more plausible reason has been given

in the supposition that the particles of carbon, which have been mingled with the particles of steel, in the "cementing" process, assume a crystalline, and, of course, harder form, by the sudden cooling of the mass when plunged into water, in the act of tempering or hardening. The particles of carbon, in thus crystallizing, probably expand, the same as water does in crystallizing into ice, and thus fill up every pore in the steel, rendering the whole mass close, compact, and increased in hardness. Such an action would give hardened steel the appearance, which it certainly presents, of being closer and finer grained, than before being hardened.

These considerations are not a mere entanglement of theories, or useless speculations, designed to amuse the reader. They are mostly plain, practical facts, designed to aid in the use of sound judgment, and as such should be considered and studied carefully by every mechanic—especially by every worker in iron. The fullest success in mechanical industry is the reward only of study, as well as practice. It should be the aim of every young mechanic to know the philosophy, as well as the practice, of whatever he is called upon to perform. It is a mistaken idea that success can be obtained by practice alone; close observation and study must go with practice, or you can never rise to eminence in your profession—or if you do happen to succeed without it, your elevation will be purely accidental, and most likely quite ephemeral.

**FLOATING ELEVATORS** are to be introduced on the Mississippi river. It is calculated that they will carry grain to New Orleans on the way to New York, and farmers in Missouri, Iowa and Minnesota, and in parts of Wisconsin and Illinois will save thirty cents on every bushel. Is it not time that some means were contrived for a more convenient and economical handling of the grain crop of California, between the time at which it is harvested and that at which it is placed in the hold of a ship for exportation?

**THE VALUE OF MECHANICS.**—In the estimate of what is necessary to constitute the wealth of a nation, the mechanic stands next, and by the side of the farmer, who, when properly educated, is the most useful and the most dignified member of the community. The liberal professions contribute their share to the public prosperity as incidents in the machinery of society, but they live only as they are supported by the artisan trades, educated mechanics, like educated farmers, constituting the foundation, as well as the superstructure of the body politic. How important, then, to the public welfare, is the disposition in law-makers to elevate these valuable classes of the community. Schools cheap, if not free, should be endowed to enable the hardy, working man to study the system of mechanics as a science, that he may the more readily reduce it to an art in his practice. Scientific mechanics are the men who invent the thousand machines that effect the great desideratum of saving manual labor. Our country is proud of these citizens, whose genius beautifies all that it touches, and spreads the fame of the nation to the most distant regions of the earth. Our noble patent office is a standing monument to the energy and ingenuity of the noblest rewards, and as long as necessity is the mother of invention, the labors of the artisan will continue to multiply these trophies of industry and tact.

**AN INVENTION WANTED.**—An article, which would be of great importance to the laboring people of the United States, would be a neat wooden shoe with a flexible sole. It ought, and it can be invented. It now costs from ten to twelve dollars per year for each laborer's shoes; two pairs of wooden shoes, or \$2.50 per year, ought to shoe our laborers. Who will give us a flexible wooden shoe with a flexible sole?

**FLEXIBLE GLUE.**—A German chemist has discovered that if glue or gelatine be mixed with about one-quarter its weight of glycerine, it loses its brittleness, and becomes useful for many purposes for which it is otherwise unfit, such as dressing leather, giving elasticity to porcelain, parchment or enamelled paper, and for book-binding.

**Scientific Miscellany.**

**SPONTANEOUS CHANGES IN GLASS.**—At a recent meeting of the Academy of Sciences at Paris, M. Peligot called attention to quite a new fact which he had discovered, viz: The deterioration of glass, by which it had completely lost its transparency, while retaining its density. A piece of glass (St. Gobrain glass, prepared a long time ago by Mr. Pelouze), was placed in a drawer, supported by one extremity. After some days it was found by M. Peligot to have become curved by its own weight, and rendered malleable! The surface was also covered with effervescence.

Malleable glass is a curiosity of science, although, doubtless, the glaziers would demur to its introduction into practical existence and utility, at least for window panes. It was made in old Rome; and in the reign of Tiberius, a Roman artist had, according to Pliny, his house demolished—according to other writers he was beheaded—for making glass malleable. The art of producing malleable glass seems to have been lost during the middle ages, and the idea of rediscovering the secret was only ranked second to that of the philosopher's stone among chemists. It is said, however, that in 1835, a person at St. Etienne, France, succeeded in producing a glass, which was as malleable when cold, as when first drawn from the pot. There is also a story that Richelieu once ordered an inventor to be put to death, for proposing to divulge a process for making glass malleable.

**Change in Color.**—A year or two ago, Mr. Newell of Philadelphia, constructed a traveling photographic wagon; to light a part of which he used orange colored glass, on account of its being impermeable to the violet or actinic rays. After some time, he found himself troubled with what are technically called "foggy plates;" on substituting orange muslin for orange glass, the fog vanished from the plates, and subsequently on examining the glass, it was found to have materially changed in color.

Similar spontaneous changes in the color of glass, are by no means uncommon.

**THE PARIS EXPOSITION.**—The Paris Society for the Encouragement of National Industry, are holding weekly meetings, desiring the continuance of the World's Exposition in that city, with the view of comparing the notes and observations of the members, which may be suggested by the Exposition. It is thought that much good may be accomplished by those frequent meetings, toward the great object for which that society has been inaugurated. The merits of most of the more prominent exhibitions, and a true knowledge of what may be most widely utilized, are fully discussed at these meetings. At the first of these meetings, a few notes of the proceedings of which are before us, M. Dumas remarked that what chiefly characterized the present, over the preceding Universal Expositions, is the enormous progress which has evidently been recently made in the application of the sciences to industry and the fine arts; everywhere in those immense galleries were seen the facts and theories of pure science, materialized in practical applications of great value. "Is it not very natural," he asked, "that the Society of Encouragement should become the revealer and appreciator of the successes obtained in what may be called its special department."

**MAGNETISM OF OXYGEN.**—That oxygen gas is magnetic, has been shown by the following curious and interesting experiment: Take soapsuds, sufficiently impregnated with glycerine to make tough soap bubbles, after the manner of Plateau. Force the oxygen through this mixture, so as to form soap bubbles filled with oxygen gas. When these bubbles pass the poles of an electro-magnet, they are attracted; but when the current is broken, they fall by their superior gravity.

**CURIOUS FACTS.**—There is said to be a curious fact connected with milk, and recently discovered; for which no explanation has yet been given. If milk, a few minutes after being drawn from the cow, be cooled with rainwater, it keeps fresh many days, and can be sent to a long distance. This fact was recently communicated to the Paris Academy of Sciences, by M. Thénard, and was first communicated to scientific men by some French milk-women.

M. Debray communicated to the same body, as extraordinary, the facts that aluminum bronze compound of 95 per cent. of copper and five per cent. of aluminum, was very little attacked by acids; also that chlorine, a deadly gas, and sodium equally deleterious, when united in the form of chloride of sodium (common table salt), is not only innocuous, but healthy and preservative.

There are many similar facts, in connection with chemistry and chemical alterations, which are equally remarkable and inexplicable, in the present condition of human knowledge. Why should pure carbon, as obtained from the decomposition of any of the hydrocarbons, form one of the most combustible substances known; while the same element, when presented in the form of graphite, is one of the most inccombustible of substances?

**THE MOISTURE IN THE AIR.**—One of the most curious and interesting of the recent discoveries of science is, that it is to the presence of a very small proportion of watery vapor in our atmosphere—less than one-half of one per cent.—that much of the beneficial effect of heat is due. The rays of heat from the earth, after it has been warmed by the sun, would soon be lost in space but for the wonderful absorbent properties of these molecules of aqueous vapor, which act with many thousand times the power of the atoms of oxygen and nitrogen of which the air is composed. By this means the heat, instead of being transmitted into infinitude, as fast as produced, is stopped or dammed up and held back on its rapid course, to furnish the necessary conditions of life and growth. Let this moisture be taken from the air but for a single summer night and the sun would rise next morning upon a "world held fast in the iron grip of frost." But the power of absorption and of radiation in the same body are always equal, so that at length it is poured forth into space; else our atmosphere would become a vast reservoir of fire, and all organic life be hurried up.

**ANOTHER "NEW" ASTEROID.**—The Superintendent of the Naval Observatory at Washington, under date of July 22d, 1867, writes to the Secretary of the Navy, as follows:

Sir:—I have the honor to inform the Department that the asteroid, No. 95, of the group between Mars and Jupiter, discovered on the 7th inst., by Dr. C. H. F. Peters, at Hamilton College, was observed at this observatory by Mr. Ferguson, assistant astronomer, on the nights of the 19th and 20th. The following are its places:

M. T. Wash.		R. Asen'n. So.		Decl'nation	
July 19	20	H. M.	H. M.	DEG.	M.
11	17	1	21	35.2	22
11	5	0	21	18	53.4
					22
					55
					6.2

The asteroid is now of the 11th magnitude.

**EFFECT OF ELECTRICITY ON WIRES.**—When the electric fluid is passed through a wire, undulations of the latter are produced, and the wire is momentarily shortened. This shortening was first observed by Nairne, but no satisfactory explanation of the phenomenon has ever been given. In a paper addressed to the Academy of Sciences by M. F. P. Leroux, the subject is examined anew. Operating on wires left entirely free at their nether extremities, the undulations were quite apparent, but their order was so irregular, and they assumed such a variety of shapes that no rule could be laid down regarding them; but M. Leroux observed that the temperature caused by successive electrical discharges was not without influence upon them, and he concluded that the phenomenon alluded to involves in its explanation no new principle, and is simply a question of temperature. As the heat engendered by the discharges increases, the wire tends to expand in length by dilation, but simultaneously, and from the same cause, there is a tendency to increase in diameter, and it is to this double molecular action the undulations must be ascribed.



The Colorado River.

Mr. Samuel Adams, late of this city, who has done so much within two years past, to open up the Colorado to navigation, writes to the Philadelphia Mining Press as follows:

"My attention has been called to a notice in your paper, in which you state that it is thought the Colorado river of the West can be made at little expense navigable for 600 miles from its mouth to a point where the Union Pacific Railroad crosses the same. I have demonstrated that steamers can run successfully up the Colorado for over 600 miles from the mouth at all seasons, and with an appropriation from Congress I believe it can be made navigable for 1,500 miles from the Gulf to a point above where the Union Pacific Railroad crosses the Green river, and even to the headwaters of the Grand river or Colorado river. Some idea may be formed of the amount of water passing down the Colorado river when it is taken into consideration that it drains an extent of country of over 600,000 square miles. Of the importance of this national thoroughfare the country has but little conception. Millions can be given for a Russian purchase, and large sums expended in making an examination of that section, yet nothing can be done to demonstrate what we already have, or to open up a river of which the public are at the present time as ignorant as of the most inaccessible portions of Africa."

Mr. Adams has recently had an interview with Secretary Stanton, relative to a proposed expedition to test the extent to which the Colorado river is navigable. He asks to be furnished with an escort of forty men, and undertakes to start from Denver, the headwaters of the Grand river, or from Fort Bridger, and proceed down the river in flat boats to Colville or the mouth of the Colorado. The Secretary of War is said to favor the idea, but there appears to be some hitch with other branches of the Government. There is no question but that much good would result from such an expedition. It is high time that our Government and people knew more about this great river, which drains a larger extent of territory than any other river within our boundaries, except the Mississippi. If the Colorado river had been in the interior of Africa, the whole world would long since have been planning expeditions to ascertain its source and value for navigation, and the physical and topographical condition of the country through which it flows.

WILD SUGAR CANE IN NEVADA.—The Virginia *Trespass* says that large amounts of an excellent species of sugar cane grows wild and in great abundance along many portions of the banks of the Humboldt river, especially toward the lower portion of its course. The same plant is also seen about the sink of the Carson. Whenever the stalk is broken or punctured, which is largely done by the action of the wind, the juice exudes quite freely, and drying in the atmosphere, is converted into a most excellent sugar. The sugar forms in little balls, several of which are often attached to a single cane, and sometimes as large as walnuts. These "lumps of sugar" are gathered by the Indians by the basketfull. The *Trespass* very properly observes: "This may be an important thing to the country—finding the cause a native of the soil. It is superior to sorghum, for its blood readily granulates, which the blood of the sorghum will not, and can be manufactured only into syrup. A plant native to the soil may be found available for cultivation in lands where the more tender Asiatic plant will not thrive. Sorghum made a noted entry upon the public attention some years ago, and because of the announcement that it was harder than the common cane of the South, and could be cultivated in any soil or climate. It proved a partial failure, as we have said, on account of the impossibility of granulation. The wild cane of the Humboldt flourishes in a climate composed of all that goes to make life rough to animal or vegetable; torrid heats and severe cold by turns, with terrific winds and drifting sands. It ought to grow in any low lands in the United States, and, we believe, would—if planted and cared for the first season."

Home Trades and Manufactures.

MANUFACTURE OF SAFES, ETC.—Every new branch of industry put into successful operation here adds to the material wealth of the coast—at least to the extent of the business done, gives profitable employment to idle hands, and keeps our gold at home. A considerable amount of work in the way of large vaults for banking houses, has been turned out at the Phoenix Works, in this city, and safes have occasionally been built here and at some of our other foundries, principally to order.

It may not, however, be generally known to the public that fire and burglar-proof safes, of all sorts and sizes, are now manufactured at 815 Battery street, in this city, by Mr. Louis Chely, who is making this branch of business a specialty. The exterior, and such other portions requiring it, are made of the best wrought iron. The safes appear to be substantially built, and in every respect equal to those manufactured at the East; while they can be sold from twenty to twenty-five per cent. cheaper, which latter consideration, at least, ought to be a strong inducement for the encouragement of the home trade.

We were shown, by the proprietor of the establishment, a machine of his own invention and manufacture, designed for corking bottles, which is exceedingly simple and ingenious. The bottle is placed within a tray, so that the liquid may be saved in case of breakage. An inclined plane or wedge, operating as a slide, and worked by a treadle, raises tray and bottle to the proper point. Immediately over the bottles there are two short pistons, attached to a cross bar, connected with two cylindrical guides, which work upon each side of the frame. A downward motion being imparted to the guides, and as a consequence, to the pistons by a lever, the act of corking is instantaneous and complete. We learn that a number of these machines are now in use in different parts of the city.

THE MACHINE BARREL FACTORY, on the Potrero, under the immediate charge of Mr. J. L. Crosett, is now fairly under way, with the most flattering indications of success. A large amount of barrel stuff has already been turned out and passed into the hands of parties who set up and sell the barrels. We believe it is not the intention of this company to manufacture the barrels complete, but to simply furnish the stock—staves and heads—to the barrel-makers. The company expect to have all they can do in accomplishing this part of the process of manufacture. So great has been the demand that the company has already commenced the erection of another building, by the side of the first one, and of equal dimensions. The machinery is already on the ground for filling the same, as soon as the building is ready for it. We are pleased to record such indications of success, especially in new enterprises in our young and growing city.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

DROMEDARY G. M. Co.—Grass Valley, Cal. Aug. 28. Capital stock, \$100,000; 100 shares, \$1,000 each. Trustees: Wm. M. Lent, Jos. Clark and John T. Bradley.

FOGUS M. & M. Co.—Aug. 26. Capital stock, \$150,000; 300 shares, \$500 each. Trustees: A. J. Coghill, D. D. Shattuck and S. Henneway.

GIANT POWDER Co.—San Francisco, Cal. Aug. 22. Capital stock, \$600,000; 600 shares, \$100 each. Trustees: L. L. Robinson, Thos. Varney, H. Brickwedel and Josiah Baker.

KEARSARGE M. Co.—Inyo county, Cal. Aug. 28. Capital stock, \$3,780,000; 5,400 shares, \$700 each. Trustees: Nathaniel Page, Thos. Sunderland, E. B. Mott, Geo. Stead and Wm. N. Wade.

PEOPLES COAL M. Co.—Contra Costa county, Cal. Aug. 26. Capital stock, \$150,000; 15,000 shares, \$10 each. Trustees: L. L. Robinson, A. Caseli, H. J. Booth, C. Koopmanschap, Camilio Martin, John Hahn and Francis Locan.

QUAIL HILL M. & W. Co.—Calaveras county, Cal. August 23. Capital stock, \$480,000; 480 shares, \$1,000 each. Trustees: A. J. Pope, G. W. Beaver and W. H. V. Cronisa.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

67,205.—CHURN-DASHER.—Francis McFar-nahan, Santa Clara, Cal.: I claim a churn-dasher, constructed as herein described.

67,299.—TOBACCO-PIPE.—J. S. Hawley, Virginia City, Nev.: I claim the lining C, of a tobacco pipe when cut from a corn cob and inserted in the bowl A, as herein set forth for the purpose specified.

67,357.—HANGING STIRRUPS.—Prentiss Selby, San Francisco, Cal.: I claim combining with the ordinary stirrup-straps of a saddle an elastic strap that will constantly tend to keep the stirrup to the foot of the rider, while his weight is taken upon the ordinary leather strap, substantially in the manner and for the purpose described.

RECENT INVENTIONS.

BROWN'S IMPROVED STENCH TRAP.—Mr. J. J. Brown, night contractor of this city, has invented and made application through the agency connected with this office, for a patent for an "Improved Protector and Trap for Sewers and Drains." The invention comprises a water-tight trap or box, having an induction pipe leading into its front, and an eduction pipe or drain opening from it to the main sewer. This opening is made a little above the center, and is protected upon the inside by a raised vertical case or cover, open at both ends, the lowest end extending down to near the bottom of the trap; the upper portion being protected by a hinged cover. Water is received into the trap from the sink or water pipes, either from the top or sides, and may extend below the water line in the trap, to prevent the effluvia from returning to the house; or a common V-shaped trap may be made in the induction pipe. By this means a stench trap is obtained, which can be easily cleaned by removing the top, and the foul air prevented from returning into the building, by way of the induction pipes, while much cheapness and durability is obtained.

IMPROVED SAILS FOR SHIP PROPULSION. The Italian newspapers are quite elated over the alleged discovery of a new method of propelling vessels by sails, said to be the invention of a young gentleman of education, named Felice Vaglia. Should the new invention be perfected, it is expected that it will revolutionize all previous systems. Among other advantages, it is claimed for it that the amount of canvas heretofore required will be greatly reduced; and that a contrary wind, by the new rig, can be made to propel the vessel, nearly, if not quite, as well as a fair one; or, strictly speaking, all winds will be favorable.

A USEFUL SWING.—A new machine, called the "Tower Swing," has just been invented, by a Yankee, of course. It consists of a wheel, cog and treadle arrangement, by which a swiager can, with the foot, not only do his own swinging easily, but may, at the same time, set in motion a churn, a wood-saw, a pump, or a washing apparatus, as he pleases.

A NEW KIND OF SAWMILL.—The Lowell (Mass.) *Courier* describes an entirely new apparatus for manufacturing lumber, a complete sawmill, having its engine attached directly to the saw sash by the piston rod. The sash works in two upright standards of cast iron, which are made to carry the feed-rollers, etc., thus bringing the work within a very small space. Indeed, the whole mill occupies a ground space of ten feet six inches by four feet, exclusive of the cars for carrying the logs, and yet it is calculated to carry forty or fifty saws.

A NEW APPLICATION OF STEAM.—Mr. Stamm, of Milan, has made a vehicle, in which the strength of a horse is reinforced by that of steam, while the steam power gains in application the advantage of the horse's intelligence, so that they both work together, and are managed as one, by the rein. When the horse moves forward, his traction applies the steam; when he is pulled up, his backward action shuts it off, and if vigorously applied, reverses the engine, which hacks as he hacks, stops hacking as he stops, and again starts forward as he starts.

POLITICAL POLES.—It is claimed that Washington and St. Petersburg are destined to become the future political poles of the earth.

AN INSTRUCTIVE BOOK!

Prof. LAYRES'

ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY. For Scholars, Teachers, Lawyers, all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, . . . \$1.10

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—*John Swett.*

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—*J. C. Felton.*

After as careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—*Wm. H. Hill.*

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining completeness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—*F. W. Hatch.*

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—*James Dennis.*

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—*Martin Kellogg.*

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—*Caroline L. Atwood.*

I regard the book about to be published as far superior to any work extant upon that subject.—*Wm. S. Hunt, A. M.*

I believe the work will be a valuable and much needed addition to our school text-books.—*Herman Perry.*

You have brought the results of a profound analysis, and made them available, in a practical form.—*I. H. Brayton.*

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of the successful pleadings and advocates at the forum.—*John Curry.*

The subjects upon which you treat here have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—*Charles A. Tuttle.*

Its clearness and comprehensiveness make it easy.—*G. W. Donie.*

A gentleman of varied learning and ripe culture, who has had a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—*S. F. Bulletin.*

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—*Alta California.*

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste, than a general and thorough knowledge of the rules by which the construction of language is governed.—*S. F. Times.*

Prof. Layres plunges at once "in *media res*." He seizes a sentence (which is the unit in composition, whether written or spoken), holds it up before you; tears it to pieces before your eyes—or rather, we should say, nearly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—*Mining and Scientific Press.*

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—*S. F. Examiner.*

This is an ace in which the occasions are rapidly multiplying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—*Stockton Independent.*

The most eminent educators in California give it their hearty approval, and we concur.—*Marysville Appeal.*

Not only one of the best of its kind, but, what is still better, one of the briefest. It contains 166 pages.—*Virginia Enterprise.*

Price, \$1.10. Sent by mail, postage paid, without extra charge. Liberal reductions made to the Trade, Teachers and Schools, ordering by wholesale. Orders received by our Traveling Agents.

Address DEWEY & CO., Mining and Scientific Press, San Francisco. 6v15-1f



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, AUGUST 31, 1897.

Money Market.

This money market has been characterized by a fair degree of activity during the past fortnight, although no urgent demand has prevailed.

The heavy grain bills going forward at present operate as a check upon the remittance of hullion, serving the two-fold purpose of retaining the bullion in our money market, while they are equally as acceptable for remittance.

City Stocks.

We note a continued apathy in city shares, the sales in the Board during the past week being confined to a limited number of city corporations.

A small lot of the preferred stock of the Front Street, Mission and Ocean Railroad sold privately at \$20 per share. This stock is unassessable, and is entitled to a dividend of 25 cents per share, equal to 1 1/4 per cent., before the division of any of the earnings can be applied to this stock generally, after which this stock participates equally in the dividends made upon the whole number of shares.

Sales of U. S. 7 3-10 bonds were made at 80 cents, and Legal Tender Notes at 71 1/2 cents.

Mining Share Market.

During the week under review the course of this mining stock market has been very irregular, baffling the calculations of the shrewdest operators. Most descriptions of shares experienced a very material depression, under a largely increased volume of transactions.

CHOLLAR-OTOSI—continues the most active on the list and at a price little below the late rise, advancing from \$420 to \$459, receding to \$410, then selling at \$432 50, and closing at \$423.

EMPIRE—sold at \$175.....BULLION was in the market to a considerable extent at \$33 @ 37, then sold at \$34, and closed at \$35.....SIERRA NEVADA opened at \$36, declined to \$31, improved to \$35, and closed at \$30.

JUSTIS AND INDEPENDENT—sold largely at \$19 @ 22, then at \$23, and closed at \$28.....EXCHEQUER changed hands at \$12 @ 11—a large amount at this latter figure.....SEG. BELCHER realized \$6 50 @ 6.

the Superintendent for the week ending August 24th, states that 1,972 tons of ore were extracted from the mine, showing an estimated yield of \$88,091, or an average value of \$44 66 per ton; during the previous week the product was 2,210 tons of an assay value of \$43 to this ton.

CROWN POINT—declined from \$1,215 to \$1,100, rallied to \$1,120, fell to \$1,052, and closed at \$1,015. The winze from the 600-foot level is sixty feet in depth, and a drift west from this depth encountered several small seams of ore.

GOULD & CURRY—sold to a small extent, rising from \$562 50 to \$590 seller 5, and at the close declining to \$535. Since the mill started (on the first inst.) \$30,043 in hullion has been received at this office in this city.

YELLOW JACKET—has been in much less favor since our last issue, falling from \$910 to \$695 30, and closing at \$705 b 20. The extrms reticence of the officers of this company in regard to this operations at the mine, as well as of its financial condition, is very generally remarked.

IMPERIAL—sold within a range of \$136 @ 139, and at this close realized \$141. Some delay is occasioned in placing the machinery at the new shaft by the slow delivery of some of the material.

GOLD HILL QUARTZ—is in less favor, selling at \$130 @ 115 per share. The hullion returns up to the 26th of the present month amounted to \$7,500. It is generally believed that a dividend of \$10 per share will be disbursed next month.

OPHIR—sold at \$80, then at \$117, assessment delinquent, and closed at \$116. We understand that the difficulties with the Mexican company have been amicably settled. The new shaft was commenced on the 24th inst. It will be a first-class shaft, consisting of four compartments, and will be sunk at the entire expense of the Ophir company.

OVERMAN—changed hands to the extent of more than 1,000 shares, declining from \$77 50 to \$57 50, rallying to \$68, and closing yesterday at \$72. The receipts of bullion from the 1st to the 29th inst. aggregate \$12,500. A telegram received at the company's office yesterday noon states that the 300-foot level is improving, and other portions of the mine showing no change.

CONFIDENCE—sold at fluctuating rates, dropping from \$130 to \$85, improving to \$92 50, and closing at \$80. The cave in the west drift, from the third level, has interfered with the work; however, in the course of a week it will be sufficiently timbered to carry the drift to this ledge. On the fourth level they are obtaining a better quality of ore.

KENTUCK—declined from \$347 50 to \$315, improved to \$335, receded to \$325, and closed at \$305.....BELCHER receded from \$190 to \$170.....EMPIRE sold at \$175.....BULLION was in the market to a considerable extent at \$33 @ 37, then sold at \$34, and closed at \$35.....SIERRA NEVADA opened at \$36, declined to \$31, improved to \$35, and closed at \$30.

JUSTIS AND INDEPENDENT—sold largely at \$19 @ 22, then at \$23, and closed at \$28.....EXCHEQUER changed hands at \$12 @ 11—a large amount at this latter figure.....SEG. BELCHER realized \$6 50 @ 6.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,825,792.

A BIG STEER.—Mr. T. B. Newman, of Salem, Oregon, brought down to this city on the steamer Oriflamme, on her last trip, the mammoth steer "Oregon Baby." The baby is in very good circumstances as to flesh, weighs 3,800 pounds, and is 16 1/2 hands high. He was raised and bred by Mr. Thos. Cross, the famous Oregon stock raiser. Mr. Newman intends to exhibit this mountain of beef at Sacramento during the State Fair, and perhaps through other portions of the State, when he will sell him to some butcher to be slaughtered, and perhaps served up in Christmas steaks.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF DELINQUENT SALE, DAY OF PAYMENT OF DIVIDENDS. Lists various mining companies like Adella, Bullion, Cambridge, etc.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table of stock prices including MISCELLANEOUS STOCKS, RAILROADS, BANKING INSTITUTIONS, INSURANCE COMPANIES, and MINING STOCKS—WASHOE DISTRICT.

San Francisco Market Rates.

Wholesale Prices.

Table of market rates for various commodities like Flour, Corn Meal, Wheat, Oats, Barley, Beans, Potatoes, Hay, Live Oak Wood, Eggs, Beef, Sheep, Hogs, Sugar, Coffee, Tea, Hawaiian Rice, and Chinese Rice.

Table of commodity prices: Coal Oil, Candles, Haulch Butter, Lard, Onions, Apples, Peas, Beans, Ham, Potatoes, Tomatoes, etc.

Table of Retail Prices: Butter, Pickled, Corn Meal, Flour, etc.

San Francisco Metal Market.

Table of metal market prices: Iron, Steel, Copper, Brass, Lead, Zinc, etc.

To the Legal Voters of the City and County of San Francisco.

Prompted alike by a sense of duty to myself and to the public, and in compliance with the request of several hundred citizens, tax payers and friends of the Public Schools, representing the different political sentiments, religious creeds, nationalities and classes of the San Francisco community, I hereby announce myself an Independent Candidate, at the approaching election, for the office of Superintendent of Public Schools.

San Francisco, July 29th, 1897. J. C. PELTON. 5015-5W

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF, AT 11 O'CLOCK, O'CLOCK A. M., on the following dates, for New York, connecting via Panama Railroad, with the Company's splendid steamers from ASPINWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 31 days. On the 10th, 19th and 30th of each month that has 30 days.

OLIVER ELDRIDGE, Agent.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

If our subject was politics instead of mining, we might be able to fill half a dozen papers the size of the Press, with gleanings from our country exchanges, and we are forced to acknowledge that the political ground has been more thoroughly prospected than the various quartz ledges in the State. The consequence is, we are unable, from our situation, to furnish a full summary of California; and we again say to our country cotemporaries, if you must dabble in politics, do not lose sight altogether of the fact that the people, especially those who take an interest in the development and advancement of our resources—the intelligent class—desire to keep posted on the progress of our mines, as well as the political progress. But there will be a grand clean up of office seekers and office helpers on the 4th day of September, after which (the dog having been killed) we expect to give full and regular accounts of all strikes, discoveries, etc., which will interest our readers.

## CALIFORNIA.

## Alpine County.

*Miner*, Aug. 24th: The Morning Star Co. has been putting in air pipe to connect the north drift with the main shaft. A pump is on the way from San Francisco, and on its arrival, the work of sinking on the lode will be commenced.

Davidson's mill is running this week on Tarshish ore, having put through what the I. X. L. had out of high grade ore. First and second class Tarshish ore will be worked together, and it is the intention of Mr. Gruff to furnish the mill with 100 tons for the first run.

## Calaveras County.

The West Point correspondent of the *Chronicle*, writes Aug. 21st, as follows: In mining items, Barnes lately crushed 35 tons of rock, which paid \$15 per ton. Sletcher & Lightfoot made a small run which paid \$60 per ton; Reece & Stipes, result not ascertained.

At Railroad Flat, in the Petticoat claim, a recent clean up of 87 tons of croppings and vein stuff paid \$12 per ton. This mine has laid still for some time, and might have been bought for, say \$1,200, as the first test only paid \$6.50 per ton, though it was known to be a large vein, as the ledge at 30 ft. depth was 10 ft. wide; but the last workings have developed a large body of good ore just below the surface, and the boys are not as anxious to sell as they were. We have no hesitancy in predicting that Railroad will one day be a thriving camp. This opinion is based on the sizes of the ledges and the facilities for extracting the rock.

## El Dorado County.

Placerville *Courier*, August 24th: The Georgetown correspondent writes: A few days since the Woodside Co. was compelled to stop work upon their mine. The engine—a 15-horse power one—heing too small to keep the mine free from water. When they commenced work last spring, it required two months' pumping to dry the mine; since which time they have been unable to sink only 16 ft., and run a drift of about 30 ft. By had management, and having too much water to contend with, the company have spent all their money, and are not at this time able to erect heavy machinery. During the last working, owing to the broken up condition of the rock, but little money has been taken out. Barren spots have frequently occurred in this mine, and for the last 15 to 20 ft., it has been quite "spotted." The company feel confident that if they were able to sink 20 ft. further, they would find the ledge richer than at any previous point. Where they were compelled to abandon work, the ledge is three ft. wide and very rich in sulphurets. Work is not suspended because the mine is not good, but owing to the fact that the present machinery is not large enough. They now offer one-half of the mine to any one who will erect machinery and sink the shaft 100 ft. deeper. To properly work this mine a 40-horse engine and a 10-inch pump is required. With these improvements, the mine can be worked very cheap, as the rock is not hard.

## Inyo County.

Virginia *Enterprise*, Aug. 25th: Andy Peasley has just returned from the Cerro Gordo mines, Inyo county, California. He thinks well of the Cerro Gordo mines, but says that at present the scarcity of water is

a great drawback to the prosperity of the country.

## Kern County.

Havilah *Courier*, Aug. 17th: The St. John mine is being worked by Taylor, White & Co. We have seen some specimens of ore from this mine which are very rich—the gold being visible to the naked eye. There are now about 50 tons of rock taken out and an immense quantity in sight. The rock shown us will yield not less than \$50 to the ton. The company are engaged in the erection of a mill, which will be completed by the 1st of September. Other mines in the same district are turning out well.

## Nevada County.

Grass Valley *Union*, Aug. 27th: A one-half interest in the Empire Mining Co's property on Ophir Hill, has been recently sold for \$125,000, to Messrs. Cronise, Lake, Horner and others, of San Francisco. The purchase includes a one-half interest in the mine, the magnificent quartz mill, hoisting and pumping works, etc., on Ophir Hill. The former owners, Capt. S. W. Lee & Co., retain the other one-half interest in the property. The Empire has been one of the best quartz mines in this district, and of late the vein has been looking better than ever.

*Transcript*, Aug. 28th: The Sing Ching Co. have purchased the San Joaquin gravel claims at Birchville, paying for them \$9,600. The first payment of \$5,000 was made in cash.

**EXCELSIOR.**—Meadow Lake *Sun*, Aug. 24th: The editor reports an examination made in person of the Virginia claim, as follows: Ledges Nos. 2 and 3, each ledge containing 1,300 ft., situated in the Meadow Lake mining district, about two miles from the town of Meadow Lake, and about one mile from the town of Ossaville, on the north branch of the South Yuba river. It is one of the earliest and best locations in the District. The two ledges are wide and well defined, and assay well from all the croppings and at the depth already attained in the shafts. There have been about \$1,500 already expended in prospecting and opening this claim, and no ledge could be better situated for development by means of a tunnel, as a tunnel 200 ft. in length could be driven in in such a manner as to strike the main ledge 150 ft. below the surface, at the croppings. Like most of the ledges of this district, they are situated in a locality where wood and water is abundant; the former being easily procured in any desired quantities at from \$2.50 to \$3 per cord. There is a mill site attached to the property, located at the same time with the ledge, and duly recorded, affording at all seasons of the year an ample supply of water for steam and amalgamating purposes. This claim has for a long time attracted attention, and Orion Clements, Esq., Lieutenant Governor of the State of Nevada, in a series of short articles written upon the mines of this district, during a visit to this place in the summer of 1866, thus speaks of the Virginia claim: "On the 19th of June, 1865, were located by the Virginia Co. ledges Nos. 2 and 3, running parallel with each other—ledge No. 2 cropping out on the surface 40 ft. wide, and ledge No. 3, 20 ft. wide. On these ledges, last summer, a great deal of work was done. A shaft 8 ft. square was sunk on each ledge—on No. 2 to the depth of 25 ft. Day and night shifts were employed, and six men kept at work most of the summer. The shaft was sunk on No. 3 about 10 ft., and then the men were transferred to shaft No. 2, for the reason that as it was 100 ft. lower down the hill, by sinking a shaft 100 ft. and drifting 100 more, ledge No. 2 could be struck 200 ft. in depth. The lowest assay was \$122 in gold, except about \$15 in silver. From that time assays ran as high as \$1,000 per ton. The claim on each ledge contains 1,300 ft., both belonging to the same company. A. C. Wightman discovered and located the ledges and superintended all the work. They are a few hundred feet north of the Potosi ledge, and east of the Baltimore."

Several parcels of sulphurets from the Confidence Co's claim, Pacific ledge, have been worked during the past week by Mr. S. H. Richardson, with splendid results. In two instances, nearly \$10 were obtained from 2 lbs. and 2 ozs. of sulphurets, and in another instance, between \$3 and \$4 were obtained.

A clean-up of the arastra of the Live Oak Co. resulted in a yield of from \$75 to \$100 per ton. The rock worked was not assorted, but the full width of the ledge was taken out and worked, and the yield would have been very much larger had the ore been assorted.

During the past week, some fine ore has been taken out from the Eclipse mine, near Baltimore. There seems to be a very large body of it.

*Transcript*, Aug. 25th: J. E. Squire has been appointed Supt. of the U. S. Grant mine at Carlisle, Meadow Lake township. The new company propose erecting a new mill and extensive works on the mine.

## Sierra County.

Downieville *Messenger*, Aug. 24th: The Docile M. Co. is getting along finely with its work in sinking a shaft, and is now down about 35 ft. It gets enough from pounding up assorted rock to pay expenses. All the loose dirt is rich, and will wash up big when water can be had. The third north extension company has struck the croppings about 2,000 ft. from the Docile, and is now getting the most flattering prospects.

We saw, a few days since, some very rich specimens from the Brush Creek ledge, near the Mountain House. This ledge paid well some years since, but was lost. It has recently been recovered, and promises to pay better than ever.

The tunnel of the Greenback Co. is being rapidly pushed forward.

## ARIZONA.

*Miner*, Aug. 10th: The Vulture mill, at Wickenburg, is now running (20 stamps) regularly and profitably. Lager & Lattimore and Capt. Chapman have the contract for hauling the ore from the mine to the mill at \$10 per ton. The mill consumes 30 tons per day. Some 40 men are employed about the mill and 80 at the mine. The lode is 39 ft. wide, and the ore averages \$35 per ton, although lately it has run lower than usual. The legal troubles concerning the mill and mine have been adjusted.

July 20th, the copper mines of Martiu & Co. were sold to W. W. Dodge, of San Francisco. The Mineral Hill mine brought \$10,000 in gold.

The mines never looked better than now. In the Empire, the Supt. has struck a cross vein of copper of immense size and richness. He has 2,000 sacks of ore at the river and 1,000 more at the mine.

Supt. Fowler is putting up a large quantity of ore at the Springfield mine. Comparatively few hands are at work at any of the mines.

Messrs. Thompson, Ashley and Knowles are in San Francisco, and are not expected back until September, when more active operations will be begun.

## BRITISH COLUMBIA.

Cariboo *Sentinel*, July 22d: On William's Creek during the last week, the following amounts were cleaned up: McLaren Co., 50 ozs.; Wilson Co., 61½ ozs.; Dutch Bill Co., 20 ozs.; Davis Co., 135 ozs.; Aurora Co., 176 ozs.; Prairie Flower Co., 36 ozs.; Forest Rose Co., 14 ozs., for 18 hours work.

In Stout's Gulch during the week, the Alturas Co. washed up 169 ozs., and Mucho Oro Co., 30 ozs.

In Conklin's Gulch, the week's returns are as follows: United Co., 85 ozs.; Ericsson Co. 30 ozs., and Reid Co., 30 ozs.

Good prospects have been struck on a high bench east of Grouse Creek. Several claims have been staked off.

Week's work at Lowhee Creek, Plumbago Co., from \$10 to \$12 per day to the hand. Crittenden Co., 12 ozs.; First Chance Co., 90 ozs.

July 25th: Ross Co., on California Creek, are making \$7 per day.

Drawer, Sharp & Co. have found pieces in their claim weighing as high as \$50. The Great Eastern Co. are making \$8 per day.

The following is the testimony of a witness under oath in a chancery suit, concerning the Madoc gold mines: I am a practical miner and have washed in gold mines in California for several years, and I am fully competent to judge of the value and richness of a gold mine. That I did on Wednesday, the 1st of May, gain access to the interior, and did examine the Richardson gold mine, in company of two of the defendants, Hardin and Austin, and found that the ore in said mine was of unrivalled richness, and am of the impression that I could, with two men, extract from said mine at least \$2,000 worth of gold per day for the next seven days. That I washed out of about three pints of decomposed rock and sand, which I took out of a pail nearly filled with the same material, from \$12 to \$14 worth of gold, besides three pieces of quartz largely impregnated with gold.

July 29th: A miner while passing a pile of "headings" the other day, observed a small piece of gold. Stooping to pick it up, he found it to be in contact with a lump of quartz, which being weighed, was discovered to be worth \$101, for which sum he subsequently sold the specimen.

Aug. 1st: The First Chance Co., Lowhee Creek, took out 40 ozs. last week, among which was a nugget weighing seven ozs. On Tuesday last the Alturas Co., on Stout's Gulch, also took out a nugget weighing 7½ ounces.

## IDAHO.

Owyhee *Avalanche*, Aug. 10th: The Oro Fino mine is yielding richer ore than ever before. The last run of 70 tons cleaned up \$10,000—over \$140 per ton, and there is much more of the same class of ore in sight in the mine and some out.

The Whisky ledge is being put in the condition of a paying mine, and so far as worked is really a profitable mine. About 5½ tons of the ore were sold at the mine, and the buyer made money on the transaction. The vein is improving as it is developed—both in size and richness.

*World*, Aug. 17th: Mr. Holbrook, of Granite Creek, brought to this office on Thursday some specimen pieces of decomposed quartz, taken from a newly discovered ledge, two miles from that camp, near the very rich decomposed quartz ledge lately located by Bradford and others. The ledge prospects quite as richly as the Bradford ledge.

The camp on Granite Creek is flourishing beyond any camp in Idaho. The mines continue to pay very richly. A sale has been made of a creek claim by Mr. Brainard, to a company of Portuguese, for \$4,000.

Forty-six tons of poor surface and casing rock from the King quartz ledge, Summit Flat, lately yielded an average of \$58 per ton. The culled ore will far exceed this product. The company are running a tunnel into the Mammoth ledge, which prospects richly all the way down. They have two 8-stamp mills, and constantly employ 16 hands. It is near these ledges that miners are making big pay in ground sluicing for quartz rock, of which one party had gathered and crushed about 30 tons which averaged nearly \$100 to the ton.

The moving of the 20-stamp quartz mill from the Chickahominy ledge to the Pioneer ledge, has been accomplished, without breakage or mishap.

Mr. H. D. Van Wyck, Supt. of the Bonaparte Hill M. Co.'s mill and mine, in Alturas county, lately exhibited three pieces of quartz, which came from the company's mine. Two of them were taken from the Bonaparte ledge—one from the cropping surface, and the other from the ledge at a depth of 100 ft. in the tunnel. Both pieces were rich in gold, and that from the tunnel contained fine specks of the precious metal all through it. But the third piece, taken from what is known as the Ehell ledge, at the depth of 160 ft. in a tunnel lately sunk, is of surpassing richness. The whole piece weighs perhaps a pound, and looks well throughout, but directly through it is a vein of dark bluish hue, of an inch width, and in this the gold is seen thick and plenty everywhere. It is one of the best looking pieces of gold and silver quartz we have ever seen. The rock is hard, and is difficult to work, but of its wealth in the precious metals there can be no question. The last clean up of the ore from the Bonaparte ledge, gave a product of 216 ozs. of amalgam, worth say \$2,000, from less than 40 tons of rock.

## MONTANA.

*Post*, Aug. 3d: The Golden Gate Co. in Brown's Dist., are erecting a steam 15-stamp quartz mill.

Good diggings has been struck on the Boulder Redivivus, and from five to seven cents to the pan have been taken. All of them show very well, and the old discovery claim is paying. The bars are extensive, and can be worked by hydraulics, and will give employment to a large number of men.

Aug. 10th: A correspondent writing from Highland Gulch, says: Within the past 10 days, several new and astonishingly rich discoveries have been made on Moose Creek, contiguous to our camp. Collins, Parker, Day and Harvey, all experienced quartz prospectors, have brought in from the last named locality the finest specimens of silver ore it has ever been our good fortune to see; during 18 years residence in the mountains. The lodes discovered are said to be from 8 to 12 ft. wide. The rock blisters fine and shows the native silver in larger quantities than any other rock we ever saw. Enclosed you will find a globule of silver thrown out of the rock by a common wood fire; this I believe to be out of the Tiger lode. A piece of rock the size of an egg will show scores of such globules.

But a few feet remains to be driven to complete the level in lode No. 2 of the Whitlatch Union mine, which will at once supply the necessary ventilation for this part of the mines and give a surface of 370 ft. for working the vein, varying in width from two to six ft. of free gold bearing white flint quartz and yielding \$64.15 per ton. From discovery claim very rich quartz is now being taken for Turnley & Hendrie's mill.

Mr. Whitlatch has purchased one-half of the 30-stamp mill of the Philadelphia Enterprise Co., which is now being built in Oro Fino Gulch.

Mining matters continue to improve in



**Blue Cloud Gulch.** Splendid prospects are obtained throughout—from 75 cts. to \$1 and as high as \$12 to the pan has been obtained. The only drawback to quick fortunes is the amount of water; claim holders being unable to sluice but half the time. Claims are held at very high figures. Parties are unwilling to sell unless they get as much as they think is in the ground.

The diggings on El Dorado Bar have been found to pay \$25 per day to the hand, ground sluicing, and will give employment to 2,000 men.

**NEVADA.**

**Black Rock.**

**Enterprise, Aug. 18th:** The editor thus describes a specimen of opal from the Black Rock mines, lately exhibited in Virginia City. It is not the true fire-opal, but comes very near being—only lacking in its composition 1½ per cent. more of water. The specimen shown us yesterday was in the possession of Mr. R. A. Cochran, and appeared to us as a sort of cross between precious opal and moss agate. Mr. Cochran says that in the Black Rock country there is an extensive belt in which opalescent minerals are abundant.

**Esmeralda.**

The Pine Grove correspondent of the Virginia Enterprise, of Aug. 20th, writes: The Wilson, Midas and Wheeler Cos. continue to take out rock enough to pay the expense of running long tunnels for the main ledge and otherwise developing their mine. The Midas will have, by the first of next month, a run of 75 tons of ore extracted, which will pay \$75 per ton.

H. C. Toombs is taking ore out of the Wilson croppings. He pays for it \$12 per ton.

Smith & Reynolds are engaged in taking 100 tons of ore out of their segregated Mountain View claim, which they will offer for sale.

The Wheeler boys are busy taking out ore from a rich vein recently struck near their old shaft, and are also running a new tunnel, which is now in some 50 ft.

About 145 tons of ore from the Burlesque claim was lately crushed by Capt. Pray's mill, which did not pay for crushing. The ore is largely composed of sulphurets.

The Deposit No. 3, adjoining the Burlesque on the south, worked by Joe Collins and others, shows a number of very fine veins of copper-stained gold-bearing and sulphureted quartz. Fifty-three tons of the ore from this claim were worked by Capt. Pray's mill, and although the ores prospected finely with horn washings in free gold, the returns made by the mill were very dissatisfactory.

The Imperial Co. struck a very rich body of ore in their shaft, at water level, some time ago, and have since been running a tunnel for the purpose of tapping the ledge at a lower point and draining the water.

Penrod's arastras are giving the most satisfactory results, and are kept running constantly.

**Humboldt.**

Unionville Register, Aug. 17th: Torrey has made two more shipments of several tons of bullion, by large freight teams. He is now getting things to work to his notion, and is making a most complete success.

The Star City correspondent writes that the American Basin Co. are driving their tunnel, with three shifts, day and night.

Drifts have been run across the DeSoto ledge in various places, and rich ore found in all of them, proving it to be a true vein of enduring richness. A small force is at work preparing to take out ore, which can be done in sufficient quantities to keep all the mills in the country running.

Late advices from the reported placer gold discoveries show that they are not likely to prove as rich as was at first anticipated. No mines have yet been worked that have yielded surface gold in paying quantities. Some very rich quartz ledges, however, have been discovered.

**Trespass, Aug. 20th:** Work goes on in the Humboldt mines. Torrey, at Oreana, is turning out bullion in considerable quantities. His Daisy and other ledges are showing finely. He has trouble with the working of the furnaces as at present arranged, because of the fumes poisoning the men who work at them. This will be remedied as soon as possible by the erection of stacks to carry off and condense the vapors.

Ginaca's mill has been landed on the ground in Winnemucca District, and will be put in working order as soon as possible. Gov. Fall has shipped out a mill for the Essex mine, in Sierra Dist. Fall is also driving ahead with the tunnel for the Agamemnon ledge.

Ely's mill will soon be put up to work rock from the Monroe ledge.

**Pahranaugut.**

Silver Bend Reporter, Aug. 17th: The New York mining companies have all sus-

pending work, having conducted operations upon credit as long as the miners would stand it. Funds are expected, however, within a day or two, when there would be a general jubilee. The new mill at Crescent City (Hatfield's) was set in motion and kept at work for about ten days upon ore from the List lode. The result was all that could be wished for or expected. This is a cheering feature; but as the entire structure was put up on credit, a suspension was necessary, and it is now locked up and will remain so until money arrives to liquidate the indebtedness against it.

**Reese River.**

**Reville, Aug. 15th:** The La Plata Co. has struck a fine body of ore in the lower level of the Twin Ophirs mine, situated in Park Cañon. The tough, hard character of the rock rendered the work on the mine tedious and slow, and it is gratifying to learn that the ledge has been struck at last. The ore found in the deep level is said to be very superior to that met with above.

T. J. Tennant, who has just returned from McCann creek, says that in digging the grave for McCabe, who died there, they sunk to the depth of five ft. without disclosing the bed rock. The earth thrown from the grave was washed, and every pan of it contained slight "colors." Mr. Tennant did not see or hear of a pan of dirt washed that did not yield the "color," although it was obtained from the grass roots on the surface.

**Aug. 18th:** On Saturday, some 500 lbs. of quartz from the Beard ledge at McCann Gulch were brought into town. It is peculiar looking ore, and much resembles that obtained in the Black Rock Dist. The lot was evidently procured from the surface, and appears to be chiefly decomposed porphyry, of a grayish white color, covered with brownish stains on the outside. These pieces do not show any gold, but may do so after being pulverized and washed, or by assay. Some choice specimens were shown to us in which the gold was palpable to the eye.

**Aug. 20th:** A small but rich stratum of ore has been struck in the lower level of the incline on the Metacom mine. The ore is a soft black mass of sulphuret, mixed with clay. A sample of it was assayed yesterday by Boalt & Stetefeldt, which gave the large yield of \$2,069.01 of silver per ton. This coal-black ore resembles that produced by the Chase mine, and is wholly unlike any heretofore found in the Metacom.

**Aug. 21st:** The Chase mine is now yielding a very rich quality of ore, assays of which exceed \$3,000 per ton. Some 30 tons of the first class ore are on the dump ready for the mill. The ore was taken from the original excavation at a point where the ledge is of good size, and it is of so high a grade that the deposit is usually called a "chimney."

At a meeting of claim holders of Kinsley Dist., Lander county, on the 15th day of Aug., the laws of the district was amended so that all titles to mining claims heretofore made and recorded, shall hold good until the completion of the Pacific Railroad, to a point opposite to said district, and that \$250 value in work or money shall entitle the claimants to their claims in fee.

**Aug. 22d:** Part of the Keystone mill was destroyed by fire on the night of the 21st. More than half the roof was burned off, and two of the furnaces was so much damaged by the water used in extinguishing the fire, that they will have to be rebuilt. Loss from \$6,000 to \$7,000. Cause, carelessness.

Water is getting troublesome in the Savannah mine, so much so that it is necessary to erect hoisting machinery in order to free the mine. Until the hoisting apparatus is finished, there will be but slight addition to the dump pile, which now contains about 30 tons of first and second class ore.

**Aug. 23d:** The mill of the Old Dominion Co., in the Hot Creek Dist., is nearly finished. Terry McGinnis, a famous builder of furnaces, had arrived in the district on Tuesday for the purpose of building the necessary furnaces for the mill. The building of the mill has given an impetus to mining in the Hot Creek as well as neighboring districts, and parties have contracted to deliver at the mill a number of tons of ore from both Morey and Reville.

Coover's 5-stamp mill in Bunker Dist., is working satisfactorily on ore from the Victorine ledge. The owners of the mill have agreed to work 1,000 tons at certain rates. The mill will reduce 60 tons per day.

This morning, some 1,400 ozs. of crude bullion were brought to town from the Bunker Dist. It is the product of about 10 tons of ore from the Brown ledge in that district, worked in an arastra by Messrs. Lemmon and Smith.

Silver Bend Reporter, Aug. 17th: The shaft on the Silver Queen ledge is now down

from the croppings 70 ft. The ledge is five feet thick, with a stratum of pay ore 2½ ft. thick.

On the 10th inst., the mill of the Mount Tenabo Co. in Cortez Dist., forwarded to Austin 16 bars of bullion, valued at \$14,000.

**Reville, Aug. 23d:** The Rutland mill has again changed hands, the agent of the New York and South Twin Co. having purchased the interest of J. S. French.

**Aug. 24th:** This morning two wagons arrived in town with mill machinery for Belmont. One wagon contained machinery for the Belmont Co., and the other for the Combination Co.

The assay office attached to the Manhattan mill received for the week ending this date, 48,379 ozs. of crude bullion for melting and assay.

**Trespass, Aug. 27th:** The editor has seen two assays of ore from Washington Dist., made by Conrad Weigand, which showed, in silver, per ton, \$194 and \$213, respectively. If not refractory, there is a large quantity of this ore now ready for reduction.

**Aug. 24th:** The San Plata Co. has disclosed a large body of rich ore in the lower level of the Twin Ophirs mine, Park Cañon.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

**Enterprise, Aug. 20th:** The workmen in the Chollar-Potosi, at the depth of 965 ft. below the surface, have come upon a deposit of excellent ore. The extent of the deposit is not known.

A strike is reported to have been made in the Overman yesterday morning.

The Sierra Nevada is now clear of water, and work will be commenced immediately.

**Aug. 21st:** The ore taken out and reduced last week by the Gold Hill Quartz Mill and Mining Co., Gold Hill, averaged \$42 per ton.

**Aug. 22d:** The Yellow Jacket Co. have just received and will at once set up two new boilers, each 16 ft. in length by 54 in. in diameter. Each boiler contains 50 three-inch tubes. The boilers were manufactured at the Pioneer Boiler Works.

The Kentucky Co. are engaged in overhauling their hoisting works. They are putting in new reels, repairing their shaft, and putting everything in order for a long siege of heavy work.

**Aug. 24th:** The tunnel connecting the old and new works on the Hale & Norcross is completed. Sinking upon the new shaft will be vigorously continued.

A new machine for concentrating tailings has been invented and tested by a miner named Holden. It has been put in operation at the Ophir mill, and bids fair to prove a success. The tailings concentrated by the new apparatus yield about \$200 per ton.

The total amount of bullion shipped from this city and Gold Hill for the past week, was 8,715 lbs., worth \$224,018.44.

**Trespass, Aug. 24th:** Work is to be resumed on the Deuvylheimer lode, at Peavine; and by the time the railroad reaches Crystal Peak, the smelting furnaces will be completed, and a large quantity of ore smelted for shipping.

**Aug. 27th:** Mining is active at Wilson Dist. Quite a large amount of ore has been sent to Washoe, to be treated in a scientific manner.

The body of ore cut in the Chollar-Potosi shaft, at the 800-ft. level, is of most excellent quality, and the lode widens as it is sunk upon.

**OREGON.**

**Albany Journal, Aug. 23d:** C. H. Moses and Squire Wilbur, of this city, went out into the mountains for the purpose of hunting and prospecting. They returned last Saturday, bringing in some fine specimens of auriferous quartz, taken from a ledge near the old quartz discoveries on Blue River, and not more than 50 miles from this city. They opened a clearly defined ledge about half way down the mountain. Gold can be seen in most of the rock with the naked eye; and the quartz is easily crushed and contains gold in large quantities. They are confident that the specimens brought back for testing are no more than the average of some 500 or 600 lbs. of rock taken out. They crushed in a mortar what they brought with them on their riding horses. The average yield per pound was \$1.13; or \$2,260 per ton. They have taken up claims, and intend commencing working the ledge as soon as possible.

**Dalles Mountaineer, Aug. 24th:** Two hundred pounds of gold dust was brought down from Cañon City, on the stages by passengers last Thursday.

**UTAH.**

Salt Lake Vedette, Aug. 17th: The Fort Bridger correspondent writes as follows: From what we have seen of the country, we

have no hesitation in giving it as our opinion that no better or more extensive gold quartz bearing range has been found than this "Shoshone mining district," as it is called. The ledges are large, well defined, and crop out boldly for miles, running northerly and southerly, with a uniform dip to the east. In nearly every piece of quartz you pick up, traces of gold can be found. Placer diggings will undoubtedly be found in the district as soon as any prospecting in that line is done. As yet, nothing worth speaking of has been done towards discerning wash gold.

Parties continue to fit out and start for the South Pass mines. Unbounded confidence is felt in their richness and extent by those who have been there. One company, owning 3,000 ft., has made an assessment of \$800, for the purpose of developing the ledge.

From private advices we learn that J. Marion Moore, one of the discoverers of the Boise mines, and the most extensive as well as energetic miner that ever was in the Boise Basin, will be here this week with from 40 to 60 men, destined for the new mines on the Sweetwater.

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## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Aug. 31, 1867.

## Notices to Correspondents.

I. C. Folsom.—The structure of granite, as attempted to be explained by Mr. Sorby—a brief recapitulation of which theory was inserted on the 67th page of our current volume—contains an hypothesis which, though possibly correct in many, and we think it probable that it is so in some instances, is based on too much supposition to meet with adhesion from deep thinkers. The formation of cavities or vesicles in granite, or any other rock of like character, is susceptible of explanation by many other means than the vapor of water. We readily admit that of granitic or other similarly formed rock, that it is quite easy to conceive that under an intense heat and enormous pressure, granite or similar rock, even while in a fused state, may become, to a large extent, saturated with aqueous vapor; and thus cause cavities which may subsequently become filled by infiltration, either wholly or partially, with solid substances, or by saline and aqueous ones, in a fluid form, as described by Mr. Sorby. Mr. Poulet Scrope's admirable illustrations on this point, drawn from observations of the rocks of Auvergne, Mont D'or, Puy de Dome, etc., form a complete case in point. It is not, however, necessary, in all cases, that analogous rocks must become vesicular by means of aqueous vapor only. The presence of a vaporized solid or any gaseous matter would, under a like set of circumstances, be equally productive of similar phenomena. The fact just stated is not infrequently exhibited, to the great annoyance of the glass manufacturer, in the air bubbles, as they are called, sometimes seen in manufactured glass; yet such glass may have been for hours in a molten fluid condition previous to being shaped into any given utilitarian form, as a common glass bottle, for instance.

A PRACTICAL MAN, who inquires as to the best and cheapest mode of obtaining black diamonds for drilling purposes, such as were alluded to in our publication of the 1st of June last, at page 339, is informed that we hope shortly to be able to inform our correspondent and readers of additional particulars, which are promised to be furnished us by a gentleman, who has examined such diamonds, which he saw many years ago, and is acquainted with their commercial history. If the diamond drilling machine proves as advantageous as has been asserted to have been found in executing the Tavasa tunnel, few subjects can be more interesting to the mining community; whilst to the chemist and geologist their origin is of an intrinsic and highly theoretic value.

SANTIAM MINES IN OREGON.—We understand that a competent person is about to take hold of and develop the Santiam mines in Oregon. No doubt is felt among the owners of the mine but that the ore can be made, by proper management, to pay handsomely.

## The State Agricultural Fair.

There seems to be a general waking up everywhere throughout the State, to the advantages to be gained from a proper exhibition of the united agricultural and mechanical interests of the State, at the coming State Fair at Sacramento. An interest seems to have been excited, not only on the part of individuals, but also among the officers of the various district and county agricultural societies as well. This augurs well for the success of the enterprise, and insures a general union of all parties in carrying out the programme, and rendering the State Agricultural Fair a success. "This," says the Sacramento Union, "is as it should be. Every county should have its local society and hold its local fair, to show to the people of the vicinity the evidences of local resources and prosperity, and to excite emulation and effort for improvement. The State Society presents an opportunity for each locality to compare its products with those of each and all others, and thus stimulate all. But the greatest advantage the State Society presents to all localities in the State is, that it furnishes them a truthful and reliable medium through which correct information as to their resources and advantages can be conveyed to the people of other States and countries, and thus induce immigration and direct to the locality presenting the greatest inducements."

The San Joaquin Valley Society has appointed a special committee to cooperate with the State Society in furthering the enterprise, and have issued a stirring address to arouse the people of that part of the State, to the policy and necessity of securing a full display of their industrial products at the approaching Fair.

The motive power and shafting is already in place at the Fair building, and all machinery intended for operation should be upon the ground early next week, so that the exhibition can open complete with everything in motion, on Monday, the 9th inst. As the exhibition continues for only one week, every one must see the necessity of being prompt and having everything in place on the first day, in order to secure the full benefit of the expenses which they may incur. Those who have witnessed the tardiness, inconvenience and loss to exhibitors at most of our past exhibitions, both in this city and at Sacramento, will appreciate the force of our suggestions.

## A GENEROUS AND TIMELY PROPOSITION.

Horace Hawes, Esq., having expressed a willingness to let the Mechanics' Institute have the free use of a lot for their Fair next year, a committee waited upon him on Tuesday last, and he generously offered to let them have a hundred-rod lot on Ninth street, between Howard and Folsom, for two years. The committee thanked him for the kind offer, and assured him it would be most acceptable. The lot is on the summit of a hill, which slopes towards the Mission in one direction and towards the business part of the city in the other. A Fair building erected here will occupy a commanding and beautiful position. Both the Howard and Folsom street cars pass directly by it, and the Market street and Hayes Valley cars within two blocks. In every way the locality is excellent, and easy of access. The offer will be of material assistance to the Institute, and will enable them to commence their calculations and preparations for the Fair of 1868 without delay.

SILVER IN WEST VIRGINIA.—A correspondent of the Wheeling *Intelligencer* says that four different companies, operating within a distance of three miles of each other, have struck silver ore, within depths varying from 400 feet at the deepest up to 260 feet from the surface. The claims appear to hold all upon the same vein. Further developments are looked for with much interest.

## Platinum in New Zealand.

A very important discovery of platinum has recently been reported in New Zealand. A miner from that island was recently at Melbourne, where he exhibited a quantity of metallic sand, which he said he had gathered on the coast of the island named, and stated, furthermore, "that there was any quantity of the same material where that came from." The sample was examined and assayed by the assayer of the Union bank at Melbourne, and was proved to be a valuable platinum ore, of a highly magnetic character, containing some 60 or 70 per cent. of platinum. Throughout the sample were to be seen minute pieces of rough gold. Specific gravity of ore, 14.2.

The assayer says in his report: "It may be interesting to state that while experimenting with the microscope I soon found that many of the individual flakes possessed polarity. I carried the experiment further by floating some fine pieces on a drop of water placed on a glass slide, around which was placed a fine insulated copper wire. On transmitting a galvanic current through this impromptu coil, the major axis of many of these little flakes at once took up a position at right angles to the current, and as rapidly reversed themselves on the poles of the battery being changed."

Should this ore be found in such abundance as represented by the miner who produced this sample, it will be of much commercial importance, and add greatly to the value of the mineral products of New Zealand.

Important improvements have recently been introduced into the working manipulation of this metal, by which it is expected that articles manufactured from it will soon be greatly reduced in price. All that is now wanted to realize this anticipation, is to find the ore in greater abundance than it has hitherto been met with. Possibly the discovery reported above may lead to the desired result, and introduce this most valuable and imperishable of the useful metals into many of the arts, from which it is now restricted on account of its great cost.

A parcel of this sand has been sent to London by one of the principal metallurgists of Melbourne, to ascertain more definitely its full commercial value, and the facilities for utilizing the same. There is probably no mineral discovery which could be of more importance to the world at the present time, than that which should reduce the cost of platinum, from its present value of about eight times that of silver, to an equal value with the last named metal.

THE MISSOURI TIN DISCOVERY.—The Madison County *Conservative*, in alluding to the recent discovery of tin in Missouri, says: "The gentlemen who have been working the recently discovered tin mines, ten miles west of Fredericktown, are evidently well pleased with the prospect of opening a tin mine. A few days ago one of the parties, Mr. George S. Sane, of St. Louis, purchased of Mrs. Lloyd 200 acres, on which tin has been discovered, for the sum of \$7,000; paying \$1,000 down and the balance in 90 days. This is another item of wealth to be added to the long list of valuable minerals found in Madison county. We have many hills in our county too poor for agricultural purposes, unless it be for orchards and vineyards; and as God never made anything in vain, it is but reasonable to suppose that these hills contain something more valuable than appears on the surface."

Another Missouri paper says that there is a fair prospect that they will soon have a tin fever in Missouri, as bad as the oil fever that lately raged in Pennsylvania. All the State is going wild about this discovery. Every man has a lump of ore in one pocket and a blow-pipe in the other. Speculators are buying up the farms, and stock-jobbing is fast usurping the place of honest labor. For one man who gets rich, we venture to say, that ten will be ruined by mining companies. This discovery has been made near the famous Iron Mountain.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

## Yield of Australian Mines.

The gold fields of Australia are located in the southeastern extremity of the island, and occupy but a very small portion of the same. They lie chiefly in the province of Victoria, of which Melbourne is the chief commercial port; although the yield of New South Wales, the adjoining province, is very considerable.

It appears from *Dicker's Mining Record* that there are sixty-one dividend-paying quartz mines in Victoria, working under the Limited Liability Act, besides a large number of other paying mines worked on the cooperative system. There are also numerous "progressive" mines, whose progress and prospects are regularly reported.

The *Record* of February 26th contains a tabulated list of eighty quartz mining companies in New South Wales, with the number of tons crushed and amount of yield of each for the quarter ending December 31st, 1866. From this list we gather the fact that these companies, during the last quarter of 1866, crushed 160,169 tons, from which was extracted an aggregate of 83,874 ounces of gold, equivalent to .523 per ton—a fraction over half an ounce. A careful consideration of this table gives one a very good idea of the general yield of the Australian gold mines.

In carefully looking over this list of eighty mines, we find ten with a reported yield of less than one-quarter of an ounce, and twenty-six less than one-half an ounce; fifty-seven less than one ounce, and only twenty-three whose yield exceeded an ounce. One company is reported as having crushed 2,900 tons in three months, at a yield of a fraction short of one-twelfth of an ounce to the ton!

There are very few mines in the list, which are worked to any extent, that reach a yield of one ounce to the ton. We note but four which produced 1,000 tons or over, with a yield that reached or exceeded one ounce to the ton. The highest yield reported was five ounces, by a mine from which only sixty tons were crushed. Of the eight mines which produced rock worth two ounces and over, only two produced as much as 250 tons, and one of them paid two ounces to the ton for 866 tons worked.

The number of men engaged in mining in Australia, at the present time, is estimated at from 80,000 to 90,000. The total population of Australia is about 1,000,000—600,000 of whom reside in the two gold-producing colonies.

Considerable attention is being called to the loss of gold in the quartz mines, and a few of the most enterprising engineers are doing their best to remedy the same. The average loss is set at fully one-third of the total assay value of the rock. The millmen generally appear to be very indifferent to the subject, more so, if possible, than in California.

DEED.—In Nevada City, on the 21st inst., after a short illness, Mr. William Heugh, aged 56 years. Mr. Heugh was one of the proprietors of the Nevada Foundry, a Scotchman by birth, and one of the best machinists in the country. He was highly esteemed as a citizen, having been a resident of Nevada some sixteen years. We have known him since 1852, and more than once have had occasion to call to our aid his valuable services, under circumstances which called for the highest efforts of mechanical genius.

THE North American claim, at Michigan Bluffs, is said to have yielded about \$300,000 since it was first opened. Nitro-glycerine has recently been introduced into this mine as a blasting agent. It is said to take a better hold of the cement in breaking it down than powder does.

WOODWARD'S GARDENS.—It will be seen from the advertisement which appears to-day, that new attractions are being continually added to the variety heretofore presented.



**Cut-off Engines.**

Our millmen, and others who have occasion to use steam power, we are convinced, are, as a general rule, far too regardless or ignorant of the advantage and economy of using only a first-class engine. In the Atlantic States and Europe, where fuel is abundant and cheap, every device is resorted to to reduce its consumption to the lowest possible point; while on this coast, with far dearer fuel, the matter is almost wholly neglected. It is generally estimated that a first rate variable cut-off engine will save, as compared with a good slide valve engine of the ordinary construction, from one-fifth to one-third the quantity of fuel consumed. A very little arithmetic will show how important a saving this is. The difference will be sufficiently marked here in San Francisco, or in any of our mountain towns; but, for a stronger illustration, take the silver mining region in Nevada. There is many a mill or mine at or about Virginia City which requires say ten cords of wood per day to run the mill, or pumping and hoisting works, as the case may be. This ten cords of wood costs \$16 per cord, equal to \$160 per day, or \$48,000 per year of 300 working days. Suppose a more perfect engine will save twenty-five per cent. (not an extravagant estimate) in the consumption of fuel. The result is an aggregate saving of \$12,000 in a year—enough to almost make the difference between an assessment and a dividend; large enough, at all events, to claim the attention of all prudent managers. In view of so large a saving, the difference in first cost between a cut-off and a common engine becomes a matter of no small consequence.

One of the best of these improved engines is Wright's variable cut-off, which has been made very largely for the Eastern markets by the Woodruff & Beach Co., at Hartford, Conn. In our walks among the machine shops, a few days since, we were pleased to learn that Goddard & Co., of this city, were making these engines, one of which, then completed, they were about shipping to the Crown Point Company, for their new works at Gold Hill. This engine was of very superior finish and workmanship, handsome in architectural form and outline, and simple, strong and substantial in construction. We have no doubt that it will do all that is claimed for it. Goddard & Co. have other orders in hand, and anticipate large sales, which we hope may be realized.

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**MARKET STREET HOENSTADT ASSOCIATION.**—J. S. Lutz, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

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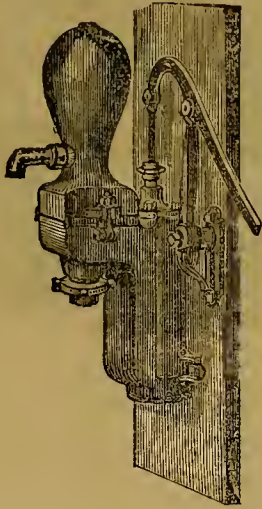
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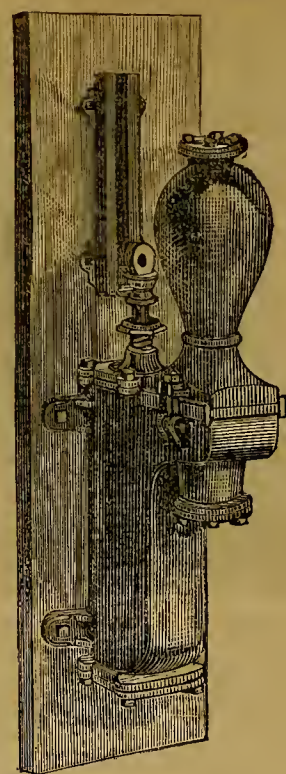
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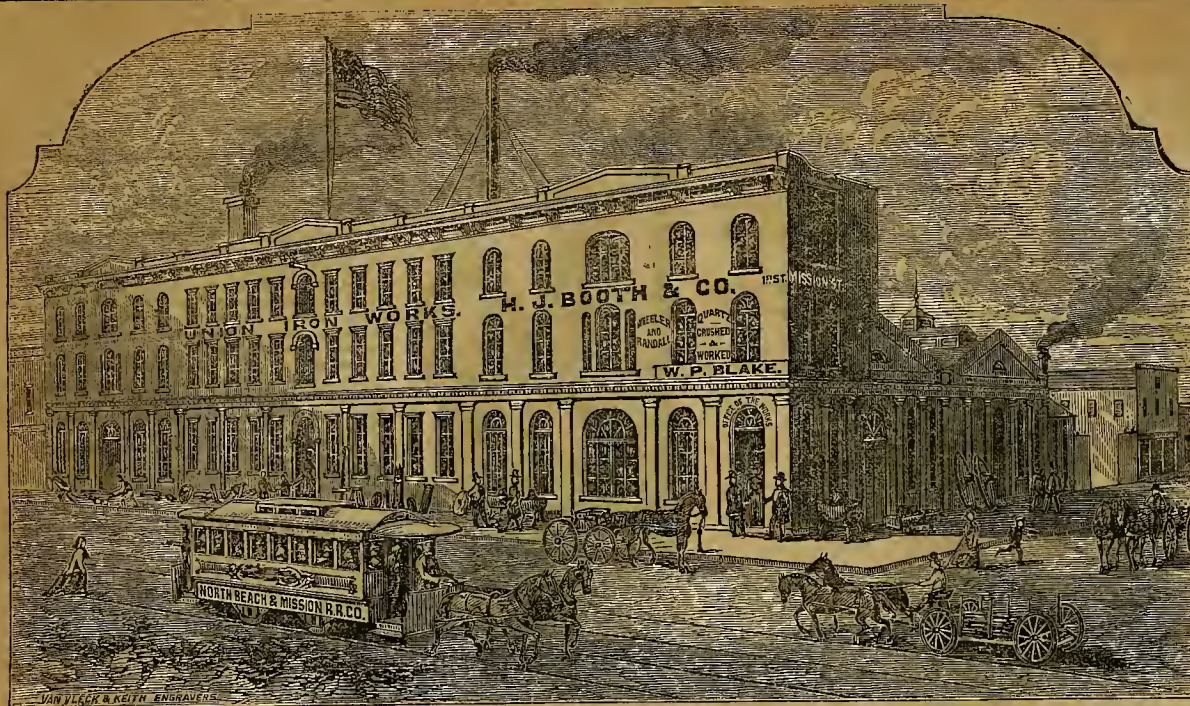
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**AMALGAMATING MACHINERY.**—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Yeateh's tubs, Prater's concentrators, Wakley's pans, Beer's pan, German Barrels, Astra Gearing, Chile Mills. Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Gams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

**OIL BORING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRISCOTT. IRVING M. SCOTT

H. J. BOOTH & CO.

**Machinists and Foundries.**

**PALMER, KNOX & CO.,**  
**Golden State Iron Works,**  
 Nos. 19, 21, 23 and 25 First Street,  
 SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
**STEAM ENGINES AND QUARTZ MILLS**  
 DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing,**  
 Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S  
**NEW GRINDER AND AMALGAMATOR**  
 HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
 WITH PALMER'S PATENT STEAM CHEST,  
 Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continuous working.  
**Genuine White Iron Stamp Shoes and Dies**

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

**WILLAMETTE IRON WORKS,**  
 PORTLAND, OREGON.

**Steam Engines, Boilers,**  
**SAW AND CRIST MILLS,**  
 MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
 Corner North-Front and E streets,  
 18v13-1y One block north of Couch's Wharf.

**UNION IRON WORKS,**  
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**WILLIAMS, ROOT & NEILSON,**  
 MANUFACTURERS OF  
 CROSS' PATENT BOILER FEEDER,  
**STEAM ENGINES, BOILERS,**  
 And all kinds of Mining Machinery.  
 Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.

**Dunbar's Patent Self-Adjusting Steam Piston**  
 PACKING, for new and old cylinders, manufactured to order.  
 Front Street, between N and O streets,  
 14v11 SACRAMENTO CITY

**Pacific File, Reaper and Mower Section**  
**MANUFACTORY,**  
 No. 53 Beale Street, between Market and Mission,  
 SAN FRANCISCO.  
 Files re-cut and warranted as good as new, or no charge. The only establishment in the State. We also manufacture Reaper and Mower Sections.  
 1v 1f RIDDLELL & DURNING, Prop'rs.

**GLOBE**  
**Foundry and Machine Shop,**  
 STOCKTON, CAL.

**KEEP, BLAKE & CO.,**  
 MANUFACTURERS OF  
**Quartz, Saw and Grist Mill Irons, Steam**  
**Engines, Horse Powers,**  
 Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc.,  
 at San Francisco prices. Orders solicited and promptly executed.  
 13v13-1y

**GEORGE T. PRACY,**  
**MACHINE WORKS,**  
 Nos 109 and 111 Mission street, between Main and Spear,  
 SAN FRANCISCO.  
**STEAM ENGINE, FLOUR AND SAW MILL**  
**And Quartz Machinery, Printing Presses,**  
 —AND—  
 MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
 Special attention paid to Repairing. 6v 47-3

**SAN FRANCISCO**  
**Foundry and Machine Works,**  
 N. E. Cor. Fremont and Mission streets,  
 Manufacturers of  
**Marine and Stationery Engines**  
 Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.  
 —ALSO—  
 Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**  
 Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
**Dunbar's Improved Self-Adjusting Piston**  
 Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**MACHINERY OF ALL DESCRIPTIONS**  
 Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
 6v11-1y **DEVOE, BINSMOKE & CO**

**LEWIS COFFEY, J. S. MISON**  
**LEWIS COFFEY & RISDON,**  
**Steam Boiler & Sheet Iron Works.**  
 THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.  
 Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
 No. 125 First street, opposite Minna,  
 SAN FRANCISCO.  
 ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Rings, Ship and Steamboat Bells and Gongs of superior tone. All kinds of Stocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
 PRICES MODERATE.  
 V. KINGWELL. 18v13-1y J. H. WEED.

J. O. HANSCOM } **HANSCOM & CO.,** { T. PENDEGAST.  
 H. S. SMITH. } } W. W. HANSCOM.

**Etna Iron Works!**

Southeast corner Fremont and Tehama streets,  
 SAN FRANCISCO,  
**Practical Machinists and Iron Founders,**  
 MANUFACTURE  
**STEAM ENGINES,**  
**QUARTZ MILL MACHINERY OF ALL KINDS,**  
**SAW MILLS, FLOUR MILLS,**  
**Dunbar's Improved Self-Adjusting**  
**PISTON PACKING,**  
 Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

**HANSCOM'S CRUSHER,**  
 The best of the kind now in use in this State or any where else  
**Wheeler & Randall's New Grinder and**  
**Amalgamator,**  
 Which only needs examination to be appreciated.  
**Tyler's Improved Water Wheel,**  
 Giving greater power at lower cost, than any wheel in use. Send for one of our circulars, giving full tables.  
 All wheels warranted to give the power as set forth, or the money will be refunded.  
**Sole makers for this coast of the "Pendegast**  
**White Iron Stamp Shoes and Dies,**  
 None genuine unless obtained from us. Every one warranted.  
 Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited.  
 18v12

**FULTON**  
**Foundry and Iron Works.**

**HINCKLEY & CO.,**  
 MANUFACTURERS OF  
**STEAM ENGINES,**  
**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's**  
**Improved Crusher, Mining Pumps,**  
**Amalgamators, and all kinds**  
**of Machinery.**  
 N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-4y

**NEPTUNE IRON WORKS,**  
 Corner of Mission and Fremont Streets,  
 SAN FRANCISCO.

**MARINE**  
**Locomotive,**  
 And all kinds of  
**HIGH PRESSURE**  
**Steam Boilers**  
 MADE  
 All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
 All kinds of Sheet Iron and Water Pine, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
**Old Boilers Repaired**  
**D. CAMERON.**  
 6v12-1y

**A TERRIBLE PEST.**—The journals report that swarms of poisonous flies have made their appearance in Transylvania, and that more than one hundred head of cattle have perished. The farmers are compelled to keep their beasts shut up, and large fires are burning night and day around the sheds to keep off this unwelcome visitation. During one day, when the rain fell copiously, they disappeared; but as soon as the weather became fine again, they returned. The men in charge of the fires have the greatest difficulty in preserving themselves from their venomous attacks, and find tobacco the best preservative.

**THE WISDOM OF PROVIDENCE** is often made strikingly manifest in the most trivial matters. As an instance, neither dog or wild animal can track the doe while her fawn is unable to take care of itself. Next to Providence is the father. As carefully should be protect the innocent and helpless of his family.

**TOWNE & BACON,**  
**Book and Job Printers,**  
 Have the Largest Office,  
 Do the most work,  
 And do it better  
 Than other offices  
 In this City,  
**536** Try them  
 With a Job,  
 And you will be  
 Satisfied the above  
 Statements are facts.  
 Their office is at 536  
 Clay St., below Montgom'y,  
 Over Pacific Fruit Market.

**BAURHYTE & McAFEE,**  
**Steam Boiler and Sheet Iron Works.**  
 Owned and conducted by Practical Boiler Makers.  
**High and Low-Pressure Boilers, Stationary and Marine.**  
 Howard street, bet. Fremont and Beale, San Francisco.

Having had twenty two years experience in this business, we feel confident of being able to compete—as to quality of work—with any establishment on the Pacific Coast.  
 7v16-4y

**I. H. SMALL,**  
**MACHINE SHOP,**  
 BUILDER OF  
**Steam Engines, Sawmills, Mining Machinery, and Wood Planers.**  
 Repairing of all kinds done with promptness and dispatch. Gears of all kinds cut at short notice, corner of Market and Beale st. San Francisco. 6v15-3m

**CALIFORNIA**  
**TOOL AND FILE FACTORY.**  
**Blacksmith and Machine Shop.**  
 No. 17 Fremont street, between Market and Mission, S. F.  
 4v16-4y J. WEICHHART, Proprietor.

**LINCOLN IRON WORKS,**  
 No. 51 Beale st., bet. Market and Mission.  
**D. & W. FOURNESS, Prop'rs.**

**STEAM ENGINES,**  
 Flour and Sawmills, and MACHINERY of all descriptions, made and repaired at shortest notice.  
 Particular attention paid to repairing Reynolds' Cut-off.  
 5v15qr

J. NEWSHAM. J. BIGWOOD.  
**SOUTH BEACH IRON WORKS,**  
 Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
 AND ALL KINDS OF  
**MACHINERY FORGING.**  
 All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done warranted.  
 18v14-17

**JOHN LOCHHEAD'S**  
**Steam Engine Works,**  
 Beale street, near Mission, San Francisco.

**STEAM ENGINES OF EVERY DESCRIPTION BUILT**  
 to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,**  
**PORTABLE ENGINES, OF ALL SIZES,**  
**DONKEY PUMPS, Etc., Etc., Etc.**  
 The attention of the parties engaged in shipping or inland navigation is called to the  
**Superior Workmanship**  
 of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
 Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular.  
 25v12-3m



**A STRANGE STORY.**—The DeKalb (Ill.) Journal of July 20th says: "On Saturday last, as Thomas Scott, one of the workmen at the Gardner coal mine, on the Chicago and Alton Railroad, was driving an entry in the coal vein, at a depth of nearly two hundred feet from the surface, he found imbedded in the coal, next to the face of the limestone rock overhead, a square block of stone eighteen inches in length, one foot wide and thirteen inches thick, partially hollow, and having the appearance of petrified wood. In the center was found two plates that appear to be solid gold. They are three inches in length, about two inches in width and three-eighths of an inch thick. On each are some curious inscriptions and hieroglyphics. The owner has been prevailed upon to permit them to be sent to New York, where it is to be hoped the inscriptions may be deciphered. The Gardner Coal Company have become responsible to the miner for the safe return of the plates or their full value.

**WE ARE NOW OFFERING OUR IMMENSE STOCK**

**Fine Custom Made Clothing**

**Gents' Furnishing Goods AT PRICES THAT DEFY COMPETITION.**

**Our Stock of Clothing Consists of ALL THE LATEST STYLES**

**BOTH OF MATERIAL AND FINISH.**

**A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc., AT EXTREMELY LOW PRICES.**

**J. R. MEAD & CO.,**  
Cor. of Washington and Sansome streets



**THE PACIFIC IRON WORKS,**

**First & Fremont Sts., between Mission & Howard, San Francisco.**

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

**Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.**

**GODDARD & COMPANY.**

**BLASTING POWDER.**

**PRICE, \$3.00 PER KEG.**

**PORTING, CANNON AND MUSKET POWDER,**

**Of superior quality. FUSE AND SHOT,**  
Always on hand and for sale at the office of the **CALIFORNIA POWDER WORKS,**

**No. 318 California Street. JOHN F. LOHSE, Secretary.**

**PACIFIC POWDER MILL COMPANY'S**

**BLASTING POWDER!**

**MANUFACTURED IN MARIN COUNTY, CALIFORNIA.**

**HAYWARD & COLEMAN, AGENTS,**

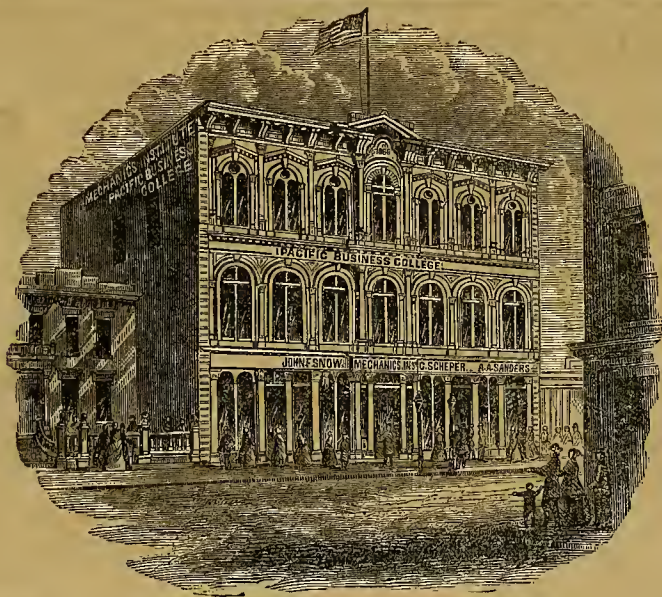
**414 Front Street, San Francisco.**

**California Steam Navigation COMPANY.**

Steamer CAPITAL.....CAPT. E. A. POOLE  
" CHRYSOPOLIS.....CAPT. A. FOSTER.  
" YOSEMITE.....  
" GORNELIA.....CAPT. W. BROMLEY  
" JULIA.....CAPT. E. CONCKLIN.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Office of the Company, northeast corner of Front and Jackson streets.

**JOHN BENSLEY, President.**



**Office Pacific Business College and Telegraphic Institute.**

**Mechanics' Institute Building, Post Street. [Exterior View.]**

**A. de LEO de LAGUNA. [7v15-8m] JAMES VINSONHALER.**

**MEUSSDORFFER,**  
Nos. 635 and 637 Commercial Street,  
WILL INTRODUCE  
**On Saturday, February 9, 1867.**

**An Entirely New Style of Cloth Cashmere Hat**  
"YACHT HENRIETTA,"  
Which are the most dressy Hat ever introduced on the Pacific Coast.  
Call and see them.

**REMOVAL. HINCKLEY & CO.,**

**Fulton Foundry and Iron Works,**  
Have removed their works to the  
**N. E. corner Fremont and Tehama streets.**

**A. S. CHURCH. S. B. CLARK.**  
**CHURCH & CLARK,**  
IMPORTERS AND DEALERS IN  
**Mediterranean and California FRUITS, NUTS, CONFECTIONERY, Etc.,**  
AND MANUFACTURERS OF  
**FIRE WORKS**  
Of every description, at No. 407 Front st., San Francisco.

**ITALIAN MANUFACTORY**

**MACCARONI, VERMICELLI, PASTE & FARINA.**  
**(706 SANSOME ST. 706)**  
**SAN FRANCISCO.**  
**BRIGNARDELLO, MACCHIAVELLO & CO.**

**Machinists and Foundries.**

**Miners' Foundry**

**MACHINE WORKS,**

**Nos. 245 to 255 FIRST STREET, San Francisco. HOWLAND, ANGELL & KING, PROPRIETORS,**

**Manufacturers of Machinery for QUARTZ MILLS, SAW MILLS, FLOUR MILLS, SUGAR MILLS, POWDER MILLS, PAPER MILLS,**

**Steam Engines of all Kinds. Amalgamators of all Kinds. MINING PUMPS, HOISTING WORKS, OIL WELL TOOLS, ROCK BREAKERS,**

**Machinery and Castings of all kinds, either of Iron or Brass. Boilers and Sheet Iron Work in all its Branches.**

**Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.**

**Russia Iron Screws, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable of any Engine in use.**

**W. H. HOWLAND, E. T. KING, H. B. ANGELL, CYRUS PALMER.**



**JAMES MACKEN, COPPERSMITH,**

**No. 226 Fremont st., bet. Howard & Polson**

**All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.**

**Repairing promptly and neatly attended to.**

**Dr. Hufeland's Swiss Stomach Bitters.**

**THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator. As a purifier of the blood, acting surely, yet gently, on the secretions of liver and kidneys, they are unsurpassed and a most agreeable drink.**



**For sale at all wholesale and retail stores on the Pacific Coast, and at the depot of TAYLOR & BENDEL, 413 and 415 Clay street, between Sansome and Battery, San Francisco.**

**Piles! Piles! Piles!**

**NOT PILES OF GOLD, NOR YET OF SILVER, SO much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of**

**WOOD'S SUB-POSITORY.**

**It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.**

**Sold wholesale and retail by J. H. REDINGTON & CO., Nos. 416 and 418 Front street; GEO. CRISWOLD, corner of Mission and First streets; OLD FAMILY DRUG STORE corner Mission and Second streets; UNITED STATES DRUG STORE, Bush street, between Montgomery and Kearny. C. WOOD, Proprietor, No. 63 Tehama street, between First and Second.**

**JOHN TAYLOR & CO.**

**IMPORTERS, AND DEALERS IN ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware**

**Photographic Stock, Etc 512 and 514 Washington Street, SAN FRANCISCO.**

**We are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior**

**ASSAY AND BULLION BALANCES, And from France and Germany, as well as the Eastern States, PURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1865.**



Business Cards.

H. C. HOWARD, Member of the San Francisco Stock and Exchange Board, (Exclusively commission business.) No. 436 California street, next door below Montgomery. 25v14qr

NATHANIEL GRAY. H. M. GRAY. N. GRAY & CO., UNDERTAKERS, 641 Sacramento St., cor. Webb, San Francisco. Sole Agents for Barstow's Metallic Burial Cases and Caskets. 1v15-3m

SAN FRANCISCO MILL.

HOBBS & GILMORE, Manufacturers of Boxes, Market street, between Beale and Main. For Sale.—Mahogany, Spanish Cedar, and other Fancy Woods. 4v15-3m

Schmiedell & Shotwell, Stock and Money Brokers, and dealers in Government Bonds, State, City and County Securities, Oas, Water and Insurance Stocks, etc., southwest corner of California and Sansome streets, opposite Bank of California. 1v15-6m

ISAAC E. DAVIS. HENRY COWELL. DAVIS & COWELL, DEALERS IN Santa Cruz Lime, Cement, PLASTER, HAIR, LATH AND LATH NAILS. Marble Dust, Fire-Bricks, Fire-Clay, Fire Tiles of all sizes. Cor. Front and Washington Streets, San Francisco. 25v14-4r

REMOVAL.

The well known establishment of LUCY & HYMES, MANUFACTURERS OF Genuine Pale and Chemical OLIVE SOAPS, Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged. The capacity of this establishment is now the largest on the Pacific Coast. It is now in full operation, and prepared to supply the demand of the trade. Office—319 California St., San Francisco. 1v15-4qr

We take occasion to inform our friends and customers that we have sold our entire stock in warehouse, also invoice to arrive, to Messrs. N. P. COLE & CO., 312 and 314 Pine street. The whole forms a most complete and desirable assortment of FURNITURE, and well merits attention before purchasing elsewhere. J. PEIRCE & CO.

FURNITURE. We beg leave to call the attention of the public to our warehouses, Nos. 312 and 314 Pine Street.

Having purchased the entire stock of Messrs. J. Peirce & Co., and in addition to our large invoice from our factory at the East, we are prepared to fill all orders promptly, both WHOLESALE AND RETAIL, and call the attention of the public to our salesroom, as containing the most complete assortment of desirable goods on this coast. 2v15-1qr N. P. COLE & CO.

BROWN & CO.,

HATTERS. Importers and Manufacturers of the LATEST STYLES, At No. 132 Kearny Street. CALL AND SEE THEM. 4v15-4qr

International Hotel,

JACKSON STREET, BETWEEN MONTGOMERY AND KEARNEY STS., SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1 50 to \$2 per day for Board and Room. FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FRES OF CHARGE, and to any part of the city for 50 cents 2v12 F. E. WEGANT, Proprietor.

Cyanide of Potassium

QUARTZ MILLS, Photographers, Electrotypers, Etc. Manufactured by the

PACIFIC CHEMICAL WORKS.

For sale by all Wholesale Druggists and Dealers in Photographer's Stock. 2v15-1alf

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL. BARTLING & KIMBALL, BOOKBINDERS, Paper Rulers and Blank Book Manufacturers. 505 Clay street, (southwest cor. Sansome), 15v12-3m SAN FRANCISCO.

JOHN DANIEL, (SUCCESSOR TO O. GONI) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Plasters' Slabs Etc., On hand and Manufactured to order. Goods shipped to all parts of the State. Orders re spectfully solicited. 5v8-3m

Palmer's Patent ARTIFICIAL LEG, Manufactured in Philadelphia, Penn. JARVIS JEWETT, AGENT, 218 Montgomery Street, San Francisco. 10v8-1m

HUCKS & LAMBERT, SOLE MANUFACTURERS OF THE CELEBRATED H. & L. AXLE GREASE, Natoma Street and North Beach, 2v13-3m SAN FRANCISCO.

HARRIS BROS., CUTLERS, LOCKSMITHS, BELHANGERS And Model Makers. 208 Leidesdorff street, bet. Sacramento and Commercial, SAN FRANCISCO. 2v14-4r

LEATHER HOSE AND BELTING, ALL SIZES. SUCTION HOSE MADE TO ORDER At short notice, by M. M. COOK & SON, No. 801 Battery street, SAN FRANCISCO. 13v13-3m

SAN FRANCISCO Cordage Manufactory!

CONSTANTLY ON HAND A LARGE ASSORTMENT OF MANILA CORDAGE, Whale Line, Bale Rope, etc., Manufactured from Pure Manila Hemp. Office, at TUBBS & CO'S, 611 and 613 Front street. Manufactory at the Potrero. 11v14-1qr

McNALLY & HAWKINS, Plumbers and Gas-Fitters, No. 645 Market Street, Adjoining R. C. Orphan Asylum, nearly opp. Montgomery street, San Francisco.

BUILDINGS FITTED UP WITH GAS, Water and Steam Pipes, and all work warranted. Have constantly on hand an assortment of Gas-Fixture, Lead and Iron Pipes, Marble Slabs, etc. 6v14qr

E. POWER, WOOD CARVER

Composition Ornament Manufacturer. Designing, Modeling and Patterns FOR CASTING.

INTERIOR DECORATIONS OF ALL DESCRIPTIONS, In Wood, Composition and Metal. Nos. 311 and 313 Market street, San Francisco. 25v14-4qr

J. M. STOCKMAN, Manufacturer of PATTERNS AND MODELS, (Over W. T. Garratt's Brass Foundry), S. E. Corner of Mission and Fremont sts., 6v14alf SAN FRANCISCO

J. H. WHITE & CO., Petrolene Oil Works. No. 100 Commercial street, San Francisco, Are now manufacturing LUBRICATING OILS & AXLE GREASE,

From Petroleum of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricators are equal to any in the market, and surpass all others for cleaning of gum caused by the use of animal oils which contain stearine and margarin, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 25v14alf

THEODORE KALLENBERG, Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc. No. 10 Stevenson street, near First, San Francisco. Repairing promptly attended to. 3v15alf

THE MINING AND SCIENTIFIC PRESS, San Francisco, has entered in gold to the artisan and the miner, and is always filled with original matter of deep interest to all classes.—Auditor Ledger, July 13th.

SUBSCRIBERS who do not receive the Mining and Scientific Press in due time, are requested to inform the publishers.

Professional Cards.

DEWEY & CO. PATENT AGENTS, ENGRAVERS AND PUBLISHERS, Mining & Scientific Press, SAN FRANCISCO.

SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco, Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 2v14

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of Models made for parties applying for patents at Washington or London. mar23-4t

JAMES M. TAYLOR, Attorney and Counsellor at Law, Court Block, 636 Clay Street, SAN FRANCISCO. 2v15-1qr

ISAAC LOBREE & CO., GOLDEN STATE POTTERY, ANTIQCH, CAL. Office in San Francisco, 516 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware. Is prepared to fulfill all orders at the shortest notice. 20v14-4r

J. N. ECKEL, M. D., Homoeopathic Physician 226 Post Street, San Francisco. 2v14-4r

DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets [OVER SAN FRANCISCO BATHS] SAN FRANCISCO. 20v10-4qr

J. W. WINTER, DENTIST, Office, 647 Clay street, San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gold teeth, on a delicate base, from \$20 to \$35. Teeth extracted without pain by local application. 18v14-4r

RADICAL CURE OF RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU Has his studies and manufactures in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 24v14-11ptf

MOSHEIMER'S PIONEER MINING SCHOOL Metallurgical Works.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches:

- 1. Assaying of ores, metals and other mineral substances.
2. Technology, or Chemistry, as applied to any special branch of manufacturing.
3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc.
4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed.
5. Concentration. Dressing of ores.
6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology.
Mining is considered by many a very hazardous undertaking; but I can assure anyone that our mines are as safe an investment as any other business when properly understood and managed; therefore, learn first. If you have a mine, then study the nature of the ore, and how to work it, and you will never fail to be successful.
It may not be superfluous to state that I am theoretically and practically acquainted with all the branches I offer to teach. Years of actual experience in the laboratory, smelting works, quartz mills, and other manufacturing concerns on my own account, have not only given me lessons, but more than ordinary ability.
I was the first one in California who successfully extracted silver by smelting, on a large scale, and have since been traveling through the manufacturing and mining towns of Europe, to study all improvements, and am now again the only one in San Francisco who undertakes to work any kind of ores by either roasting, smelting, lixiviation, or chlorination process.
I also undertake the erection of smelting and roasting furnaces, and furnish plans and estimates for any kind of works.
My lately invented Roasting Furnace has the following advantages: A furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$30. It requires half a cord of wood per ton of sulphurets. The total expenses of roasting are not over \$5. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine gas or quicksilver when amalgamated. A large size furnace in successful operation may be seen, by permission of Mr. Maltman, in his works in Nevada City. Several others are in progress of building.
Charges for assaying gold or silver ores.....\$3 00
Copper ores.....\$5 00
Practical Chemist, Metallurgist, etc.
Office, No. 328 Montgomery street, San Francisco, Cal. 6v15-3ms

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. D. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, AND CENTRAL CITY, COLORADO. 19v12-1y

EUROPEAN METALLURGICAL WORKS, Practical Mining School, Bryant Street, Between Third and Fourth, SAN FRANCISCO.

THE Proprietors are at all times prepared to work or test Ores sent to this establishment—either in large or small quantities—by such process as may be found best adapted to their chemical character, after a careful analysis has been made. Test lots of Ore adapted to the smelting process attended to. Sulphuret, pyrites, and the so-called "rebellious ores," are having especial attention paid to their successful treatment. Assaying in the humid and dry way. Also, refining by cupellation, done at moderate rates.

PRACTICAL MINING SCHOOL. The proprietors—encouraged by numerous applications from gentlemen desirous of pursuing the study of practical metallurgy—have concluded to admit parties on reasonable terms. Having in their Mill all the necessary appliances for crushing, roasting, amalgamating, smelting, refining and assaying, as also a well extended Laboratory for the analysis of Ores and minerals, a good opportunity is here offered to acquire a sound practical knowledge of the business. S. P. KIMBALL, J. R. MORPHY, 10v10

J. A. BAUER, Chemical Laboratory AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO. Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc.

Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Oology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Oold Chloride, Platin Chloride, Sodium Amalgam, Sulphate of Copper, etc. 12v14-6m

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivaled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the bitterness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry. The cause of their success is the great benefit they have been to the large number who have already used them. MR. LACOUR is a graduate of the Polytechnic Institute of France, and adds to a thorough knowledge of Chemistry many years of experience; and, after a long and careful experimental study, has been enabled to offer

LACOUR'S SARSAPARIPHERE BITTERS.

They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by catenous excretions, and other substances which gently stimulate the secretions of the liver, glands and organs, render digestion easy, obviate costiveness, and remove regularly every impurity of the blood. They are unrivaled as a remedy for Scrofula, Dyspepsia, Constipation, Liver Complaint, Nervous Affections, Colic, Intermittent Fevers, and all diseases arising from impurity of the Blood or Costiveness.

Who Takes Them?

- The Old Man Takes them as a gentle stimulant and mild rejuvenator.
The Young Man Takes them to regulate his system, prevent disease, and stimulate to new life his overworked body.
The Young Woman Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health; to give a sparkle to her eyes, and sweetness to her breath.
The Husband Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family.
The Wife Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness.
Children Take them as a gentle, yet effective tonic.
The Dasheday Takes them as a mild, pure stimulant, containing none of the deleterious, essential and useful oils of forbidden drinks.
The Inebriate Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does not madden or destroy.
The Traveler Takes them to prevent sea sickness, and secure his health against change of climate.
Everybody Takes Them! PRO BONO PUBLICO! 2v15-6m



A Word to Readers in the Atlantic States.

Much complaint has reached us, through various sources, at the general lack of knowledge at the East, with regard to mining and other operations on this coast, and the frequent impositions practiced upon the public there, in consequence, by irresponsible persons passing off upon unsuspecting victims worthless mining stock, or persuading them, by false representations, to organize companies and advance moneys upon worthless ground, or ground which oftentimes has neither value or locality. If our friends at the East, who are still anxious to engage in the laudable venture of mining enterprise, would do so intelligently, let them subscribe for and carefully consult the only journal on the Pacific coast where every mining enterprise that is worth naming is, from time to time, noticed, as its merits may warrant. A mining enterprise on the Pacific coast, which is not referred to in this journal, in some way or other, as often as once in three or four months, is certainly one which people in the Atlantic States should beware of. Our advice to people at the East is never to venture small amounts in mining. If you must start small, let a number of such club together, so as to make the aggregate amount to be invested, such as may be worth your while to inquire into. Jan. 1, 1867.

New Mining Advertisements.

Ancient River Channel Blue Gravel Company.—Location of Works: Nevada County, California. Notice.—All persons are cautioned against purchasing the following Certificates of Stock in the Ancient River Channel Blue Gravel Company, as the transfer has been stopped on the same: One Certificate, No. 82, for 125 shares; one Certificate, No. 5, for 10 shares; one Certificate, No. 27, for 15 shares. A. P. MORE, au31-4\*

Regular Dividend, No. 10, of the Golden Rule Mining Company, was this day declared, and is now payable at the office of the Company, Room No. 5, over Donohoe & Kelley's Banking House. J. B. RUSSELL, Sec'y. San Francisco, Aug. 27, 1867. au30-1w\*

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California. A Special Meeting of the Stockholders of the above Company, will be held at the office, Room No. 22 Court Block, on WEDNESDAY, September 11th, 1867, at 3 o'clock P. M. By order Trustees. D. F. VERDENAL, Secretary. au31-lt

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS County, with steam mill fitted up with American Machinery, etc., FOR SALE. The mine has three main veins, and more than \$30,000 have been spent in opening them and completing the mill. Good wagon roads all the way. Apply to BELLEFLORE FRISBEE, Banker, 633 Clay street, San Francisco. 23v13-6m

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of August, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, A. C. TAYLOR, No. 49 Pacific street, San Francisco, 1867. Any stock upon which said assessment shall remain unpaid on the fifth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Friday, the twelfth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. au10

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary. Any stock upon which said assessment shall remain unpaid on the thirteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BUFFINGTON, Secretary. Office, No. 5 Government street, Washington and Sansone streets, San Francisco, California. au17

Camarzo Gold and Silver Mining Company, Lander County, Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificates. No. Shares. Amount. Camp, James..... 72 5 \$100 00 Drinkhouse, J. A..... 6 3 60 00 Dinkelspiel, L..... 61 3 60 00 Fassett, N. C..... 132 1 20 00 Gray, Asaph..... 133 3 60 00 Harker, W. B. C..... 24 10 200 00 Harker, J. W..... 134 3 60 00 Jacobs, N. B..... 25 4 80 00 Raymond, C. B., Trustee..... 131 549 10,980 00 Camarzo Stock acct..... 3 60 00 Lander, P. C..... 69 3 120 00 And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, by Jones & Bendixen, Auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco.

De Soto Gold and Silver Mining Company.—Location of Works: Star District, Humboldt County, State of Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders as follows: Names. No. Certificate. No. Shares. Amount. Sallee, William..... 492 21 \$40 00 Harker, J..... 153 5 10 00 Williams, J..... 157 5 10 00 Redeman, J. C..... 161 on 40 00 Higler, E. A..... 162 3 5 00 Hennes, John..... 163 on 50 00 Harker, J..... 164 on 50 00 Harker, J..... 165 on 50 00 Harker, J..... 166 on 50 00 Harker, J..... 167 on 50 00 Harker, J..... 168 on 50 00 Harker, J..... 169 on 50 00 Harker, J..... 170 on 50 00 Harker, J..... 171 on 50 00 Harker, J..... 172 on 50 00 Harker, J..... 173 on 50 00 Harker, J..... 174 on 50 00 Harker, J..... 175 on 50 00 Harker, J..... 176 on 50 00 Harker, J..... 177 on 50 00 Harker, J..... 178 on 50 00 Harker, J..... 179 on 50 00 Harker, J..... 180 on 50 00 Harker, J..... 181 on 50 00 Harker, J..... 182 on 50 00 Harker, J..... 183 on 50 00 Harker, J..... 184 on 50 00 Harker, J..... 185 on 50 00 Harker, J..... 186 on 50 00 Harker, J..... 187 on 50 00 Harker, J..... 188 on 50 00 Harker, J..... 189 on 50 00 Harker, J..... 190 on 50 00 Harker, J..... 191 on 50 00 Harker, J..... 192 on 50 00 Harker, J..... 193 on 50 00 Harker, J..... 194 on 50 00 Harker, J..... 195 on 50 00 Harker, J..... 196 on 50 00 Harker, J..... 197 on 50 00 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Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 30 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them.

At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR.

For sale, the right to build and use in Mills. A working plan will be furnished to each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

W. M. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

E. O. HUNT,

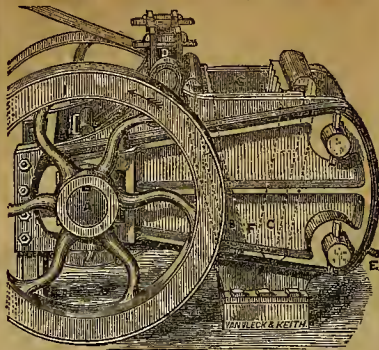
Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.

HUNT'S ADJUSTABLE WIND MILLS to have their sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING WIND MILLS are strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Favorable to Inventors.—Persons holding new inventions of important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability.

- No. 1.—Or 9-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour..... 850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bolted with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and the fixed jaw. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. O represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, O, gives the movable jaw, B, a forward and downward motion; at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

LEFFEL'S American Double Turbine WATER WHEEL.

THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than 100 times in use, at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc., etc.

THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than 100 times in use, at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc., etc.

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FIRST Paint Manufactory IN CALIFORNIA.

EPES & E. H. R. ELLERY Have the Patent Right for the Pacific Coast to manufacture, sell and use

Ellery's Patent India Rubber Cement & Paint. It is for all exposed surfaces; impervious to wet; will not rot, peel, blister or crack, in any climate. Asperity Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, was in such bad condition it was about to be taken off ten years since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT, making a good tight roof. A coat of India Cement and Paint every two years since keeps it in good condition. We can refer to many others. The Atlanta Lead Works use our Paint only.

NEW CLOTH ROOFS put on; copings and all seems combed and saturated, then coated with the India Rubber Cement and Paint—the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others, the roofs of all the horse and steam cars, decks of steamboats, etc., around New York—for eight dollars per one hundred square feet. NEW OR OLD TIN ROOFS cemented and painted with the India Rubber Cement and Paint guaranteed, at from one cent to two and a half cents per square foot according to size and condition of roof. Good men and the best materials used.

We have just cemented and painted oil tin roofs of Dr. H. D. Cogswell, Furbus & Co., D. J. Oliver, etc., and the wood work of Sherid Clark's building, 83-cent front on Franklin street, between Third and Fourth streets—only one coat. The work will speak for itself. Now painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—one coat. See the above and further references at our office.

ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT is composed of India rubber and oil of turpentine, dissolved in linseed oil, mixed with the various coloring matters, and ground in my color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—retaining sufficient elasticity to give and take with the heat and cold. Fifteen hundred fishing vessels at Cape Ann use the India Rubber Paint, finding it superior to all others.

EPES & E. H. R. ELLERY are now prepared to make good roofs and cement and paint new or old ones, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No equal in quality or cost for use. Office, No. 226 Jackson street, corner Battery, San Francisco, Cal. 6v15

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, Cerman, Plow, Blister and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools.

319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 10v14f

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use. Notice is hereby given that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. THOMAS PATTINSON. 7v15-4f

NEW YORK PRICES.

C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY.

A large assortment of these Superior Watches, In Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers.

The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewelry. 25v10-6m

NEW YORK PRICES. THE GREAT LIGHT. THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM FOR SALE only at 417 Washington street, opp. Post Office, S. F.

Assayer and Chemist.

A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given inquire at this office. 3v15v1

Just Published. THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE Nervous System and Reproductive Organs, to be had by addressing and inclosing twenty-five cents, postage stamps to Secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 12v13-1v

Notice to Miners, Well-Borers and Water Companies. M. PRAO IS NOW PREPARED TO MANUFACTURE M. Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the best improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAO, 8v13-1v Stove Store, No. 125 Clay street, below Davis.

Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

Disastrous Condition of Mining in Cornwall.

We have several times alluded to the present disastrous condition of mining in Cornwall, England. In a recent official inquiry, by a committee of Parliament, into the condition of the mines in that portion of Great Britain, Mr. Robert Hunt testified as follows:

I was formerly a professor of physics in the School of Mines, and am now Keeper of the Mining Records in the Jermyn street Museum. I am well acquainted with practical mining, and with Cornwall, having lived for many years in that county, and since 1839 been officially connected with it. For six years I was Secretary of the Royal Cornish Metallurgical Society, and for the remaining period Keeper of the Mining Records, which has constantly occasioned my intercourse with Cornwall. In March and April of this year I was six weeks in the county, and visited the mines of Cornwall and Devonshire, with the special view of obtaining accurate information, for official purposes, with respect to the condition of those mines. Nothing can be conceived in a more disastrous condition than Cornish and Devonshire mining at the present time.

It is worse than it has been at any other time since 1839. The mines actually at work in 1861 were 543; in 1864 the number rose to 616, but in the months that I was in the county in 1867 they fell to 320. The number of dividend paying mines in 1861 was 58; at the end of 1866 there were 26. The amount of the produce of the mines within the Stannaries in 1861 was 190,778 tons of copper ore, having a value of 1,004,915.

In 1866 there were produced 138,141 tons of ore, having a value of 582,546. The produce of the tin mines in 1861 was 10,963 tons of ore, having a value of 793,698. In 1866 there was produced 15,089 tons of ore, having a value of 754,000. In 1861 there were in Devonshire 2,364 miners above 20 years of age, and in Cornwall 19,159, making a total of 21,523 miners of and above the age of 20. Within the last 18 months 7,350 miners have left Cornwall and Devonshire, and 11,321 have been thrown out of employment, leaving 3,941 at present remaining in the district thrown out of employment; and this number will be increased by about 500, who have been thrown out of employment by the stoppage, a fortnight ago, of the St. Day United Mines. These 7,370 men who have left the country have left about 20,000 behind them who were dependent upon them, and there are about 50,000 dependent upon those who are left, making altogether about 70,000 dependent upon the industry of the miners above 20 years of age. In making this computation, I have left the lead mines of Cornwall out of the calculation; what I have said applies only to the copper and tin mines in the Stannaries. Of the 26 dividend paying mines within the Stannaries, some are making far larger returns than others; some are actually paying dividends out of reserve capital. Under the circumstances just mentioned, seeing that so large a number of mines in Cornwall are being worked at present at a loss, the adventurers generally would, I believe, be too glad to have the excuse of an additional burden in the shape of rates to get rid of the cost which they are now incurring, and a large number of mines would be closed. I have read the Bill now before the Committee, and understood it that the occupiers would be rated, and it is my impression that the effect of the passing of the Bill as it is now before us would be what I have just described.—[Witness then read several letters from several districts supporting his statements.]

It was testified by Mr. Leeman that a large number of the best miners had gone to California and Lake Superior. About 1,500 have gone to Australia and New Zealand.

Mr. Kendall testified that the men who had thus gone were the best—young, active, self-reliant men, who have made a little money, and who are able to move.

Mr. Kendall further testified as follows: Chili now produces more than one-half the copper of the world, and the consequence of a war with Chili or America would be that our Chilean copper would come to England. If there were war with America, it would not only play the mischief with our smelting trade in copper, but with our manufacturing trade in copper, which is now enormous. Besides, the effect upon the mines would be too late; the mines would be shut up. Many of them are 200 or 300 fathoms deep, and would all be full of water.



**TROPICAL FRUITS IN CALIFORNIA.**—An enthusiastic agriculturist in the southern part of the State, who has spent many years in Africa, latitude 4° north, writes to the *Atlas* that he is confident that the lower counties of California will produce bananas, pine-apples, plantains and rice, and he hopes to see coffee reckoned among the products of "this glorious country." He has sent to Liberia for palm nuts, cocoa, coffee, mango, plums and other vegetable productions of that region, believing that some of them can be made to grow and bear well here. At any rate, the experiment is worth trying, and everybody who wishes well of the State will be glad to hear of the success of this and similar experiments that are now being tried. Banana bulbs have been planted in this vicinity within a few weeks, are doing well and exhibiting healthy signs of life and vigor; one planted two or three weeks since, has grown leaves over eight inches long.

**SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL.**

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867.

TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Batts, etc. per session of ten months, \$35.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

REV. A. MASNATA, S. J., President.

**The Commercial Herald**

**MARKET REVIEW**

Will be issued early on EVERY STEAMER-DAY MORNING. (TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

The Letter Sheet Market Review, containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, published in each office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

**Golden City Chemical Works.**

LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets.

CAPITAL STOCK, --- \$500,000

Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNING, THOS. BELL, CHAS. E. McLANE.

H. P. WAKELEE, MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muriatic Acids of superior quality, in quantities to suit.

Orders will be received at the office on y for Chemicals of every description, which will be manufactured as they may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed.

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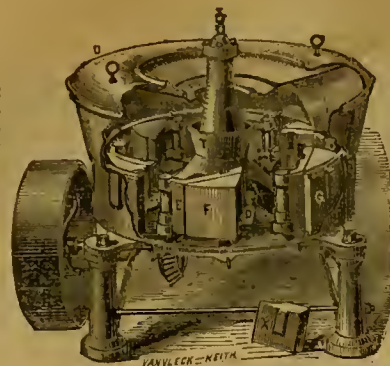
**SPIRITS OF TURPENTINE & ALCOHOL**

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.

A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial. **Lamps and Lamp Stock!** An elegant and complete assortment on hand. 19v13-3m 414 Front street, San Francisco.

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

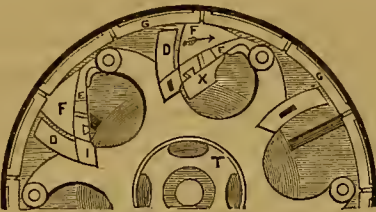
Patent dated April 10th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

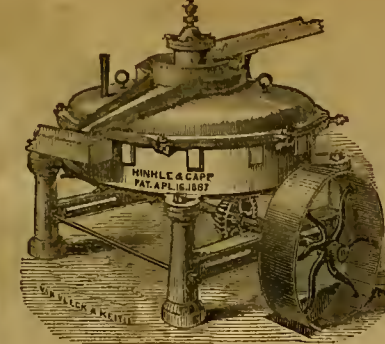
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER and AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular millers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old millers and plates is as thorough and perfect as with new ones. The pulp enters readily between the millers and side dies, the pressure being light in front and heaviest at the heel of the miller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, pick points or iron, accidentally introduced with the crushed ore, as these can readily pass each miller separately, without interfering with or affecting the other millers, each of which is independent, or can rest upon the bottom below the millers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each miller can be lifted out separately by hand, and there is no necessity for lifting the revolving cone or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the millers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The millers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 5 screens. A "sluicer," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, muller-hammer, F, muller plate or shoe, G, side dies, L, supporting lip, O, bearing surface, T, feeder, X, weight to counter-balance wear of muller plates, or shoes, U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

dies are easily removed at any time, or when worn out, and an extra set of millers is furnished with each pan sold. It is also adapted for grinding cement, sulphurates, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or miller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six millers, is about 2700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of millers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$200 gold coin.

For further particulars, apply by letter to PULP HINKLE and CHARLES S. CAPP, No. 513 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. KIMBALL, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Miners' Foundry, First street, near Folsom, where they are manufactured.

Send for Circulars. PHILIP HINKLE, and CHARLES S. CAPP, Patentees, 513 Clay street, San Francisco. 25v14-1f

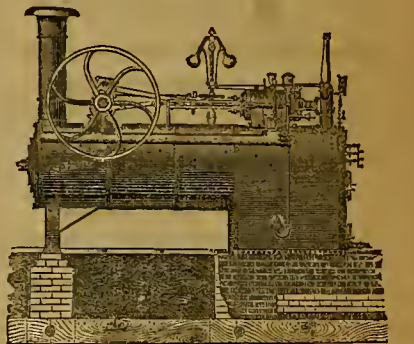
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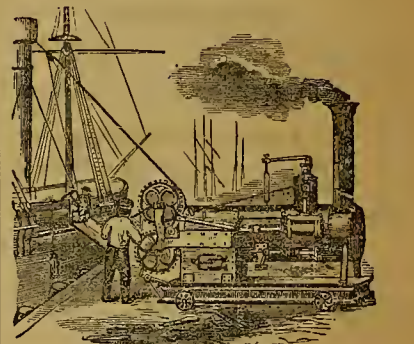
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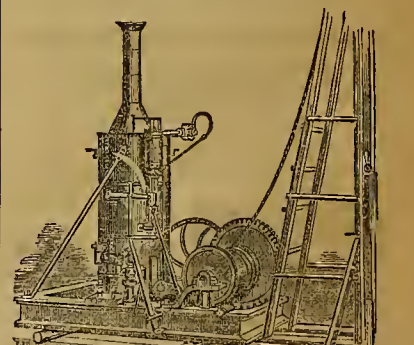
HOADLEY'S.

3 to 40-Horse Power.



HITTINGER'S.

THREE SIZES, 5, 7, and 10-Horse Power



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TWO SIZES, 5 and 7-Horse Power,

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**GOVERNMENT HOUSE,**

Corner of Sansome and Washington sts. SAN FRANCISCO, CAL. THE STREET CARS PASS THIS HOUSE IN every direction every ten minutes. The rooms of the House are well furnished, large and airy, and are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half day or are required to pay at hotels. SANBORN & CO 19v13-6m

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All sizes on hand from 3 to 30 horse power, with and without carriages. Also, Portable Saw and Grist Mills. For sale by TREADWELL & CO., 9v14-6m15p Corner of Front and Market streets.



**THE POORMAN LODE.**—A geologist, who has closely examined the Poorman lode in Idaho, and which has been found to be so fabulously rich, thus gives his opinion of its origin;

Its soft veinstone has been extensively acted upon by the steam vapors and effluvia of hot water. Probably it might have been the vent of some ancient water volcano. The boiled, rotten and sodden character of its wall rock looks like this. If this crevice had been for ages a boiling salt salfatora or mud volcano, whose walls are often slipping and grinding upon each other, and whose rocks were softening, and the rich sulphurets and ruby ores were slowly changing to chlorides, till at last it became quiet and full, we have, in my opinion, a fair theory for this celebrated vein.

**RAIN IN SISKIYOU.**—The Yreka Union chronicles the occurrence of a very heavy rain storm which fell in the vicinity of the Deadwood Mountains, in that county on the 9th inst. The district embraced by the rain was about fifteen miles in length and four or five in breadth. The rain was accompanied by heavy thunder and vivid flashes of lightning. Outside of this belt nothing more than a few drops fell.

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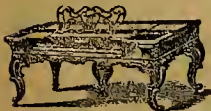
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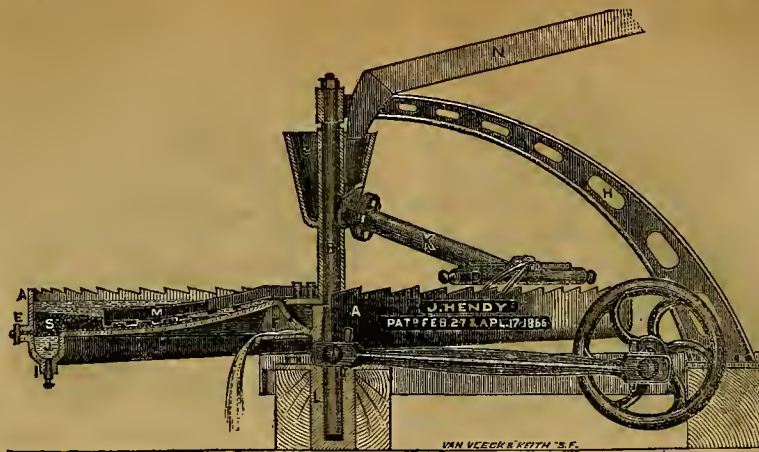
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**A Good Bargain**

May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 35 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets.

Inquire at the office of the Foundry, or address  
**WILLIAM R. WILLIAMS,**  
Sacramento, Cal.

**HENDY'S LATEST IMPROVED CONCENTRATORS,**



**FOR GOLD AND SILVER ORES,**

With Revolving Stirrers and Rotary Distributor.

Can be seen in Operation at the Union Foundry, First St., San Francisco.

**Directions for Operating Hendy's Concentrators:**

- The sulphurets are drawn off while the Concentrator is in motion, in the following manner:
- FIRST—Set the Pan, A, level, by its inner rim.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in future, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length. The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

**References:**

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

- FOREST SPRINGS MILL.....Grass Valley, Nevada County.
  - EMPIRE MILL.....Grass Valley, Nevada County.
  - ONEIDA MILL.....Jackson, Amador County.
  - INDEPENDENCE MILL.....Brownsville, El Dorado County.
  - HUMBOLDT CANAL CO.....Humboldt County, Nevada.
  - EL TASTE CO.....Sonora, Mexico.
  - BENTON MILL.....Bear Valley, Mariposa County.
  - LOUISIANA MILL.....Coulterville, Mariposa County.
  - PEOPLE'S MILL.....Alleghany, Sierra County.
  - TYRON & CO'S MILL.....Prescott, Arizona.
  - WOOLSEY & CO'S MILL.....Prescott, Arizona.
  - NOYES & CO'S MILL.....Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.
- RECENTLY ORDERED FROM THE UNION IRON WORKS:
- VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators).....Nevada County.
  - GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
  - VULTURE CO. (4 Concentrators).....Prescott, Arizona.
  - MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
  - PLYMOUTH ROCK MILL CO. (2 Concentrators).....Mariposa County.
  - B. F. BROWN (1 Concentrator).....Melbourne, Australia.
  - MOREY & SPERRY (1 Concentrator).....New York.

And in use in many other parts of this coast.

These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus:

"J. HENDY, Patented February 27th and April 17th, 1866."

Orders or letters of enquiry, address,

**JOSHUA HENDY, Patentee,**  
Union or Fulton Foundry, San Francisco.

March, 1867.

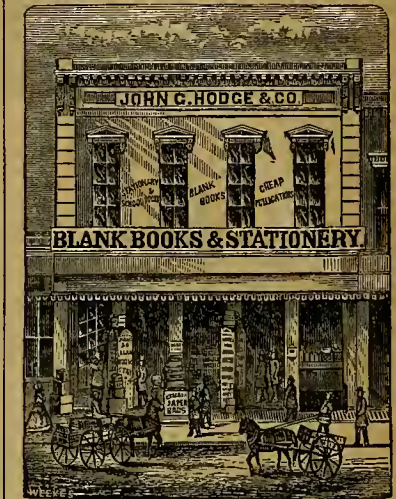
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And housewife's true friend, saves one-half the labor, one-half the time, and one-half the expense.

For WASHING CLOTHES, CLEANING HOUSES, REMOVING PAINT, GREASE, etc. It is unequalled.

It makes hard water as soft as rain water. For sale at \$1.50 per can of five gallons, at the manufactory, 223 Jackson street, near Battery. Please send your orders, by mail or express, to **LYNCH & PARSONS,** 25v14-2am6t San Francisco, Cal.

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. n010



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SAN FRANCISCO, SATURDAY, SEPTEMBER 7, 1867.

VOLUME XV.  
Number 10.

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## California Gang Plows.

We herewith present our readers with an illustration and description of what is known as "Baxter's California Gang Plows," manufactured by Webster Brothers, of Stockton. This is a California invention, which has been tested by some of the most thorough farmers in the State, who unite in giving it their unqualified approval. These gangs are made to operate with any number of plows, from two to six, and with or without seed-sowers and harrows, as may be desired, or as the strength of the team and nature of the soil may seem to require. They are also constructed with two styles of

before an opportunity presents for putting in the seed.

One important peculiarity connected with this plow, is that the mold and point are combined in one reversible combination—each mold being provided with two edges, either of which can be used at will. The proprietors have a complete assortment of standards, molds, lands, points, wheels, and other extras for these plows, which will be furnished as may be desired or required. The materials used in the manufacture of these plows are all of the best quality. The wood is Eastern ash; the steel is of the best quality, hardened, tempered and warranted. Both, the plows and seed-sowers, are thor-

productive of results scarcely less in importance to those of the reapers on this side of the Atlantic. The nature and topography of our California lands are much more favorable for such a mode of culture than are the lands of England; and the higher price of labor here must add still further to the value and economy of the substitution of steam therefor. We trust that the Webster Brothers may not be disappointed in the confident anticipations which they entertain with regard to this important and expensive experiment, which they have undertaken. Should success attend this first attempt to introduce steam plowing in California, these gentlemen will be entitled to the highest meed of praise, and will be looked upon as public benefactors.

## Interior Salt Deposits.

The interior salt deposits of the earth, formed chiefly from the early silurian oceans, are supposed to be much more extensive than any similar and more modern deposits now resting upon the earth's surface. As an evidence of the vastness of these ancient deposits, we may instance, among other localities, that near the village of Salina, in the State of New York. The yield of salt from these springs is now about ten millions of bushels annually. The total yield since they were first worked is set down at over 200,000,000 bushels, exceeding in weight 5,000,000 of tons. Nearly one-half of this amount has been extracted within the last ten years, and the annual yield is constantly increasing. The brines which constitute these springs issue from the rocks of the upper silurian age, and contain from sixteen to seventeen per cent. of solid saline matter.

The waters of these and similarly situated springs are supposed to represent pretty closely the constitution of the ancient oceans, and afford the best clue attainable to the chemical changes which those great bodies of water have undergone since the appearance of continental bodies of land. One of the most noticeable facts connected with the waters at Salina is the large amount of carbonic acid gas which they contain. When they first issue, they are clear and colorless; after a short exposure to the air, they become turbid, deposit a small amount of iron, and soon become permanently clear. The important changes, however, which the silurian rocks have undergone by disintegration and exposure, and the effects of percolation through superior and diverse deposits have very materially lessened the chances of arriving at any very correct conclusions, even from this source, with regard to the original composition of the early oceanic deposits.

THE STATE FAIR opens at Sacramento on Monday evening next. We have already alluded at length, to the extraordinary exertions which have been made to render this exhibition one which shall be worthy of the industrial interests of a great and growing State. We understand everything is in a most forward state of preparation at the Fair building. The California Steam Navigation Company have reduced the price of excursion tickets to the Fair and back to \$6 for the round trip. This arrangement is one which our citizens will no doubt fully appreciate, and will be the means of largely increasing the attendance and consequent usefulness of this forthcoming exhibition of California industry.

molds, adapted to either sandy or adobe lands.

Fig. 1 represents a gang of three plows, with a seed-sower attached to the front of the same, and operated by a crank worked by the front wheel of the gang. Under the seed-sowers are placed springs, which can be readily bent so as to scatter the seed in any desired direction.

Fig. 2 represents a gang of six plows, also with seed-sower attached. One or more of the plows can be taken off, at pleasure, to reduce the draught and width of the furrow, as may be desired. When desirable, an L-shaped harrow, of proper width, can also be attached. One man, with four or six horses, according to the nature of the ground, can work this rig, and when the day's work is over, the land is plowed, sown and harrowed; so that there will be no necessity, as often occurs, when heavy and continuous rains set in, that after the ground has been plowed, a long time must elapse

oughly finished, and furnished in complete running order. The plows are constructed with the greatest lightness compatible with the necessary strength, and are free from braces, or any other obstruction which may collect weeds, or otherwise interfere with the proper working of the gang.

### THE USE OF STEAM POWER.

The proprietors of these plows, being fully persuaded that their construction will admit of the application of steam power to their operation, have, during the past week, purchased a steam engine, with the other necessary appliances, and will immediately institute a series of experiments to test the economy and practicability of the substitution of steam for horses. The result of this experiment will be announced, for the benefit of the public, as soon as it shall have been thoroughly and practically tried. The application of steam to plowing has been made a most complete success in England, and the steam plow there has been

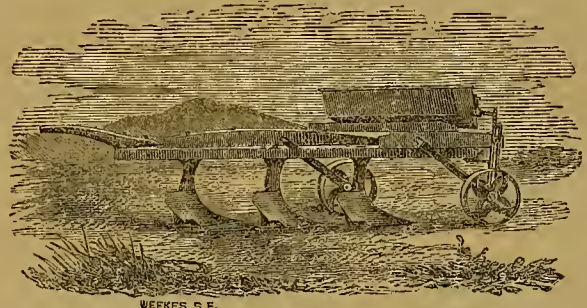


Fig. 1-GANG OF THREE PLOWS WITH SEED-SOWER.

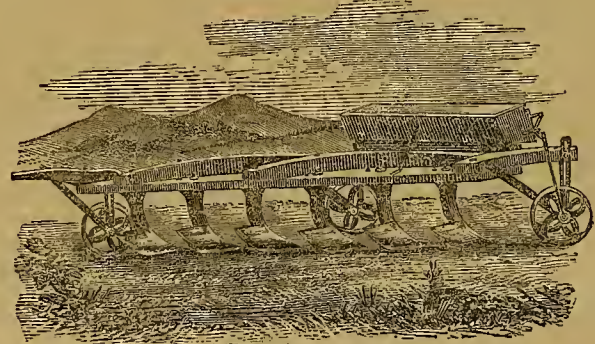


Fig. 2-GANG OF SIX PLOWS.

The steam plow has a grand mission to perform in this State. With the high price of labor ruling here, it will be utterly impossible for our farmers to compete with the cheap labor of Europe and the States of the Mississippi, and place our cereals in those distant markets, unless we can make invention and capital take the place of labor, to a greater or at least as great an extent as there. We must make invention save labor, and so employ our capital as to relieve us, to the greatest possible extent, from any unnecessary excess of that high-priced commodity. The steam plow must be made to join with our cultivators, our reapers, our mowers and our threshers, to increase the dynamic force applicable to agriculture, and liberate, to the greatest possible extent, our high-priced labor for application to those purposes, where intelligence and skill are absolutely necessary.

We shall look with much interest for the result of the experiment undertaken by Webster Brothers, and hope to have more to say upon the subject hereafter. In the meantime, we would advise our planting friends to visit these gentlemen at their warehouse, in Stockton, and examine for themselves this useful and promising contribution of California invention, to the wants of our agricultural industry.

FOR CHINA AND JAPAN.—The magnificent steamship Great Republic, the first of the line especially built for this service, left this port on Tuesday last. She took out a goodly number of cabin passengers, nearly 700 Chinamen in the steerage, and a fair freight of merchandise. A large concourse of people were assembled on the wharf to witness her departure, and cheer after cheer went up as the splendid ship swung round into the stream. The Great Republic is a noble specimen of the great art of steamship construction, and a worthy representative of the important mission in which she is engaged of opening up a new and rapid communication with the Orient and Occident.

THE great tabernacle of the Saints at Salt Lake City is now finished. It is 250 feet wide, and furnishes comfortable sitting room for 10,000 people.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

(Continued from Page 114.)

## RAW MATERIALS OF THE EXPOSITION—WOODS AND PRODUCTS OF THE FOREST.

The forest products and industries of nearly every country, are represented in the Exposition, by sections of trees, planks, boards, moldings, etc., and by collections of the tools used for cutting, hewing and sawing.

Of all these collections, that made by France through the "Administrator of the Forests," is the most complete, methodical and interesting. It occupies a space about 60 feet in length, in the second gallery, devoted to group V, and it is very tastefully displayed. Sections of all the principal kinds of trees in the Empire are ranged along the wall with the interspaces filled with green moss. Each section of a tree is about six inches thick, and includes the bark, so that the whole structure and outer form and appearance of the trunk is clearly shown. Above these, on a table which extends around the room, are arranged smaller sections and portions of dressed and worked timber, with herbaria photographs and drawings of forest trees. The tools used are grouped above, on the wall around center pieces, formed of boar's heads. In the center of the room, a broad table sustains various models of forests, and of sawmills, and of apparatus used in felling and transporting timber. We then find also models of the buildings erected for the keeper's lodges, and of cottages for the laborers. Some of the plans in relief, exhibit the important operations of the administration of forests, such as the replanting of the Alps. We find upon the wall a large forest chart of France, which shows in the most striking manner the distribution of the wooded parts of the country, and the relation which exists between them and the geological constitution of the soil. The whole collection is completed by a series of specimens of the various destructive forest insects, with selections of timber ravaged by the fructifications of exotic conifers, which are regarded as naturalized. There is also a series of publications on practical or scientific questions, relating to silviculture, and a fine collection of photographs of cones and foliage of the various pines and firs.

The woodlands of the Empire of France amount to 8,900,000 hectares (a hectare is equal to 2 acres 1 rood 35 perches, divided as follows: 1st, 1,100,000 hectares belonging to the State, of which 49 per cent. is in timber (539,000 hectares); and 51 per cent. in coppice, with or without timber; 2d, 2,000,000 hectares belonging to communes or public establishments, of which 36 per cent. is covered with timber, and 64 per cent. with coppice; 3d, 5,800,000 hectares of private woodlands, 17 per cent. of which is timbered and the remainder in coppice, with or without timber.

The annual products of these forests are in the following proportions, 3 for the State lands, 2.75 for those of the communes, and 2 for those of private owners; giving a gross total of about 20,000,000 cubic meters of timber, divided as follows: Timber and working woods, 2,000,000, and fuel, 18,000,000 cubic meters. These resources are now increasing, in consequence of the numerous improvements in its management of forests, and of the increased facilities for transporting from a distance. The above, and some of the succeeding figures are extracted from an admirable report by De Gaufray, a member of the admission committee of class 41. Notwithstanding, however, all the improvements which have been made and the extensive replanting of the Alps, the Pyrenees, and other districts, the production is still far from sufficient to supply the demands of consumption, and the deficiency is supplied by importations from Norway, Russia, Germany and Italy. The importation of common woods of all kinds, which in 1855 did not amount in value to 70,000,000 of francs, was 154,000,000 in 1865.

One of the largest tree sections—perhaps the largest—is that of a white oak from Auvergne, which is six metres in circumference, a little over six feet in diameter, and 237 years old. The mountains of the Vosges afford sections of firs nearly five feet in diameter, and near them are sections of the pine which has been so successfully planted along the sandy harrens of the sea coast. These trees grow with great rapidity, and annually add one centimeter to their thickness, so that in 100 years they will attain a diameter of about three feet.

## THE FOREST EXHIBITION OF BRAZIL.

Next to the exhibition of the woods of France, that made by Brazil is perhaps the most attractive by its peculiar arrangement. A room 25 feet square, lighted from above, is devoted to these woods alone. The walls and ceiling are painted in imitation of the natural forest. You see around you the plants and trees of the Amazon, with their gorgeous foliage. The spaces between the branches and leaves overhead, are cut out so as to give a subdued light, like that in the deep recesses of the forest.

In the center of this room the specimens of wood are displayed in a grand pyramidal pile. Each tree is shown by a portion of its trunk, of full size and about two feet long. The ends of each are cut in three different directions, so as to show a cross section, an oblique section, and one parallel with the grain. One half of the cut surfaces is polished and varnished. The bark is left on, so that the whole outward appearance of the trunk is preserved. A label is attached to each specimen, giving the common name and the botanical name, according to Endlicher.

## THE FOREST PRODUCTS OF CANADA.

Canada makes a very respectable show of its resources in lumber of various kinds. There are sections of the principal trees, with their bark, in great number. They are usually about two feet long, and are superimposed one upon another, so as to make a base for several columns of square logs, of different economical woods, set up about eight feet apart. These support above a square timber of yellow pine, fifty feet long and ten feet square. The niches formed by this disposition of the timber are filled with smaller specimens, and panels of dressed and polished planks of pine, white wood, walnut and birch. The Abbé Brunet of Quebec, Canada, sends a fine collection of Canadian woods, with herbaria and a series of photographs of trees and of plantations. He makes the whole more complete and instructive by a printed catalogue of 64 pages which contains a large amount of valuable information upon the trees of Canada. The collection, for its uniformity, neatness and pleasing appearance, is one of the most attractive in the Exhibition, and it received the great gold medal.

The woods are shown not only in sections, but in polished planks about two feet long and eighteen inches wide. The most noticeable are the blistered black walnuts and the birdseye maple, the blistered ash and the oak. The following are given as the prices of some of these woods: White pine per cubic foot 12 cents; blistered maple per cubic foot 0.20; blistered ash per cubic foot 0.15; blistered oak per cubic foot 0.30; white cedar per cubic foot 0.15. Most of these trees attain a height of 150 to 160 feet, and vary from four to six feet in diameter.

## OTHER FOREST EXHIBITIONS.

The other colonies of Great Britain, especially the Indies, are well represented by large collections of the woods peculiar to each. In the Australian section, we find an extensive series of logs and polished planks of the Eucalyptus Araucaria, the acacia and others. These woods generally are very hard and dense, and as they might all become naturalized in California, they are practically interesting. The body of information which I have obtained in regard to these woods is so great that I do not attempt to condense it for this letter.

Norway sends a large assortment of worked lumber, such as planks, joists, flooring boards and moldings. There are in this country 3,300 sawmills, which employ 8,000 workmen. In 1865 the exports of lumber amounted to 860,000 tons or 26,800,000 steres\*, valued approximately at 45,600,000 francs. A little more than half of this was saved timber, and this portion was sent chiefly to England and France; the rough lumber is exported to England and Holland. The tongued and grooved stuff 6½ inches by 9-8 thick, is worth one franc and a half per square meter.

Russia exhibits a fine collection of planks and moldings, remarkable for their straight grain and freedom from blemishes. Moldings four inches wide and three-quarters of an inch thick, are sold for one and a half kopeks the English foot.

Among other interesting exhibits of the various forest trees is one made in the

form of hooks all of one size. The bark is solid and shows the bark of the tree. The covers are attached by binges of leather, and open in half, so as to give two shallow boxes, in which are arranged the foliage, the fruit and the flower of the tree, together with the characteristic mosses and lichens of the trunk, and a specimen of the coal.

The name of the plant is printed upon morocco titles, which are attached in recesses cut in the bark of the back. This is one of the most pleasing methods of preparing and preserving a collection of native woods, and this notice may induce some of our amateurs to undertake the preparation of a similar collection for California, at some future exhibition.

The Grand Duchy of Finland sends a very interesting collection of woods, with a descriptive catalogue, from which much valuable information may be obtained.

## THE UNITED STATES POORLY REPRESENTED.

In the midst of all these extensive and careful representations of the forest resources of the various countries, the citizen of the United States is mortified at the meagerness of our exhibition in the same line. All that we have to show of our vast forests, full of the choicest timber, may be laid upon a table ten feet long, and three wide. There are two bundles of very good shingles from the far west, a few irregular bits of American wood, and the laurel panels and door from Boyd of California. These last are very beautiful, but do not appear to have attracted the attention they deserve. I certainly have not seen a polished door in the Exhibition equal to ours, either in accuracy of carpentry or for beauty of grain.

It is very unfortunate that a section of our great trees could not have been sent here as proposed. I have seen parties of visitors stop to admire the dimensions of some of the four and six foot sections. What would they have said before one five times the size! The specimens of planks of our commercial wood promised for the Exhibition, never came to hand, and I presume were not prepared in time.

Some facts about cork, tanning barks, resins and other forest products, must be reserved for my next letter.

\*A stere consists of 353,174 feet.

[From our Traveling Correspondent.]

## Mining in Placer County.

## A RICH MINE NEAR AUBURN.

Quartz appears to be the rage at present in the vicinity of Auburn. The most exciting development is that of the "Pete Walters." This ledge was located some two years ago, but no free metal was discovered until the Fourth of July last, when, at the depth of twenty-eight feet, it was found to be exceedingly rich in free gold. Mr. Walters has since sunk two more shafts, making three in all—the first, 28; the second, 35; and the third and last, 48 feet in depth. The ore gradually becomes richer, until at the bottom of the richest shaft it is apparently one-third gold! A drift is being run to connect the three shafts—the whole covering a line of about 150 feet on the ledge. Mr. W. has taken out about \$30,000, up to August 1st. One day's work yielded him as high as 450 ounces. His laboring force consists of only four men, while his mechanical and machine power is still less, viz: a 1-stamp battery, or, in other words, a hand mortar. Said ledge is about eighteen inches in width, and bids fair to continue rich. Col. Holdredge, backed by prominent Eastern capitalists, is prospecting a number of ledges, said to promise well. The Colonel is sanguine of success, feeling confident that Auburn and vicinity abounds in good pay ore.

## BATH—THE DEWEY CLAIM.

This place is comparatively lively, owing to the continued and constantly increasing success of the Dewey claim (Paragon Mill Co.) owned by Messrs. Rae, Wheeler, Freeman & Breece. This mine consists of a deep strata of cement, one hundred feet above the bed rock, and running into the Forest Hill divide nearly at right angles with Volcano Cañon. Their main tunnel now extends, in a direct line, a distance of 2,400 feet, with a sufficient "breast" to employ their 20-stamp mill a period of five years. They employ a force of fifty hands, taking out sufficient pay dirt in ten hours to supply the mill twenty-four. The average yield is about five dollars per ton,

crushing at the rate of 100 tons in 24 hours, and cleaning up upwards of 150 ozs. per week. The gold nets them a trifle over \$18 per oz., clear of expressage and Federal tax. The dirt is growing richer as they progress; as evidence of this, their last clean up (August 1st) amounted to 186 ozs. The proprietors are all workers, and every way worthy of the rich harvest they are now reaping.

## LAST CHANCE.

Drift mining is being pushed with considerable vigor in this place. The Little Hope Co. are in about 1,000 feet in solid bed rock, expecting to strike the lead every day. Messrs. Young & Co., of Morning Star mine, are doing well, realizing \$12 to the man.

## DAMASCUS—THE MOUNTAIN GATE CLAIM.

This is a lively little place, made so by kindness of disposition and temperate habits of its citizens; financially, by their inexhaustible and even-paying mine, styled the Mountain Gate claim. This mine is owned by 21 shareholders, all workers, each realizing liberally in proportion to his labor. The claim is opened by a tunnel nearly a mile long in a direct line, and is paying uniformly—never realizing anything less than good round wages—\$6 and upwards to the man. Messrs. Powers, Hughes, Devley, and Cameron, are among the principal owners. The Damascus Mill Co. (Messrs. Rae & Fagan, proprietors, and Robert Lewis, superintendent) have an excellent 10-stamp mill, and fair prospects for good paying cement as soon as their mine is properly opened up. They are confident of striking it rich.

## IOWA HILL.

The Morning Star Mill Company (Dodds, Mitchell & Co.) are crushing some extraordinarily rich cement, demonstrating that they have a lead unsurpassed in Placer county. Also the Jamison-Weisler hydraulic claim, having, unlike their neighbor, plenty of water, are taking out "big money." Evidences are that the future promises well for this locality.

## GOLD RUN

Presents a lively appearance. About one-third of the claims (hydraulic) are now being worked, all paying well; yet, it is believed, they do not save near all the gold, which, by the way, is very fine and mixed with such immense mountains of wash gravel as to entirely preclude the application of any improved machinery in washing. The mines here are "piped" off to the depth of from one to two hundred feet, when the gravel and pipe clay becomes so hard as to prevent further working at present rates of water and labor. Far beneath, say from 100 to 150 feet, is supposed to exist a "blue lead," extending from Indiana Hill through Gold Run to a point a little below Dutch Flat, at which two termini it has been found, and now being crushed.

Indiana Hill Mill Co. (Messrs. Stone & Co., proprietors) are working the lower end of this lead successfully. Their mill is small and they have but few hands employed, intending to enlarge as soon as their mine is sufficiently opened up. Portions of the pay strata is very rich, the writer having witnessed the washing of one pan of dirt, which yielded about \$40. Messrs. Kinder, Carr, Taylor & Co., talk of uniting their efforts and means, procure machinery and sink a shaft at some intermediate point yet to be designated, for the purpose of prospecting the channel underneath their hydraulic claims, for cement. The project is a good one, and commendably spoken of by the citizens generally.

## DUTCH FLAT.

At this season of the year, is considered rather dull—want of water being the cause. There are many rich claims yet to be worked. Messrs. King Bros., it is said, are doing a handsome business, crushing cement—don't want to sell—presumption is, they have "struck it." Messrs. Strong, Frink and others, have organized a company, styled the "Dozier Metallurgic Co.," formed for the purpose of making an immediate test, and upon a large scale, of Dr. Dozier's invention, a chemical and mechanical process for reducing refractory ores—something entirely new—and if successful in working large as well as it does small quantities, it will make valuable many mines now considered worthless, or comparatively so, at least. The company has employed Dr. D. (who is already at work) to make a thorough practical test on their mine (Camanche ledge) in Mono county. They claim to work to within five per cent. of the fire assay, and at a cost not to exceed \$20 per ton. The writer was shown a \$40 brick, made from thirty-one pounds of Camanche ore, by this process. Mr. Frink has kindly offered to keep the Press posted with experimental results as they are made. B.



## Mechanical.

## The Angle of 60°.

In forming the cutting angle of tools, as used by the iron worker, no very definite instructions are given. The apprentice copies as near as he can from the master or the more experienced workman, and they work in the manner in which they were taught. Every mechanic has at times observed that there was a certain angle which, when given to the cutting lines of tools, was more effective and resisted the action of the material in which the tools operated better than others; but with the exception of an effort to remember these lines by the eye, he has no gauge or guide to assist him in the production of the same angle again.

It is generally acknowledged that the cutting angle of a lathe-turning tool operates best, is the most effective, and has the greatest strength, when formed with an angle of about 60°; and this same angle, which in tools of this kind may be called the *angle of strength*, can be formed to advantage in all tools which are used to operate in iron or steel.



The angle of 60° is easily formed and as easily remembered. To obtain the proper proportions, inscribe a circle, and in this circle draw an equilateral triangle, the points of which intersect the diameter of the circle, and this angle has 60°, and has been found by experience to be the strongest and most durable form that can be given to an iron-cutting tool. If the reverse of this angle, or an indented V of the same form, be made in a piece of metal, it will form a gauge or guide by which to form the cutting edges of nearly all the tools of the iron worker.

We have mentioned the lathe-turning tool as an instance of the efficacy of this angle. The chipping or cold chisel is another example, and there is no tool the edge of which is subjected to a greater amount of rough usage and strain, and more liable to give way, than this simple tool; but if its cutting angle be formed to lines which meet at an angle of 60°, it will be found to stand more blows and wear longer than at any other angle. For delicate work a more acute angle may be used, but for ordinary purposes this angle will be found the most serviceable.

The same angle can be used in the cutting angle of the flat and twist drill, but there is a greater efficiency in the twist drill over the flat one, and for the reason that the angle is more acutely presented to the work than in the flat drill. The counter-bore or pin drill and the chasers employed to form screw-threads, are examples in which this angle could be advantageously used, giving the tools greater strength and durability. In some of these tools the angle is differently presented to the work than in others, yet the same number of degrees may form the lines of the cutting edges. \* \* \*

The teeth of mills, reamers, and circular saws for cutting metals operate as a series of revolving chisels, removing whatever metal they come in contact with, and to get the greatest strength and maximum of wear their teeth must be formed with the angles as we have explained. When these tools, thus made, are used in the heaviest work, they will seldom break or give way with any kind of fair usage; but if they be made with a more acute angle will break or crumple, and if with a less angle will not operate as easily nor as effectively.

The lathe centers are best made when shaped at the angle of 60°, and, in fact, this angle has been recognized as a standard for their formation in many shops, while in others we see no attention paid to it, and the centers are made by "guess," but it has been ascertained that the angle of 60° stands the best under all kinds of usage, and the same gauge by which they are shaped can be used to form the rose-head or countersink which is used to form the center in shafting and work to be turned, and it will then accurately fit the center of the lathe.

This angle of 60°, as an example of strength and service, can enter into the formation of nearly all of the cutting tools used by the machinist or iron-worker, and a simple gauge, made of sheet steel, will be found a sufficient guide to enable the mechanic to obtain it without any difficulty.—*American Artisan*.

**STEEL VS. IRON FOR RAILROADS.**—The steel rail mania grows apace both in Europe and America. American engineers, although they can soon get all they need of the Bessemer rails manufactured here from our superior ores, are still very naturally seeking information in England by inquiry, experiment, comparison, etc. The *London Railway News* mentions a steel rail, now to be seen still in use at the Chalk Farm Station of the London and North-western road, which has outlasted *twenty-five* iron rails successively placed next to it on the same line. The toughness of the steel rails has lately been made the subject of experiments by a large manufacturing house of Sheffield, for the satisfaction of a well known American railroad engineer. The dropping of a ram of a ton's weight from a height of twenty feet upon one of these rails, supported on iron blocks three feet apart in the clear, resulted in only slightly bending it; and the repetition of the blow on the other side of the rail, from a height of thirty feet, merely straightened it, and so homogeneous was the composition of the rail that not a crack was visible. Such toughness and durability must before long force iron aside for the substitution of steel, as the difference in price is saved over and over again by the lasting qualities of the more expensive article. Penuriousness is never economy.

**A STEEL SIGNAL BELL.**—The *Territorial Enterprise* has examined, at the Imperial mine, a steel signal bell, manufactured by Mr. John Holden, blacksmith of the mine, which that paper claims as a credit to the mechanical skill of Washoe workers in iron and steel. The bell is of a larger size than could easily be procured on the coast, being fifteen inches in diameter, and was made by Mr. Holden from a large plate of steel brought from San Francisco for the express purpose. The tone of the bell is much finer than that of the common bronze signal bells. The bell will be put up at the new shaft.

**A CHEAP GLASS CUTTER.**—Take an old three-cornered file, heat it red hot, and plunge it into a previously prepared mixture of equal parts of ice and salt, stirring it about so as to cool it as quickly as possible. Then grind the point on a wet stone, preserving the three sides as nearly as possible, and it is ready for use. Lay the glass to be cut on a perfectly smooth surface, apply a thin flexible rule, and draw the point of the file quickly over the glass. A little practice will teach one how hard to bear on without fracturing the glass. To insure success it is needful to notch the edges of the glass at the extremities of the scratch. The file can be reground when it becomes dull. Such an instrument will be found serviceable for cutting glass for windows, and all ordinary purposes.

The leather washers under the heads of carpet tacks are cut and placed by a simple machine operated by the foot. An upright punch comes down on a die and cuts the leather, while another punch, working inside the first, drives the tack through the leather. The tacks are placed in a hopper, from which a tube, split through the bottom, conducts the tacks to the press, the points hanging through the slot, the tacks being suspended by their heads. The best tacks for carpet purposes are those made from tough iron usually labeled "Swedish iron."

**A NEW ALLOY,** consisting of sixty-five parts tin, eight parts copper, ten parts lead, and seventeen parts antimony, has been patented in England. The composition is particularly designed by the inventor for facing or forming calico printing rollers. In this country, these rollers have been always made of composition brass or bronze, or preferably of copper, cast, drawn and rolled directly from the ingot.

The New Haven building-block company are manufacturing patent brick having a long narrow slit, or air-chamber, which they claim will keep buildings constructed therewith cooler in summer and warmer in winter than when built with ordinary brick. The bricks are made of a mixture of cement and shell lime.

The New Bedford glass company has recently begun to manufacture porcelain glass for photographic plates. They are blown in hollow cylinders four feet long, cut longitudinally, flattened in a furnace and cut into plates of the required size.

The Erie railway machine shops at Dunkirk, have just completed two locomotives for that road, which are constructed with the water tanks around the upper portion of the boiler. The tender is thus left entirely for the use of fuel.

## Scientific Miscellany.

**CAUSE OF THE VARIATION OF THE MAGNETIC NEEDLE.**—V. Raulin, of Bordeaux, France, has recently published a work of ninety-two pages, giving a large number of observations, showing the periodical variations of the magnetic needle in all parts of the earth. He explains them by supposing that a body of greater density than the molten interior of the earth, more or less irregular in form, and having the properties of a magnet, forms part of the earth's interior mass; but is not attached to the internal crust. A line connecting the poles of this magnetic mass would correspond in direction with a line connecting the actual magnetic poles of the earth. A mass so suspended, in a semi-fluid medium, could not keep fully up with the earth in her daily revolution, but would fall gradually behind. The calculations of Raulin are, that this mass actually loses one revolution in 600 years, during which time the magnetic variations upon the earth form their cycle. A similar hypothesis to the above was proposed in the *American Journal of Science*, by the late Chancellor Lathrop, in 1840.

**REMARKABLE SPECIMENS OF CARBON.**—Some very remarkable specimens of indurated anthracite carbon were recently presented to the Academy of Sciences, at Paris, by M. Dumas, in the name of Douhet. They are supposed to have come from Brazil; but their origin and mode of occurrence is not known. They were in the form of small nodules, made up of irregular concentric layers. They took a surprising luster when polished. Color, black, like anthracite, with a density of 1.66. Even the thinnest fragment was opaque. Their composition was the same as anthracite, with the ash varying from four to eleven per cent. Though fragile and brittle, the fragments were found to scratch not only the hardest gems, but also the diamond itself—though ordinary anthracite will not scratch even glass.

At the recent session of the Academy, Dumas read a note from Méne, calling attention to some specimens of carbon presenting a similar appearance, which he had obtained, artificially, by heating anthracite for a long time in a muffle. The anthracite thus acquired a metallic luster, steel-gray color, and scratched glass and steel with the cry of the diamond. Its density was 1.63. The coal used was from Creuzot. The coke produced from a mixture of the Creuzot anthracite with the St. Etienne bituminous coals contained a multitude of brilliant points, which scratch glass.

**CHANGES OF STAR COLORS.**—One of the most important phenomena presented for the study of modern astronomers is the important changes which are taking place in the colors of the stars. Heretofore the great difficulty to progress in this direction has been the want of a standard of reference, by which astronomers could measure and verify their observations, and set them down for future reference and comparison. Mr. Kincaid has recently devised an instrument, which is said to meet this difficulty quite fully. He calls it a "metrochrome." It contains a rotating drum, with six equidistant apertures; three of these transmit the normal light of the lantern, and the remaining three are constructed so as to admit flat-sided hottles containing differently colored chemical solutions. By wholly or partially covering one or more of the latter apertures and giving a rapid rotation to the drum, it will be possible to produce a light, which, thrown into the telescope, forms the image of an artificial star. This may be varied until it exactly resembles the light of the star under examination. It has been proposed to insert colored glasses or precious stones in the rotating drum. Mr. Kincaid, however, prefers the use of chemical solutions.

**SPONTANEOUS COMBUSTION.**—Mr. Trevor Clarke publishes some facts explanatory of the unknown causes of sudden fires and explosions in fireworks factories. He remarks that chloride of potash is the most dangerous substance used in the business. Not only will it, when mixed with other substances, sometimes ignite by a shock, but even go over into spontaneous combustion without any apparent cause. A mixture of nitrate of baryta or strontia, sulphur and chlorate of potash, so often used in preparing green and red lights for theaters, etc., may inflame spontaneously when made from recently well-dried substances, and will surely take fire in a few hours when placed in a moist locality. Clarke witnessed such spontaneous combustion. First, a yellow gas was developed, then the mass melted in several places, a hissing sound was heard, more gas developed, and soon the whole mass was in a blaze of fire. The same was observed when black oxide of copper was introduced in the mixture to make a purple fire. The addition of small quantities of sulphuretted antimony prevent the ignition of mixtures containing chlorate of potash. Carbon possesses the same quality of preventing such combustion, but not to so reliable a degree. But any of these mixtures will ignite when moist and drying them at a temperature slightly too much elevated.

**TO DISCHARGE THE STAINS OF** nitrate of silver or ordinary marking ink. This may be done easily by several agents. Chloride of lime in strong solution is a convenient and ready article, that converts the silver to a white chloride, which may then be removed by washing with ammonia, or a solution of hyposulphite of soda. If the stain be of long standing, it may be necessary to repeat this process several times before it will be effectually discharged. Cyanide of potassium is excellent for decomposing the nitrate of silver, and will readily remove stains or marking. The cyanide of silver which has been formed, is easily dissolved in an excess of cyanide of potassium. Tincture of iodine is sometimes recommended; it is designed to produce the iodide of silver, which may be washed away by using the hyposulphite of soda; this method, however, is not to be relied on; it does not always succeed.—*Druggist's Circular*.

**THE BED OF THE OCEAN.**—It is stated that soundings have been made in the North Atlantic to so great an extent that it is now possible to map out its bed quite accurately. This ocean is a long trough of varying depth, extending, probably, from pole to pole. Its bed follows the general structure of the land. Here and there rocky peaks, like that of Teneriffe, or huge mountains of sand, such as the Grand Banks of Newfoundland, reach up to or beyond the surface. Between Ireland and Newfoundland there exists a remarkable plain, known as the telegraphic plateau, which is evidently a continuation of the great watershed which, between latitudes 40 deg. north and south, surrounds the earth, and divides the waters flowing north from those flowing south.

**THE SOURING OF MILK.**—Housewives that depend upon milkmen for their daily supply of the lactical fluid, sometimes find that, despite the best of care, the milk will sour much sooner than it ordinarily does. Neither they nor the milkman can explain the cause. Probably the following item may do so: "By experiments at Elgin, Illinois, it has been proved that the milk of an irritated cow soon gets sour; that added to the milk of quiet cows, it quickly soures the whole, and that it makes inferior butter."

**MAN AND BRUTE.**—The great distinctive feature between man and the highest order of the brute creation is the faculty in man of making himself and his mental condition a distinct subject of thought. On this faculty depends other important peculiarities, viz.: the capability of indefinite progress, the idea of morality, the notion of a future state, and the power of language.

**DENSITY OF OZONE.**—It has been determined, by Soret, of Geneva, that the density of ozone is one and a half times that of oxygen, or 1.657, if air be taken as one. While, therefore, the molecule of free oxygen contains two atoms, that of ozone contains three.

The American Association for the Advancement of Science commenced its annual session for 1867 at Burlington, Vt., on the 31st ult. Prof. J. S. Newberry is President for the year, and Dr. Walcott Gibbs, Vice President. An interesting and instructive session is expected.



## Our Industrial Progress.

No spot on earth possesses, in a greater or more varied extent, the elements of agricultural and manufacturing wealth than California. Our teeming soil produces, in the greatest luxuriance, corn, wheat, barley, tobacco, hemp, flax, etc. More than 300 varieties of grapes, from many millions of vines, mature their annual products in perfection and profusion nowhere else excelled. Our mineral wealth, in variety and abundance, is the wonder and astonishment of the world. We already gather a wool product from more than two millions of sheep, with an annual increase of stock and improvement of breed, which promises ere long to place us at the very head of wool growing countries. Our numerous rivers, by their profusion of water and rapid descent, seem to invite the millwright, with his cunning art, to turn the immensity of their watery powers to profitable account. Within a little more than a single decade we have raised ourselves from absolute dependence upon foreign countries for the very necessities of life, not only to independence, but to a point where we are now able to send millions upon millions of our surplus grain to every quarter of the civilized world. We have now between one and two hundred flour mills in operation, with their numbers constantly increasing; scores of foundries to furnish machinery, not only for our own supply, but also for the use of countries to the north and south of us, to the islands of the Pacific, and to the opposite coast of Asia. We are also furnishing our own manufactured sugar, our own cordage, our own chemicals, our own powder, and, to a great extent, our woollens, our boots and shoes, our cottons and tweeds, our printing and wrapping paper, and hundreds of minor articles too numerous to mention; but all of which enter, more or less, into our daily consumption, and for which we have, until quite recently, been dependent upon Eastern or foreign manufacturers. Of a verity, California is rapidly becoming a manufacturing, as well as an agricultural and mineral producing State!

The teachings of true political economy, which have been sadly neglected by many peoples, who have for centuries struggled for a bare existence among the nations, have been better understood and more readily received by the legislators and capitalists of the rising Empire of the Pacific. The ruinous course of importing the necessities of life, instead of producing them at home, and of sending abroad our raw materials, to be returned again at a two and three-fold increase of value by foreign labor, instead of manufacturing them at home, was early foreseen and guarded against by our people. We are already beginning to reap the rich reward of such foresight. Even the extraordinary high prices of labor and money, which have necessarily prevailed here, though strongly militating against such a policy, has nevertheless failed to daunt or discourage those who have determined to lay aright the foundations of a State which is destined to rise on these Pacific shores, with a rapidity and might no where else excelled in the history of the whole world.

We have been led into these reflections by some hasty visits the past few weeks, to some of the prominent manufacturing establishments which have recently gone up in our midst, and whose progress and importance we propose to illustrate in a few brief articles from time to time, as space and opportunity shall present. The first article of the series appears in another column to-day.

**WOODWARD'S GARDENS STILL AHEAD.**—In addition to the many other attractions afforded in the way of amusement and instruction at this delightful place of resort, it will be seen that a grand instrumental concert is given every Saturday afternoon, and on Sundays a concert of sacred music appropriate to the occasion.

## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

67,445.—FURNACE FOR ROASTING ORES.—David Jones O'Hara and Clark Brown Thompson, Empire City, Nev.:

We claim, 1st, The combination and arrangement of the hinged circular plate, E, E', with the inclined oblique hoes, a, a, a, a, all constructed as shown, and attached to the endless chain, D, substantially as and for the purpose specified.

2d, The arrangement of a series of fire-chambers, G, G, along the sides of the ore chamber of a desulphurizing furnace, at intervals of about twenty-five feet, substantially in the manner and for the purpose set forth.

67,483.—GANG PLOW.—Robert Baxter, French Camp, Cal.:

I claim the head-piece or flange, in combination with and forming part of the standard, in the manner and for the purpose set forth.

67,512.—MACHINE FOR FERMENTING LIQUIDS FOR DISTILLATION AND OTHER PURPOSES.—R. De Heuruse, San Francisco, Cal.:

I claim the introduction of air of the proper temperature and moisture, and in the proper quantity, into the fermenting substance from below, for the purpose of more thoroughly fermenting the whole mass, and to control the progress of fermentation, substantially in the manner described and set forth.

## RECENT INVENTIONS.

**MCCARTY'S IMPROVED NEWSPAPER FILE.** Mr. L. P. McCarty, of this city, has submitted to our inspection a newspaper file, constructed simply of stout wire. It is cheap, durable, readily managed and not easily broken or thrown out of order. The sheets are firmly held in chronological order, and by its use there is no necessity of punching holes through the paper, as is usually required in newspaper files. A piece of wire of any desired size, having a loop at one end, is doubled upon itself, by means of a coil or coils in its center, these coils when the wire is doubled over, forming the upper end of the file. The end brought down thus, acts as a lever, and has at its lower extremity a hook or catch, which clasps the under rod. By this means a file is formed which will hold any number of papers, by having the pressure evenly distributed the entire length of the paper. The file being easily operated, and not liable to get out of order, seems to be much more convenient and desirable than any newspaper file with which we have met. Application for a patent for the same has been made through the patent agency connected with this office.

**A NEW CONCENTRATOR.**—The *Enterprise* says that a new machine for concentrating tailings has been invented and tested by a miner at Virginia City, named Holden. It has been put in operation at the Ophir mill and bids fair to prove a success. The tailings concentrated by the new apparatus yield about \$200 per ton. Mr. Holden is also the inventor of an improved safety hook, a patent for which has been applied for.

**HYDRAULIC GOLD GLEANER.**—Charles Schofield, of Havilah, Kern county, has invented what he calls a hydraulic gold gleaner, which is described as follows by the *Courier* of that place: "The crushed rock is conveyed through sluices into a box with a sieve for a bottom. About six inches below this is another box, the bottom of which is lined with quicksilver. Water is conveyed from any desired height by means of a pipe, and flows up through the sieve. This action of the water carries off all the light gravel, etc., while the gold, sulphurets, etc., resist the action of the water, and fall through the sieve into the lower box containing quicksilver, where any desired number of faucets are affixed, with which to regulate the current of water flowing up through the sieve, and at the same time to draw off the sulphurets. One of these is now in operation at Bibler's mill, near this place. The inventor offers \$100 per ounce for all the gold which may be extracted from the tailings of this machine."

**BIG GUNS.**—According to the *Army and Navy Chronicle*, 25-inch guns, burning 275 pounds of powder, are to be the artillery of the future.

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,  
September 7, 1887.  
City Stocks.

The open sales of city stocks continue on a small scale, and during the past week have been restricted to a few companies; however, a better feeling is expected to prevail in the course of a month or so, when, as usual during the fall months, the interest in mining stocks will be less active, and more consideration will be given to other investments. Considerable sales of San Francisco Gas stock were made at \$66 50@67 per share. The usual monthly dividend of ½ per cent. on their capital stock, amounting to \$30,000, has been payable since the 2d instant. California Steam Navigation Co. is in slight request, a few shares selling at 71 ½ per cent. The stockholders of the California Building and Loan Society will hold their annual meeting for the election of Directors for the ensuing year on Tuesday, September 10th.

Legal Tenders have been selling at 71 ½@71 ¾ cents. The sales in the Stock and Exchange Board in the month of August for the past four years compare as follows:

August, 1884.....	\$ 633,063	August, 1886.....	\$1,234,452
August, 1885.....	4,232,518	August, 1887.....	7,538,420

It will be noticed that the business of the Board has been vastly augmented in August of the present year as compared with former like periods. The nearest approach to the transactions of last month was in May, 1865, when the sales amounted to \$5,655,549.

## Mining Share Market.

Since our last reference a general degree of activity manifested itself throughout the whole list, and the intervention of the election for State and municipal officers, though one of the most exciting contests ever experienced in this city and State, has had no very marked effect in decreasing the dealings. For the most part, however, prices have declined from our previous quotations, owing principally to "bear" operations upon several leading stocks. Several companies have already announced their dividends for the present month, and most of the other companies usually embraced in this list will follow next week. The bullion product of the Comstock Lode, for the month of August, from present information, will not be as large as in July. Most of the companies performed a large amount of dead work, frequently occurring in all mines, which may be assigned as one reason for the lessened production; while others have been engaged in sinking new shafts and placing hoisting machinery, etc., together with preparatory work for the coming winter. This extensive argentiferous lode needs only further development to prove its great value, and it is to be regretted that operations upon that much needed work, the Sutro Tunnel, were not commenced at the agreed time. This delay has already induced the Savage company to withdraw from its stipulated contract, and other companies take little interest at present in the enterprise. That this great work will be accomplished no one will question, but it should be done as speedily as possible, so as to avoid the enormous outlay of money which is at present required to extract the precious metals.

Yesterday the Board inaugurated open or informal sessions, the morning session continuing from 10 ½ to 10 ¾ o'clock, and the afternoon session from 2 ¼ to 2 ½ o'clock. The regular sessions will be held as follows: Morning, from 11 to 12 o'clock; afternoon, from 3 to 3 ½ o'clock—as formerly. The difference between the open and regular sessions is that at the former the public are admitted and can bid through their broker only, while at the latter none but members can participate. The same rates will be charged at the informal session as at the regular Board.

**HALL & NORCROSS**—has again made its appearance in the market, one foot selling on the 3d inst. at \$2,500 seller 60, and on the 5th two feet were disposed of at \$2,400 seller 60, and \$2,350 seller 30, respectively, and at close selling at \$1,900 seller 30. We learn that during the month of August 3,117 tons of ore were reduced by custom mills for this company, showing a 65 per cent. assay yield of \$121,578 in bullion, which is equal to a fraction over \$39 per ton. It is believed that the returns from the mills will fully come up to the contract requirements. During the month of July the 65 per cent. product of 3,278 tons of ore amounted to \$133,905, or \$40 85 per ton.

**SAVAGE**—was dealt in to a very large extent, under a strong effort to bear the stock, and the large amount upon the market produced a recession early in the week, when it fell from \$205 to \$190 seller 30, advanced to \$215, then sold at \$206, and closed yesterday at \$195. We are informed that the average width of the ore opened on the Potosi body, on the two floors of the seventh level, is from eight to ten feet, and that its length had not yet been ascertained. The water has now been nearly drained from the north winze on the seventh level, and work will soon be resumed at that point. In the south mine the drift from the third level has been connected with the main south winze, and is reported to be in good ore. The bottom of the winze sunk from the third to the fourth level, which is now fifty feet in depth, is entirely in ore, and a cross-cut westward has developed six feet more, said to average \$75 to the ton. During the week ending August 31st, 2,095 tons of ore were taken from the mine, showing an approximate yield of \$81,382, equal to \$38 84 per ton. Of this amount the north mine yielded 1,175 tons and the middle mine 747 tons. The receipts of bullion will be fully as large as in July; the exact returns have not yet been received at the office in this city. A dividend of \$12 50 per share will be disbursed to the stockholders on Monday, the 9th inst., and a cash surplus of from \$70,000 to \$80,000 will be carried to the account of the present month.

**KENTUCK**—is in much less favor, rapidly declining from \$305 to \$228, then selling at \$260, and closing yesterday at \$240. The bullion obtained from 2,657 ½ tons of ore reduced during the month of August, amounted to \$104,215 against \$125,767 in July, showing a yield of \$39 21 to the ton, and deducting all the expenses, which

are given at \$24 65 per ton, produces a net profit of \$14 56 per ton. The quality of the ore is not so good as that extracted in the month of July. We are indebted to the Secretary for the following abstract of the monthly statement:

RECEIPTS.	
Balance on hand, July 31st.....	\$ 95,571 75
Bullion in August.....	104,215 35
	\$200,787 11
DISBURSEMENTS.	
Dividend.....	\$50,000 00
Outstanding 2,657 ½ tons of ore.....	38,861 80
Labor account.....	10,575 00
Timbers—212,623 feet.....	6,378 59
Wood—51 ½ cords.....	774 87
Discount on bars and assay expenses.....	3,251 70
Taxes.....	2,749 60
Legal expenses.....	3,339 53
Office expenses.....	1,073 35
Other expenses.....	1,217 66
	149,222 00
Balance.....	\$51,721 11

The expenses were considerably larger than during the month of August. This additional sum was mainly required for quarterly taxes, supplies, etc. A dividend of \$25 per share will be paid on and after to-day.

**CROWN POINT**—met with considerable inquiry at fluctuating rates, declining from \$950 per foot to \$855, advancing to \$1,000, receding to \$950, and closing at \$950. The winze from the 600-foot level is sixty-one feet in depth, and in drifting east from it eighteen feet, passed through changeable ground, the first five feet penetrating small strata of pay ore mixed with quartz, the next four feet running in porphyry, then encountered another narrow pay streak of ore, said to average \$70 to the ton, and the rest of the drift continued through small seams of ore, all dipping to the west. The face of the winze contains considerable porphyry. The south winze on the 600-foot level is down some fifteen feet, and is said to be improving. Three winzes have been sunk from the 500-foot level, and the ore in them is so hard as to require blasting to extract it. Below the 500-foot level, south, the ore is reported to be very good; north, not so good—little more than covers expenses. The average daily product is about 70 tons.

**IMPERIAL**—has been in decided request at enhanced rates, improving from \$142 50 to \$160, receding to \$142 seller 3, and closing at \$146. On the 30th ult. a fair body of ore was discovered on the 371-foot level, and thirty feet north of the south line they drifted into the ore about fifteen feet without reaching the east or clay wall. It is believed that this ore extends to the 230 foot level above, and that from 3,000 to 4,000 tons of a good average quality will be obtained from this point. The other levels are producing the usual amount of ore. In August \$89,280 in bullion was shipped to the office in this city against \$99,627 in July.

**OVERMAN**—has been comparatively quiet, selling at \$67 @72 50, receding to \$52 50, and closing yesterday at \$63. On the 400-foot level they are drifting towards the Mary Ann ground, with the expectation of finding a body of ore which was left in early days, and believed to be worth about \$30 to the ton. At present they extract sufficient ore to supply one mill, its reduction capacity being about twenty-three tons per day, and the product slightly in excess of expenses. On the 2d inst. \$2,500 in bullion was shipped to the office in this city.

**CHOLLAR-POYER**—commands the attention of numerous buyers at enhanced rates, selling early in the week at \$415@425, receding to \$405, improving to \$442 50, and closing at \$430. During the week ending August 30th, the shaft has been sunk and timbered fourteen feet, requiring a further depth of twenty-five feet to reach the fourth station, which will be 911 feet from the surface. In the Peck drift, on the second level, they are taking considerable ore from a point forty feet above the track floor. A better quality of ore is said to be obtained from the old Santa Fe level; otherwise, the old works show no material change. It is said the new shaft carries clay at the bottom, and may give trouble in timbering. The bullion returns for the month of August will be upwards of \$340,000; in July the receipts amounted to \$311,581.

**CONFIDENCE**—has been dull of sale, realizing \$70@67. It will probably take some two weeks to ascertain the existence of ore in the west drift on the 365-foot level. More ore will be taken from the fourth level than was expected. On the third floor they followed a narrow streak of quartz and found a good quality of ore, said to be some eight feet wider than the regular ledge. The bullion yield in August amounted to \$12,304 17 against \$16,527 52 in July.

**GOLD HILL QUARTZ**—is also dull at a decline, selling early in the week at \$100 per share. The receipts of bullion in August aggregated \$9,771 52, while in July the yield was \$10,250 57. Deducting all expenses, a balance of \$5,200 remains in the treasury. No dividend will be disbursed during the present month.

**ORFEM**—receded from \$110 to \$85, then sold at \$90@85. The new shaft had reached a depth of fifty-two feet on the 4th inst.—being at the rate of five feet a day since they commenced it.

**YELLOW JACKER**—declined from \$650 to \$540, rallied to \$600, then sold at \$570@590, and closed at \$572 50. We have it from a reliable source, that this company is at present reducing \$12 ore, and that the present month will show a deficit of at least \$40,000. The bullion product of July and August we have been unable to obtain, and after diligent inquiry in various quarters, we can give no information whatever in regard to the present condition of the mine.

**DANEX**—levied an assessment of \$1 50 per share, or \$6 per foot, on the 2d inst.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,507,493.

We give on another page, a tabulated statement of the fluctuations of the principal mining shares on this coast for the past six months. We are indebted for the figures to Mr. J. H. Carmany, editor of the *Weekly Stock Circular*. We shall continue the publication of this table monthly hereafter, instead of our weekly publication of the sales at the stock board.



Fluctuations in Leading Mining Shares for the past Six Months.

Table with columns for Bank of Company, March 9th, March 20th, March 30th, April 10th, April 20th, April 30th, May 10th, May 20th, May 30th, June 10th, June 20th, June 30th, July 10th, July 20th, July 30th, Aug. 10th, Aug. 20th, and Aug. 30th. Lists various mining companies and their share prices.

AN INSTRUCTIVE BOOK!

Prof. LAYRES' ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY. For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address. Price, postage paid, \$1.10

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Table listing mining companies, their locations, and dates of dividends or meetings. Includes companies like Gould & Curry, Ophir, and various Nevada and California mines.

San Francisco Market Rates.

Table of market rates for various commodities including flour, wheat, corn, and other goods. Includes sub-sections for Wholesale Prices and Retail Prices.

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Sept. 6, 1867. We give the following as an approximate price at which copper ores can now be sold in this city. There is no sale for ores which assay less than 12 per cent. The late reduction in price is on account of the advance of freight:

Table showing prices for various types of copper ores, such as 12 per cent. ore, 13 per cent. ore, etc., with prices per ton.

San Francisco Metal Market.

Table listing prices for various metals and alloys, including iron, steel, and copper. Includes sub-sections for Jobbing prices and Prices for Invoicers.

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. Layres (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetic and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS: It is simple, concise, and well arranged. It seems to be a work of great value.—John Siedel.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one of the kind possessing the advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—Wm. H. Hatch.

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the application of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Dorman.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I regard the book about to be published as far superior to any work extant upon that subject.—Win. S. Hunt, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Bryson.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boies.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. He knows of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. E. Bulletin.

This is a San Francisco book by a San Francisco author. It contains 68 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alto California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste, than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times

Prof. Layres plunges at once "in medias res." He aizes a sentence (which is the unit in composition, whether written or spoken), holds it up before you, either he pieces before your eyes—or rather, he should say, neatly and skillfully dissects it—dislays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

E. L. SMITH, Secretary of Montana Territory, has become Acting Governor by the untimely decease of the late incumbent, and has issued a proclamation announcing the death of Gen. Meagher, paying appropriate respects to his memory, and offering a reward of \$1,000 for the recovery of his body. Governor Meagher, it will be recollected, was drowned by falling overboard from a steamer in the night.

By Mail.—The Mining and Scientific Press will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty. Call and examine the work. Finest quality of artificial work also manufactured. 16v14tf

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Latest Stock Prices Bid and Asked.

Table listing stock prices for various companies and bonds, including United States Bonds, California State Bonds, and various mining stocks.



## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

G. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. If it is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

MR. A. C. KNOX, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

DR. L. G. YATES is our duly authorized traveling agent. July 6, 1867.

MR. A. B. BUTLER is a duly authorized traveling agent for this paper. July 15, 1867.

MR. W. D. ROOT is an authorized agent for this paper for Nevada State. August 1, 1867.

MR. H. C. ROEDERER is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Sept. 7, 1867.

## Notices to Correspondents.

I. S., Virginia City.—Carbon, boron and silicon are non-metallic, elementary substances or bases, which possess many properties in common. In the same series, it is not improbable that zircon, the base of the hyacinth (mineral, not flower) will eventually also be comprised. Carbon, in its purest state, is found colorless, in a crystalline form, as transparent diamonds. It is, however, more familiarly known in a less pure condition, as graphite or plumbago and ordinary charcoal. Boron is not known in any uncombined form in the mineral kingdom, though, to some extent, it is found naturally as boracic acid in the Tuscany lagoons, and as boracic acid, combined with soda, in the Tincal lakes of Thibet, and at Clear Lake, in this State. The same acid, combined with lime, is found in South America. The chief minerals which contain it are schorl and tourmaline. Silicon, associated with oxygen, is the most abundant mineral substance known to us; its purest condition being seen as colorless quartz crystals. Sand and sandstone rock are nearly wholly composed of it, and a very large percentage of almost all ordinary clays and soils also consist of it. We do not dwell upon the varied conditions under which carbon is found in nature; what has already been stated will suffice for such a familiarly known subject. The characteristics of boron and silicon, in their primary condition, are much less, in fact, scarcely at all known, and will thus excuse some more lengthened remarks respecting each. Boron is a combustible radical, in like manner with carbon, iron, copper, calcium, etc., and burns, at a high temperature, similarly to those substances when heated in the presence of oxygen. Boron has hitherto been generally obtained by decomposing the compound so formed (boracic acid), or its combination with fluorine and potassium (borofluoride of potassium). Boron hitherto obtained by these means generally possesses a dull, olive-green color, and is in the form of powder, which, before it has been strongly ignited, will soil the fingers, like graphite, and is, to a very slight extent, soluble in pure water, forming a greenish-yellow solution. Boron is unacted upon by exposure to air, water or alkaline solutions, at common temperatures, either cold or boiling. The first experimentalists found that after exposure to intense heat in vessels from which air is excluded, it becomes denser, and dark in color, but failed to crystallize or fuse it. In the form first described, boron exhibits a strong affinity for oxygen, and takes fire below redness, in heated air; burning with a red light, and emitting vivid scintillations if surrounded with pure oxygen. Boron thus becomes superficially converted into boracic acid, which melts, and thus protects the boron in the interior from further action. Deville and Wohler have, however, recently succeeded in crystallizing boron (mistakenly described as borax), as stated in our publi-

cation of the 27th of July last, page 51, which, although artificially produced, is said to have possessed a brilliancy almost equal to the diamond, and of an exceeding hardness. Fused, or, as it is commonly termed, glass of borax, has long been employed as a flux by assayers; and, although it occasionally looks like well polished glass, it is by no means comparable with the diamond, either as respects hardness or durability. The mistake into which you have been led has, no doubt, been caused by the original typographical errors which have been copied from our journal to another, and thus traversed the customary circle, and caused you to make the fruitless attempts to obtain the same results as Deville and Wohler. It may be worth mentioning that the best imitation of the diamond, so far as brilliancy is concerned, invariably contains portions of boron and silicon. Silicon, the radical of quartz, is obtained by modes not greatly dissimilar from those for procuring boron. As hitherto obtained, silicon has the appearance of a dull brown powder, insoluble in water, and soils the fingers when touched, like the preceding described elementary substance. When heated in air or in oxygen, it burns brilliantly, and is converted into silicic acid (silica or quartz), which is the only known oxidized form of silicon. The intense heat evolved in the course of ignition causes the silica so formed to fuse, and thus enclose the unburned portion of silicon in a superficial coating, impervious to further action. Up to the present period, silicon has never been either fused or volatilized. Deville, by a peculiar process, succeeded partially, so as to form brilliant plates, possessing a metallic luster; although possessing many of the characteristics which the powder above described presents, subsequent to having been intensely treated in a closed platinum crucible, in which condition it has been found to be unacted upon by air or oxygen, even while these gases are urged by a blow-pipe. Silicon so treated becomes much denser and of a darker color. We think it is by no means improbable that silicon may yet, like boron be crystallized; in which case it is quite probable that a gem may be obtained equal and probably superior to the diamond, both as respects hardness, durability, and probably brilliancy, also.

A SUCCESS.—We understand that the experiment which has been for some time in progress of preparation, for testing the burning of petroleum for steam purposes, by the employment of an apparatus invented and patented by Mr. J. H. White, of this city, has resulted in a success. The experiment was made at Santa Cruz, and we hope soon to be able to give a full report of the process and device by which it has been accomplished. Experiments in this direction, which have been for some time in progress in the Atlantic States and in Europe, have been watched with much interest. Their success may be pretty safely set down as an accomplished fact. The question now is, which of the several methods by which it is accomplished, is the most preferable one. California will put in pretty strong claims for the prize; and we venture the opinion that she will win.

LEAD SMELTING WORKS—PERHAPS.—We observe that workmen are engaged in grading and clearing away a piece of ground on the North Beach, near the Pioneer Woolen Mills. We understand the lot is owned by T. H. Selby & Co. If we are correctly informed on this point, we think the assertion may be ventured that that enterprising firm is making preparations to put up their long contemplated Lead Smelting Works. If such is the intention, the enterprise is an important one to the city and coast, and the works will be constructed on a scale and after a plan which will admit of no failure. Mr. Selby belongs to that class of our citizens who never undertake anything that they do not fully understand, and which they are not prepared to carry out to its ultimate success.

A NEW use has been discovered for crude petroleum. Saturate rags with it and put them in rat holes, and the rats will leave the premises.

## Industrial Progress of California.

The manufacture of chemicals is one of the most important enterprises connected with the industrial interests of any people. Without such manufacture, no nation can be really independent, as nearly every branch of industry is more or less dependent upon chemical principles. Hence we find considerable attention was turned in this direction, even in the early history of this city. For the ten years previous to the commencement of 1867, nearly all the acid manufactured on this coast was made at the San Francisco Chemical Works, near the Mission Dolores, which institution has done good service to the State in supplying it, at a fair price, with some of the most indispensable articles of commercial necessity.

## THE GOLDEN CITY CHEMICAL WORKS.

The capacity of these works, however, not being equal to the demand, it was thought advisable by some of our enterprising capitalists, about eighteen months since, to put up still larger works. Accordingly several of our most wealthy and enterprising citizens united as a corporate body, under the title of the "Golden City Chemical Works," and, with a capital of \$500,000, established the acid manufactory, now well known to the business community, at the corner of Townsend and Seventh streets. The two articles to which this company is chiefly devoting their attention is the manufacture of sulphuric and nitric acids. Mariatic acid and chloride of lime are also manufactured here, and will continue to be furnished to an extent commensurate with the demand for those chemicals in this market. The two first named are of the utmost importance to the State, being extensively used by the Mint, the gold and silver refineries, many of our mining operations, and our candle and woolen manufactories. Until this establishment went into operation, our supply was chiefly obtained from the East, at great cost and inconvenience, in consequence of the dangerous nature of its transportation.

The high price of labor here renders it necessary that in establishing manufacturing operations of any kind on this coast, especial regard should be had in securing the highest attainable directing skill, the most improved processes, and the most complete and effective class of machinery. Many manufacturing enterprises on this coast have failed for the want of some or all of these essentials. In the establishment of the Golden City Chemical Works, however, the foregoing considerations were duly accepted and acted upon. The consequence has been an uninterrupted success from the start.

## THE MANAGEMENT.

No sooner was the construction of these works decided upon, than it was determined to send to Europe for a practical and skillful manipulator, who could properly design and operate them with the introduction of all the latest and most approved appliances. The result of this determination was the procurement of Mr. William Robinson, who has had long experience in one of the largest and most complete establishments of the kind in England. The plan and design of the works was therefore entrusted to Mr. Robinson, who has most faithfully and skillfully carried out the trust committed to his charge, and since acted in the capacity of foreman to the company. The works were erected under the personal supervision of Mr. H. P. Wakelee, who is one of the five trustees of the company, and who continues as General Manager of the works. Much assistance has also been rendered by Mr. Thomas Price, the well known chemist of this city, who has acted as experimental chemist for the company from its start.

## SULPHURIC ACID—ITS MODE OF MANUFACTURE.

Sulphuric acid forms the foundation for the manufacture of nearly every other kind of acid, and enters many times more largely into use in the various industrial pursuits than all other acids combined. It is the most stable and useful of the oxides of sulphur. Liebig says that the quantity of

sulphuric acid used by any country affords the best key to the extent of the manufacturing operations of that country. Its application to arts and manufactures is almost universal, and without it the larger portion of the present industrial pursuits of man would come to naught.

Until within about a hundred years, its mode of production was very rude, slow and expensive. The present degree of perfection in its manufacture has been reached only by gradual approximation. Among the most important improvements which have been introduced within the last twenty years, is one by the eminent French chemist, Gay Lussac, and which is known as the Gay-Lussac tower or absorbing column, of which we shall speak further in the sequel. Another is the introduction of steam into the chambers. Perhaps, however, the most important one is that which will hereafter be noticed as in use at the Golden City Works; but which is, nevertheless, quite unknown in similar establishments in the Atlantic States, and employed in but two or three instances in Europe. It was first devised, some four years since, by the Messrs. Christian, Allusen & Co., at Newcastle-on-Tyne, where Mr. Robinson received his practical education, and by which the process of the concentration of sulphuric acid is made continuous, instead of intermittent, or in charges.

Without trying to fix in the mind of the reader the precise form and arrangement of this particular manufactory, we will endeavor to give a brief and comprehensive description of the process of the manufacture of sulphuric acid.

The first step is effected by burning the sulphur in a nearly closed room or oven, with an iron floor. The room is made rectangular in form, instead of oval, like a baker's oven, but about the same size as such an oven. The iron plate on which alone the sulphur is burned, covers only about two-thirds the area of the floor. The sulphur, broken up quite small, is spread about half an inch deep over this iron plate. About fifty pounds constitutes a charge. Three small open, iron pots, with legs, raising them about two inches above the floor, are set at intervals, in a line, lengthwise across this floor, into which is placed a quantity of niter, (the nitrate of soda obtained from Peru is used here), equal to four per cent. of the sulphur introduced upon the floor. A small quantity of sulphuric acid is poured over this niter, for the purpose of decomposing it, and liberating the oxygen which it contains, to unite with the fumes of the sulphur for the formation of sulphurous acid gas, which is subsequently condensed into sulphurous acid. From this, it will be observed that the office of the niter, placed in the oven with the burning sulphur, is simply that of a carrier of oxygen to the sulphur, experience having proven the remarkable fact that the oxygen of the atmosphere will not at once leave its association with nitrogen, to combine with the sulphurous acid, although it is from that source that the last equivalent of oxygen required to convert sulphurous into sulphuric acid is derived. All being ready, a lighted match is applied to the sulphur, which is allowed to burn very slowly with a degree of energy, easily regulated by the amount of air admitted. The furnaces which are usually constructed in sets of four, have to be charged anew every two hours.

There are two sets at the works on Townsend street. The fumes from the furnaces are conveyed upward and rearward into a large leaden condensing chamber. There are three of these chambers here, each connected with the other by small "tunnels" or connections some 200 feet long, and four feet square. These chambers are so arranged that the sulphurous gases pass first into one, where, after being dispersed over its whole area, and to a considerable extent condensing, either upon its walls, or collecting and falling like drops of rain from a cloud, upon the bottom of the chamber, the still uncondensed gases pass through the "tunnel" to the next chamber, where they are still further condensed, then to the third, and from thence through the Gay Lussac tower, to be hereafter described, to escape free.

The gases enter the first chamber at a temperature but little, if any above the boiling point of water (212°), and become gradually cooler, as they pass along until they descend to a temperature about equal to the outside atmosphere, before they escape into the open air.

We should, perhaps, before this have mentioned the fact that a small jet of steam is admitted into the first chamber, the office of which is both curious and interesting. We have already said that the gases in the chambers were condensed, both on the walls and throughout the interior area, falling in drops like rain into a bath of water covering the bottom of the chambers.



Previsions to the use of steam, the gases condensed in the form of white snow instead of drops of liquid, and fell into the water at the bottom, where they were dissolved. The interior of one of these chambers, worked without steam, must have been a gorgeous sight—resembling a thick snow storm in an amber colored atmosphere. The introduction of steam has changed the scene from a snow storm of solid crystallized sulphuric acid, to a rain storm of liquid acid. The change, however, is a most important one in an economical point of view, the chemical reactions going on much more satisfactorily in a moist atmosphere, than in the liquid on the floor of the chambers.

The chambers are built up with sheets of lead, soldered together by a peculiar process (as the acid would destroy the ordinary "solder" in a very short time), and are supported by being attached to an outside framework. Those at the Golden City Works are each 100 feet long by 20 wide and 20 high, and are made of sheet lead, weighing seven pounds to the square foot. The lead was made at the San Francisco Lead Works of T. H. Selby & Co.

The quantity of gas which is condensed in the first chamber is much greater than that in the second, and in the second than that in the third; consequently it takes longer to raise the acid in the second and third chambers to the proper strength for condensing it than in the first. It will be borne in mind that the acid is produced from the snow or rain-like deposits from the condensed fumes in the chambers falling into the water which covers their floors, and which is thus gradually raised to the degree of strength proper for removal to the condensing pan. This degree of strength is from 50° to 55°, Beaumé. There is an arrangement by the side of each chamber by which a small portion of the acid, as it is formed, is carried to the outside, where it can be accurately tested, so that the foreman may always be informed of the exact quality of the acid he is obtaining.

The production of sulphuric acid in the chambers is the result of a series of rather complicated and probably not even yet fully understood re-actions. The charge of this portion of the process requires much care and skill. The chambers may be hadly worked or overworked—too much or too little sulphur may be burned within a given time; or too much or too small an amount of fumes may be given off from the niter kettles.

**BOILING DOWN OR CONCENTRATING PROCESS.**

The acid is taken from the chambers varying in strength, as already stated, from 50° to 55°, Beaumé, and conveyed by pipes (acting automatically, after they are connected with one or the other of the chambers) to the boiling or concentrating pan. This pan is a shallow leaden vessel, sustained in a wooden frame, and placed in another wooden pan, similarly sustained, with a stream of cold water passing between the two. The furnace is not under, but in front of the pan; the heat passing over the acid in the pan as over the hearth of a reverberatory furnace. A small stream of acid is kept constantly passing into this pan from the condensing chambers, standing constantly about ten inches deep therein. As the evaporation takes place from the surface, the surface acid, being relieved of its watery particles, becomes gradually heavier and sinks to the bottom. The pan has a small projection, which reaches outside of the furnace, and forms a kind of "well," which is divided across its center by a leaden diaphragm, which extends to within half an inch of the bottom. The heavier acid sinks to the bottom of this well, passes under the diaphragm, up on the other side, and thence over a lip into a trough, which conveys it away to the reservoir, from which it is removed into carboys for commercial use.

This well, being outside of the furnace, can be readily inspected at any time, as the heavy acid on one side of the diaphragm may always be seen standing about half an inch lower than the lighter on the other side—that difference in the height of the columns of liquid being due to the difference in the specific gravity between the lighter, or about 50° acid, and the concentrated, or 64° acid.

Thus, from the charging of the furnaces with sulphur and niter to the placing of the concentrated commercial acid in the reservoir, it is not once handled. It is even removed from the reservoir to the carboys by means of a syphon. This continuous action was first introduced, as already stated, by Mr. Robinson's former employers in England, and is here, for the first time, introduced on this continent. Other manufacturers fill their concentrating pans, keep up the heat until the quantity is concentrated to the proper specific gravity, allow

the fires to go down, the acid to cool off, re-charge the pan, rebuild the fires, etc. The saving by this continuous action is said to be fully fifty per cent. in fuel and one-third in time—a most important consideration.

The above is only commercial acid. The strongest sulphuric acid cannot be concentrated in lead pans, owing to the fact that when stronger than 64° it attacks the lead, and, consequently, subjects the pan to a serious wear and tear, besides causing the acid to be contaminated with the lead, which is very objectionable, especially for refining gold and silver. In order to concentrate the sulphuric acid to 66°, the 64° acid is, at the Golden City Works, pumped from the reservoir aforementioned into large glass boilers, holding some thirty gallons each, and then boiled for fifteen hours before the two last degrees of concentration are attained.

We have thus carried the reader through the process of the manufacture of the commercial and the extra commercial sulphuric acid. In a future article we shall describe the process of making nitric and muriatic acids and chloride of lime, all of which are produced at this establishment. We shall, at the same time, describe the use and construction of the Gay Lussac tower, above alluded to.

**Second Report on the Pacific Mines.**

The forthcoming Report on the Mineral Resources of the Pacific States and Territories will contain copious descriptions of the mineral and agricultural resources of Utah, Montana, Idaho, Washington Territory, Oregon, California, Nevada and Arizona. A large and experienced corps of geologists, mining engineers, experts and statisticians have been engaged upon it during the past six months.

Dr. A. Blatchley has traveled extensively through Utah, Montana and Idaho, in the service of the Commissioner, and has already prepared an elaborate report on those interesting regions, combining geological and statistical data of a valuable character.

Mr. W. S. Keyes, who made the admirable report on minerals of the Pacific coast in Langley's Directory, is preparing an elaborate paper on the Argenta and adjacent districts in Montana.

Mr. W. Lair Hill, author of a prize essay on the resources of Oregon, furnishes a large amount in reference to the productions of that State.

Mr. Ainsworth, President of the Oregon Steam Navigation Company, contributes a most interesting paper on the navigation of the Columbia and its tributaries, with statistics of passengers, freight, etc.

Mr. Edward Evans, late Secretary of Washington Territory, reports on the resources of that region.

Mr. John S. Hittell has traveled extensively through the mining districts of California this summer, and furnishes valuable statistics and observations.

Mr. E. F. Bean, County Assessor of Nevada county, takes charge of the mineral resources of that region.

The State of Nevada is represented by full and authentic reports from R. H. Stretch, Dr. Henry DeGroot and Myron Angel—all of whom have had extensive experience.

Arizona will not be slighted this time. Gov. McCormick has collected data from all parts of the Territory, which will be embodied in a comprehensive report.

The miscellaneous resources of the Pacific coast will be embraced in a most interesting and valuable series of papers, already nearly completed, by Mr. Henry C. Bennett, mining engineer and statistician.

The Commissioner's report also embraces a glance at the condition of the mining interests in Mexico and South America, with observations on the product of the precious metals throughout the world. He has himself, this year, visited Sinaloa and Lower California, the principal districts of Upper California, Oregon, Washington Territory and British Columbia, and collected a vast amount of valuable material.

Prof. W. M. Gabb has furnished an interesting report on the geology and mineralogy of Lower California, which will be em-

bodied in the Commissioner's report, and is also expected to furnish, by permission of Prof. Whitney, in whose employ he is now making a scientific reconnaissance of the Pahrnatag region, a summary of his observations in Southwestern Nevada. Besides this, statistical information has been received from various superintendents and mining engineers from Arizona and British Columbia.

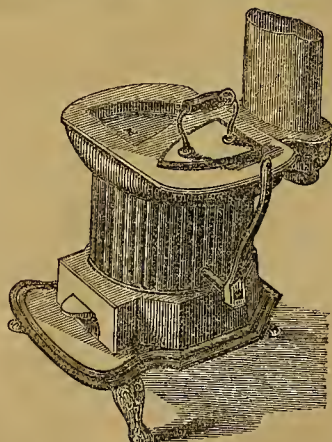
The Commissioner, J. Ross Browne, Esq., will leave this city for Washington early in October, to present his report in person, and to attend to its early and proper distribution after it is printed. It will be recollected that great delay attended the delivery on this coast of the first report. But two or three copies only were received here until some two or three months after it was due; and even to this time not half the newspaper offices in the State are supplied with the document. No such delay or neglect will attend the publication of the next report.

**THE PATENT OFFICE.**—We learn, through the Washington correspondent of the New York Herald, that the Secretary of the Interior has at length decided to give up to the Commissioner of Patents a sufficient number of rooms in the Patent Office building to allow one room to each chief examiner, and that it is the intention of the Commissioner to appoint without delay, the new examiners and clerks authorized at the last session of Congress. We therefore have now some hope that the arrears of the business of the Patent Office will be speedily worked up, and that applications will soon be acted upon with some degree of promptness.

**THE SURVEY OF THE COLORADO.**—The Springfield Journal says that Capt. Adams, who has been for some months in Washington, endeavoring to get authority to fit out an expedition for a survey of the Colorado river, has at last received such assurance, in official and Congressional circles, as to justify him in making all preparations to a full survey, and he will start at once for this city, and thence to the present head of navigation on the Colorado. The enterprise is regarded by all who understand it as one of very great importance, and it is claimed that it will give water communication with the Pacific from points not very remote from either Salt Lake or Denver. Transportation expenses of the Government for posts in New Mexico and Arizona will be reduced nearly one-half if the river proves practicable as far as claimed.

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**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this Journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purpose, will address their letters to "Westfield, Mass."

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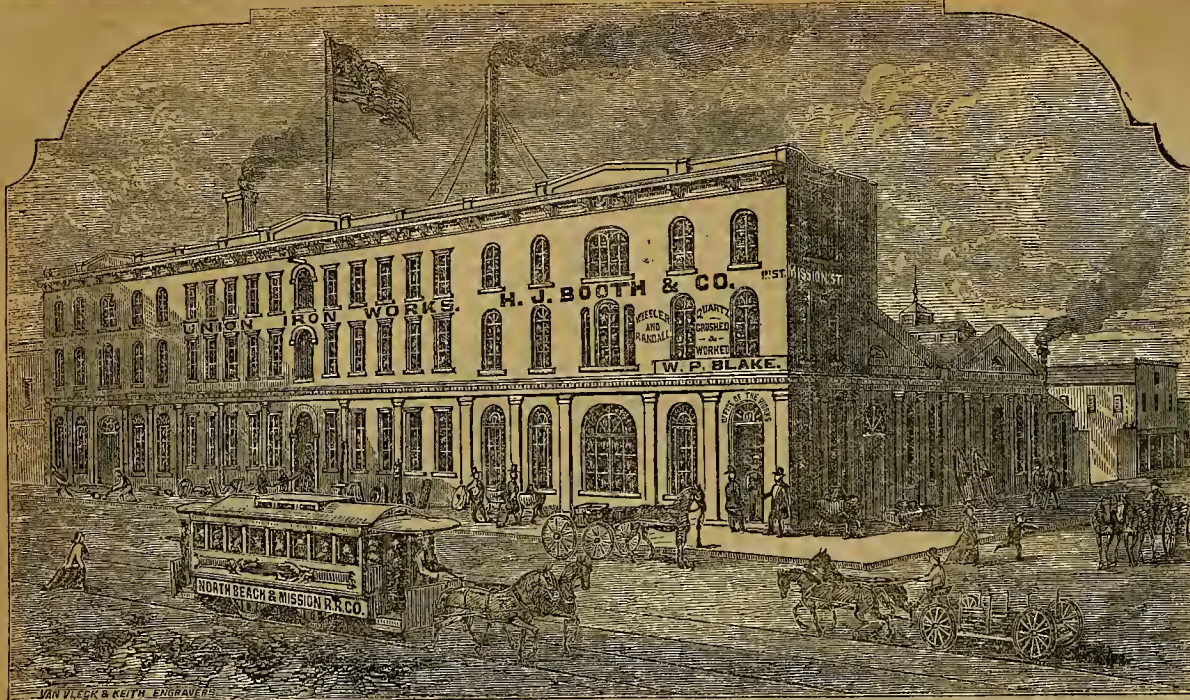
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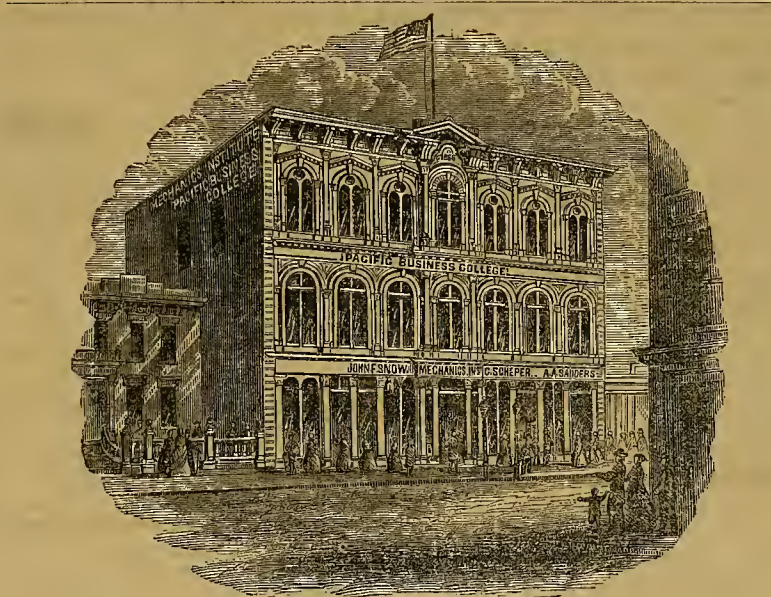
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Terms belonging to the House will be in attendance at all the boxes and cars to convey passengers to the HOUSE PARK or CHAGA, and to any part of the city for 60 cents 2v12 F. E. WEYANT, Proprietor.

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WM. BARTLING, HENRY KIMBALL, BARTLING & KIMBALL, BOOK BINDERS, Paper Rulers and Blank Book Manufacturers. 505 Clay street, (southwest cor. Sansome), SAN FRANCISCO. 15v12-3m

JOHN DANIEL, (SUCCESSOR TO O. GOAL) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco. Monets, Monuments, Tombs, Plumbers' Slabs Etc., on Hand and Manufactured to order. Goods shipped to all parts of the State. Orders respectfully solicited. 5v8-3m

Palmer's Patent ARTIFICIAL LEG, Manufactured in Philadelphia, Penn. JARVIS JEWETT, AGENT. 218 Montgomery Street, San Francisco. 10v8-1m

HUCKS & LAMBERT, SOLE MANUFACTURERS OF THE CELEBRATED H. & L. AXLE GREASE, Natoma Street and North Beach, SAN FRANCISCO. 2v13-3m

HARRIS BROS., OUTLERS, LOOKSMITHS, BELLHANGERS And Model Makers. 208 Leidesdorff street, bet. Sacramento and Commercial, SAN FRANCISCO. 2v14-ff

LEATHER HOSE AND BELTING, ALL SIZES. SUCTION HOSE MADE TO ORDER At short notice, by M. M. COOK & SON, No. 801 Battery street, SAN FRANCISCO. 13v13-3m

SAN FRANCISCO Cordage Manufactory! CONSTANTLY ON HAND A LARGE ASSORTMENT —OF— MANILA CORDAGE, Whale Line, Bale Rope, etc., Manufactured from Pure Manila Hemp. Office, at TUBBS & CO'S, 611 and 613 Front street. Manufactory at the Potrero. 1v14-1q

M McNALLY & HAWKINS, Plumbers and Gas-Fitters, No. 645 Market Street, Adjoining R. C. Orphan Asylum, nearly opp. Montgomery street, San Francisco.

BUILDINGS FITTED UP WITH GAS, Water and Steam Pipes, and all work warranted. Have constantly on hand an assortment of Gas-Fixtures, Lead and Iron Pipes, Marble Slabs, etc. 6v15qr

E. POWER, WOOD CARVER —AND— Composition Ornament Manufacturer. Designing, Modeling and Patterns FOR CASTING. INTERIOR DECORATIONS OF ALL DESCRIPTIONS, In Wood, Composition and Metal. Nos. 311 and 313 Market street, San Francisco. 25v14-4y

J. M. STOCKMAN, Manufacturer of PATTERNS AND MODELS, (Over W. T. Garratt's Brass Foundry.) S. E. Corner of Mission and Fremont sts., SAN FRANCISCO. 6v14tt

J. H. WHITE, JACOB KRANER, Petrolne Oil Works. J. H. WHITE & CO., No. 109 Commercial street, San Francisco. Are now manufacturing LUBRICATING OILS & AXLE GREASE, From Petroleum of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricants are equal to any in the market, and surpass all others for cleansing of gun caused by the use of animal oils which contain stearic and margaric, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 25v14ff

THEODORE KALLENBERG, Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc. No. 10 Stevenson street, near First, San Francisco. Repairing promptly attended to. 3v15ff

THE MINING AND SCIENTIFIC PRESS, San Francisco, has entered on its sixteenth volume. The Press is worth its weight in gold to the artisan and the miner, and is always filled with original matter of deep interest to all classes.—Analyst Ledger, July 13th.

SUBSCRIBERS who do not receive the Mining and Scientific Press in due time, are requested to inform the publishers.

Professional Cards.

DEWEY & CO. PATENT AGENTS, ENGRAVERS AND PUBLISHERS, Mining & Scientific Press, CIRCULARS FREE. SAN FRANCISCO.

SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco, Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 22\*

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of MODELS made for parties applying for patents at Washington or London. mar23-tf

JAMES M. TAYLOR, Attorney and Counsellor at Law, Court Block, 636 Clay Street, SAN FRANCISCO. 2v15-1qr

ISAAC LOBREE & CO., GOLDEN STATE POTTERY, ANTIOCH, CAL. Office in San Francisco, 516 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware. Is prepared to fulfill all orders at the shortest notice. 20v14ff

J. N. ECKEL, M. D., Homeopathic Physician 226 Post Street, San Francisco. 2v14yr

DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets [OVER SAN FRANCISCO BATHS] SAN FRANCISCO. 20v10-4y

J. W. WINTER, DENTIST. Office, 647 Clay street..... San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$30 to \$35. Teeth extracted without pain by local application. 18v14-ff

RADICAL CURE —OF— RUPTURE! DR. A. FOLLEAU Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, (orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 2v14-11pff

MOSHEIMER'S PIONEER MINING SCHOOL —AND— Metallurgical Works.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches: 1. Assaying of ores, metals and other mineral substances. 2. Technology, or Chemistry, as applied to any special branch of manufacturing. 3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc. 4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed. 5. Concentration. Dressing of ores. 6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology. Mining is considered by many a very hazardous undertaking; but I can assure anyone that our mines are safe an investment as any other business when properly understood and managed; therefore, learn first, if you have a mine, then study the nature of the ore, and how to work it, and you will never fail to be successful. It may not be superfluous to state that I am theoretically and practically acquainted with all the branches I offer to teach. Years of actual experience in the laboratory, smelting works, quartz mills, and other manufactories erected on my own account, have not only given me lessons, but more than ordinary ability. I was the first one in California who successfully extracted silver by smelting, on a large scale, and have since been traveling through the manufacturing and mining towns of Europe, to study all improvements, and am now again the only one in San Francisco who undertakes to work any kind of ores by either roasting, smelting, lixiviation, or chlorination process. I also undertake the erection of smelting and roasting furnaces, and furnish plans and estimates for any kind of works. My lately invented Roasting Furnace has the following advantages: A Furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$300. It requires half a cord of wood per ton of sulphurets. The total expenses of roasting are not over \$6. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine gas of quicksilver when amalgamated. A large size furnace in successful operation may be seen, by permission of Mr. Maltman, in his works in Nevada City. Several others are in progress of building. Charges for assaying gold or silver ores..... \$3 00 Copper ores..... 5 00 Practical Chemist, Metallurgist, etc. Office, No. 328 Montgomery street, San Francisco, Cal. 6v15-3ms

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD, J. H. TIEMANN, MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, CENTRAL CITY, COLORADO. 19v12-1y

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware Photographic Stock, Etc 512 and 514 Washington Street, SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, can be supplied on hand. San Francisco March 6, 1865. 11v10-ff

J. A. BAUER, Chemical Laboratory AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO.

Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc. Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Geology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Gold Chloride, Platin Chloride, Sodium Amalgam, Sulphate of Copper, etc., for sale. 12v14-6m

T. R. CHURCH, FASHIONABLE

CLOTHING EMPORIUM No. 223 Montgomery st., Russ Block.

WHOLESALE AND RETAIL DEALER IN FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices. 9v15-qr

MEUSSDORFFER, Nos. 635 and 637 Commercial Street, WILL INTRODUCE

On Saturday, February 9, 1867, An Entirely New Style of

Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dresy Hat ever introduced on the Pacific Coast. Call and see them. 8v14

Acids! Acids!

Nitric, Muriotic, Sulphuric, Chemically Pure, Manufactured by the Pacific Chemical Works, FALKENAU & HANKS, 8v15alt 623 Montgomery street, San Francisco.

Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.



GAINED HER INDEPENDENCE.—The South went to war for independence, and actually gained it—although but very few, even of her own people, are aware of the fact.

New Mining Advertisements.

Ancient River Channel Blue Gravel Company

Location: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company 408 California street, San Francisco.

Neagle & Co. Silver Mining Company.

Location: Storey County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company 408 California street, San Francisco.

Mount Teabon Silver Mining Company.

Location of Works: Cortez District, Lander County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of September, 1867, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Potero Company.—Location of Works: San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of two dollars and a half (\$2 50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 533 Kearny, corner of Sacramento street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (Room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with manufacturing pans, etc., FOR SALE. The mine has three main veins, and more than \$20,000 has been spent in opening them and completing the mill. Good water runs all the way. Apply to BELLO, FRERES, Bankers, 535 Clay street, San Francisco.

Mining Notices—Continued.

Ancient River Channel Blue Gravel Company.

Location of Works: Nevada County, California. Notice.—All persons are cautioned against purchasing the following Certificates of Stock in the Ancient River Channel Blue Gravel Company, as the transfer has been stopped on the same:

One Certificate, No. 82, for 125 shares; one Certificate, No. 6, for 10 shares; one Certificate, No. 27, for 15 shares. A. P. MORE, San Francisco, August 26, 1867.

Postponements and Alterations.—Securities are requested to give notice of postponements, or alterations which they may desire to make in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

Auella Gold Mining Company, Rock Creek, Sierra County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of August, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 418 and 420 Clay street, San Francisco.

Chalk Mountain Blue Gravel Company.

Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 408 California street, San Francisco.

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificates, No. Shares, Amount. Includes entries for C. W. James, Drinkhouse, J. A., Dinkolspeil, L., Fassett, N. C., Gray, J. B., Harker, W. B., Harker, W. C., Harker, J. W., Jacobs, N. B., Raymond, C. B., Camargo Stock acct., and Lander, P. C.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Company, by Jones & Bendick, Auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco.

Gold Quarry Company. Location of Works: Placer County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes entries for Ogo Hoffman, Edmund Wertheman, Archibald C Peachy, Lafayette Maynard, John Aitel, James Freehorn, and James Freehorn.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, No. 706 Montgomery street, San Francisco, on Monday, the twelfth day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 706 Montgomery street, (Room No. 4, 2d floor) San Francisco, Cal. jy27

REMOVAL.—The office of the Company is removed to No. 402 Montgomery street, Room No. 10, second floor.

August 6th, 1867. T. W. COLBURN, Secretary. au10

POSTPONEMENT.—The above sale is postponed to Monday, the 9th day of September, 1867, at the hour of 12 o'clock noon, of that day, to take place at the new office of the Company, No. 402 Montgomery street, (Room No. 10, second floor) San Francisco. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, 402 Montgomery street (room No. 10, second floor, San Francisco, August 12, 1867. au17

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of August, 1867, an assessment (No. 16) of fifty (50) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Any stock upon which said assessment shall remain unpaid on Thursday, the nineteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. au17

Hanscom Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of July, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the Etina Iron Works, Fremont street, between Howard and Folsom, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the ninth (9th) day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN O. HANSCOM, Secretary. Office, at the Etina Iron Works, Fremont street, between Howard and Folsom, San Francisco. Office hours: from 8 A. M. to 12 M. au10

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—The Annual Meeting of the stockholders of the I. X. L. Gold and Silver Mining Company, for the election of Trustees, and the transaction of such other business as may come before the Company, will be held in San Francisco, at the office of the Company, No. 418 and 420 Clay street, on THURSDAY, the twelfth day of September, 1867, at 12 o'clock, noon.

FRANK H. HAMILTON, Jr., Secretary. Office, 418 and 420 Clay street, San Francisco. au17

La Blanca Gold and Silver Mining Company.

Location of Works: District of Ures, State of Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of August, 1867, an assessment of two dollars and fifty cents per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, southeast corner of Grand Commercial streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on Saturday, the fourteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOS. OLDMAN, Secretary. Office, southeast corner Front and Commercial streets, San Francisco, California. au13

Lady Franklin Gold and Silver Mining Company.—Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of July, 1867, an assessment of thirty (30) cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 305 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the sixteenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the fifteenth day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. S. LUTY, Secretary. Office, 305 Montgomery street, Rooms 5 and 6, San Francisco, California. au17

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of August, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, 418 and 420 Clay street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fifth day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 648 Market street, San Francisco, Cal. au24

Neagle & Co. Silver Mining Company.

Location of Works: Storey County, Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes entries for Bell, Rosaena, Bell, Jos., Bell, J. O., Edwards, A. L., Kennedy, Jas., Shurein, D., Shurein, J., Murphy, John, Moloney, M., McCall, A., McGrath, Frederic, Neenan, A., and Peudergers, Wm.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the second day of September, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. P. GREEN, Secretary. Office, Room No. 11, 333 Montgomery street, San Francisco, California. au17

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the second day of October, 1867, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. au17

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fifth day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes entries for Daniel S. Slag, The Williams, The Williams, The Williams, and W T Gough.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fifth day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Monday, the ninth day of September, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. au24

Silver Sprout Mining Company.—Kearns District, Inyo County, California.

There will be a meeting of the stockholders of the above named Company, for the purpose of altering and amending the by-laws of the Company, on the tenth day of September, 1867, at 3 o'clock P. M., at the office of the Company, No. 403 California street. By order of the Board of Trustees.

T. B. WINGARD, Secretary. San Francisco, August 16th, 1867. au17

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

Santa Cruz Petroleum Oil Works Company.

Location: Santa Cruz County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of August, 1867, an assessment (No. 20) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. Wegener, 415 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Tuesday, the seventeenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. au17

Silver Sprout Mining Company.—Location of Works and Mines: Kearns District, Inyo County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of August, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the Company's office, 408 California street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of September, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-sixth day of September, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. au10

Santa Cruz Petroleum Oil Works Company.

Location: County of Santa Cruz, State of California. Notice.—The fifth Annual Meeting of the stockholders of the above named Company will be held at their office, 415 Montgomery street, San Francisco, California, on Tuesday, the twenty-fourth day of September, 1867, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and transacting such other business as may properly come before it.

R. WEGENER, Secretary. San Francisco, August 13, 1867. au17

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

A Special Meeting of the Stockholders of the above Company, will be held at the office, Room No. 22 Court Block, on WEDNESDAY, September 11th, 1867, at 3 o'clock P. M. By order Trustees.

D. F. VERDENAL, Secretary. au11

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes entries for John Anties, Byrne, H., Byrne, H., Byrne, H., Byrne, H., Breuer, J. T., Keran, J. O., Felt, Pierre, Bartet, O., Bartet, G., Harzo, J. (G. W. Jenkins' stock), Bernard, J., Kennedy, J. O. B., Loh, A., Loh, Simon, Loh, Louis, Smith, J. P., Epstein, Simon, Weiser, Alexander, Vastue, J. O., Kerston, Joseph, Kerston, Joseph, Kerston, Joseph, Chappelle, A. M., Chappelle, A. B., Chappelle, A. B., LeRoy, Catharine, Frier, Jeanne, Bluff, J., Menu, J. H., Brock, George, L'evau, Charles, France, J. L., and Oezman, Emilie.

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Saturday, the thirty-first day of August, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco, au17

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the fourth day of September, 1867, at the same hour and place. By order of the Board of Trustees.

D. F. VERDENAL, Secretary. au17

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes entries for Allen, H., Allen, H., Camp, James, Drinkhouse, J. A., Fassett, N. C., Gray, Asaph, Harker, J. W., Johnson, G. H., Satterlee, W. R., Turner, Anna Key, Williams, J. J., Donnan, W. O., Raymond, C. B., and Jacob, S. W.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendick, auctioneers, on Thursday, the twenty-sixth day of September, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco, California. au3



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs.

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with the quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The machine can be seen in operation.

At Both & Co's Union Foundry, up stairs, Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR. For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$100. The box will answer for wood. By reference to the Mining and Scientific Press of May 25th, a full description of the above machines may be found. For particulars, send for Circulars, or address ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1865.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other materials is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

BY

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077

San Francisco.

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



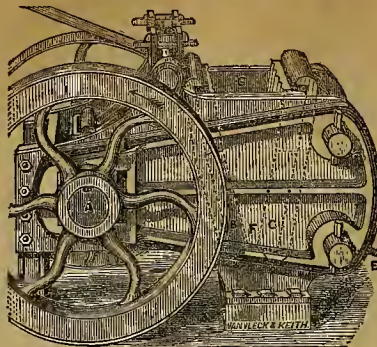
HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Trucks built to order. No. 28 Second St., and 108 and 110 Jessie St. San Francisco.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

- No. 1—Or 9 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600
No. 2—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour, \$850
No. 3—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and eccentric laws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fallon Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: Rawhide Ranch, Tuolumne Co., Sept. 28, 1865. JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use at the Rawhide Ranch, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

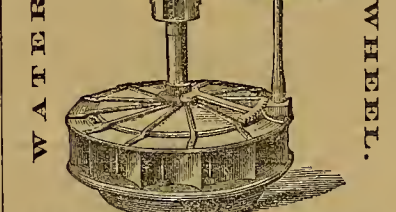
Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1865.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. BRODIE & RADCLIFF, Express Building, 402 Montgomery Street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERNCES.—E. Stockton, Folsom; O. Simmons, Oakland; Mill at Clear Lake; Moran, Coville, Lexington; Santa Clara County; J. McMillan, Lexington Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California.

26v13-lyq 310 Washington street, San Francisco

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated Hartford Engine,

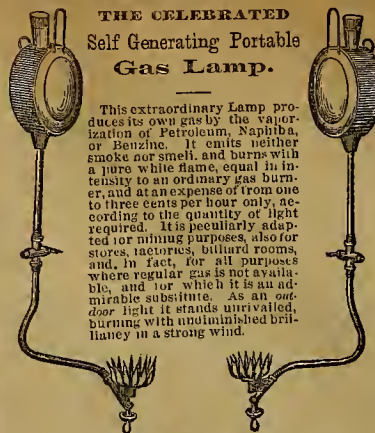
With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine, Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, San Francisco, Aug. 29, 1867.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draftsmen, by applying to this office.



THE CELEBRATED Self-Generating Portable Gas Lamp.

This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required for mining purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use. Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18v14-3n-3

NELSON & DOBLE, AGENTS FOR Thomas Firth & Sons' Cast Steel Files, Etc., Shear, Sring, German, Flow, Blister and Toe Caik Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco.

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The Inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "Hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. THOMAS PATTINSON. 7v15-4y

NEW YORK PRICES.

C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY.

A large assortment of these Superior Watches, In Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers.

The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewelry. 25v10-6m

WATCH REPAIRING AT NEW YORK PRICES.

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WATCH REPAIRING AT NEW YORK PRICES.

NEW YORK PRICES.

Quartz Mill Construction and Superintendence

THE UNDESIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Desires to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 25v143m

Notice to Miners.

Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE M. PRAG'S Improved Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG, 8v13-ly Stove Store, No. 126 Clay street, below Davis.

THE ATLANTIC CROSSED ON A RAFT.—The life-raft Nonpareil made the passage across the Atlantic in forty-three days, conducted by John Mikes as Captain and George Miller and Jerry Mallene as crew. These men have thus made one of the most remarkable voyages on record. The raft is only twenty-four feet long by twelve and a half wide, and consists of three cylinders, pointed at each end, united together by canvas constructions, having no real deck. It is strengthened by boards slipped under strong iron neck-pieces, the whole kept together by lashing. A water-proof cloth hung over a boom, closed at each end, somewhat resembling a gipsy tent, affording sleeping accommodations for two at a time, the third keeping watch. This is fixed on a strong locker, in which the provisions are kept. The raft lay to seven times from stress of weather. They arrived in perfect health, the men in good spirits, and their countenances looking healthy and bronzed by the weather. They had no chronometer on board; but sailed by dead reckoning, and corrected their position by vessels they spoke. The raft has kept perfectly watertight all the way, not a leak of any sort having occurred. She is fitted with an apparatus for filling the tubes with air. On the arrival of the raft at Southampton, J. R. Stebbing, the President of the Chamber of Commerce, went on board, congratulated the crew on the success of their daring enterprise, and tendered them any good office that might be required.

ADMIRAL FARRAGUT is, in rank, the highest naval officer afloat. His station corresponds to that of Lord High Admiral in England—an office which has not been filled since 1828, and which can only be filled by a prince of the royal blood. Prince Alfred is now training for it—a necessary preliminary, as English public sentiment will no longer tolerate the appointment of green-horns to high posts of honor, as it once did. Prior to the rebellion, the highest legal rank in our navy was that of Post Captain; the title of Commodore was one of courtesy. The indifference or jealousy of the country against the navy was so great that no higher rank could be obtained from Congress, although the navy won the first battle in the war of 1812. It was only after the unparalleled acts of the navy during the rebellion that ranks assimilating to those of foreign nations could be created for the navy. The insignia of rank in our service is: First—The Admiral, who wears a square flag, blue, with four white stars, worn at the main. Second—Vice-Admiral, square flag, blue, with three white stars, worn at the fore. Third—Rear-Admiral, square flag, blue, with two stars, worn at the mizzen. Fourth—Commodore, broad pennant, blue, with one white star, worn at the main.

BULLION PRODUCT OF THE MINES ON THE COMSTOCK LOPE FOR 1866 AND THE FIRST HALF OF 1867.—Mr. F. B. Smith, Deputy Assessor of Internal Revenue for the Virginia (Nevada) District, has been at great pains in going over all the figures for the period named, and has furnished the following statement to the Territorial Enterprise, which, that paper says, can be relied on as perfectly correct: The amount of bullion assayed in Storey county from January 1 to June 30, 1866, was \$6,292,002, coin—in currency, \$7,903,759; from July 1 to December 31 of the same year, \$7,875,700, coin—in currency, \$10,169,175. On this, the amount of tax paid the General Government was \$99,766.73. For 1867, from January 1 to June 30, the amount of bullion assayed in this county was \$8,500,377, coin—in currency, \$10,890,050; the internal revenue on which amounts to \$54,450.25. This statement shows a most astonishing and gratifying increase in the yield of the mines on the great Comstock lode.

LARGE BOILER FOR THE NEW IMPERIAL WORK.—In front of the old Imperial hoisting works, Gold Hill, says the Enterprise, is to be seen a huge boiler. It is five feet two inches in diameter, and weighs eleven tons. It originally belonged to the Gold Hill Drainage Company, and was at one time set up at their drain shaft, but was never used, though we believe steam was once raised in it on trial. It is as good as new, and will be moved up to the new Imperial hoisting works early next week, where it will be put in position. It is an immense affair, and should it ever explode—good by to all the northern portion of Gold Hill!

NASAL MEDICINE.—M. Raimbert, a French doctor, practices a new method of introducing medicine in the animal economy, viz.: by the nostrils. He has done so with morphine, which, it seems, introduced in that way, will cure violent headaches.



**COLD IN SPITZENBERGEN.**—No description can give an adequate idea of the intense rigor of the six months' winter of this part of the world. Stones crack with the noise of thunder; in a crowded hut the breath of the occupants will fall in flakes of snow; wine and spirits turn to ice, the snow burns like caustic; if iron touches the skin it brings the flesh away with it; the soles of your stockings may be burnt off your feet before you feel the slightest warmth from the fire; linen taken out of boiling water instantly stiffens to the consistency of a wooden board, and heated stones will not prevent the sheets of the bed from freezing. If these are the effects of the climate within an air-tight, fire-warmed, crowded hut, what must they be among the dark, storm-lashed mountain peaks outside?

Every foot of land on which Belfast, Ireland, is built, is owned by one man, the Marquis of Donegal. Every citizen has to pay tribute to him. His income from ground rent is from one to two millions of dollars per annum.

**SANTA CLARA COLLEGE, S. J.**  
SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867.

TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$35.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace's College, Market street, San Francisco.

5v15-1m REV. A. MASNATA, S. J., President.

**The Commercial Herald**

—AND—

**MARKET REVIEW**

Will be issued early on

**EVERY STEAMER-DAY MORNING,**

(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

**The Letter Sheet Market Review,** Containing selections from the COMMERCIAL HERALD, printed on issue paper, for transmission abroad, will be published simultaneously with this paper. Also, publication office of the

**Weekly Stock Circular.**

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW. 2v15

**Golden City Chemical Works.**

LABORATORY,

Corner of Seventh and Townsend Streets.

OFFICE

Corner of Montgomery and Bush Streets.

CAPITAL STOCK, - - - \$500,000

Trustees:

H. P. WAKELEE, THOS. H. SELBY,  
NICHOLAS LUNING, THOS. BELL,  
CHAS. E. MOLANE.

H. P. WAKELEE .....MANAGER.

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muratic Acids of superior quality, in quantities to suit.

Orders will be received at the office on 'y for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14-3m

**THE WILLOOX & GIBBS**

IMPROVED NOISELESS

**Family Sewing Machine** Challenges the world. It has beaten the Florence badly y Come and see it, or send for Report of

**SAMUEL SWIFT, Agent,** 03 Kearny street, near Sutter. 13v14-6m

**THE GREAT LIGHT.**

THE DANFORD

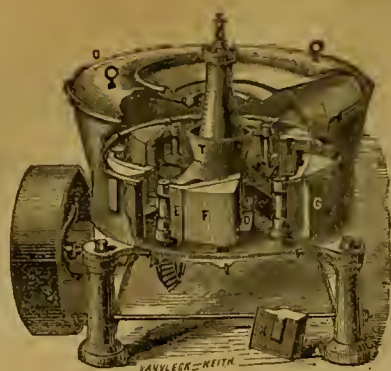
**Atmospheric Lamp.**

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent. less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM.

For sale only by **E. AYERS,** 417 Washington street, opp. Post Office, S. F. 2v15-1y

**HINKLE & CAPP'S CENTRIFUGAL ORE GRINDER AND AMALGAMATOR.**

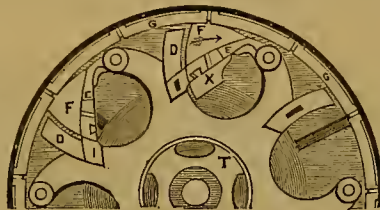
Patent dated April 16th, 1867.



For Grinding and Amalgamating Charges of Ore.

Arranged as shown in the first engraving, the pan is adapted for grinding and amalgamating separate charges of ore of 800 lbs. each, doing its work rapidly, thoroughly and effectually.

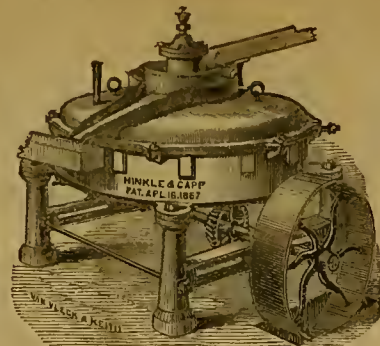
This sectional engraving exhibits more clearly the arrangement and shape of the grinding parts of the machine. It, and the other engravings, will be more clearly understood by reference to the accompanying explanation.



Half Section or Top View.

**The Centrifugal Ore Grinder.**

This new GRINDER AND AMALGAMATOR is extremely simple and compact in its construction. The principle availed of is entirely novel. The grinding is effected by perpendicular mullers, pressed laterally by centrifugal force against perpendicular iron dies, fitted to the inner sides of the pan. It is to be run at a speed of from 60 to 80 revolutions per minute, according to the hardness of the rock to be crushed. The pressure upon every part of the grinding surfaces is direct and uniform, and they wear with straight and true faces from first to last, conforming also to the shape of the sides of the pan, so that the work performed with old mullers and plates is as thorough and perfect as with new ones. The pulp enters readily between the mullers and side dies, the pressure being light in front and heaviest at the heel of the muller, there is no strain upon any of the parts, and no liability to breakage or disarrangement, and no wear except that which is useful on the grinding surfaces. The work done is performed without jarring, jerking, straining or clogging, with extreme regularity and evenness, the pulp being of great and uniform fineness. It is not liable to be clogged, nor to be obstructed, stopped, impeded or broken, by coarse pieces of rock, side points or iron, accidentally introduced with the crushed ore, as these can readily pass each muller separately, without interfering with or affecting the other mullers, each of which is independent, or can rest upon the bottom below the mullers, without inconvenience, as the arms play freely an inch above the bottom of the pan. It is more readily cleaned up than any other pan, as each muller can be lifted off separately by hand, and there is no necessity for lifting the revolving one or driver, which is also easily turned, there being no friction when not in use, or rapid revolution. The bulk of the mercury is not ground up with the rock, but lies below the lower ends of the mullers in a groove, and in another groove on the cover of the pan, where all the pulp and metal passes continually over it without cutting or carrying it away. The mullers and side



For Grinding and Discharging Continuously.

Arranged as shown in the second engraving, all the interior grinding parts being the same as shown in first view, this pan is adapted for receiving and grinding and discharging continuously crushed quartz as fast as supplied by a five-stamp battery, with No. 4 or 5 screens. A "slumber," or some similar contrivance, to carry off the clay, slime and surplus water, is to be placed between it and the battery.

EXPLANATION.—E, muller-hanger; F, muller plate or shoe; G, side dies; I, supporting lip; D, bearing surface; T, feeder; X, weight to counter-balance wear of muller plates, or sides; U, cover used in working charges of ore. The dark shade on the bottom of the pan represents one of the grooves for mercury.

dies are easily removed at any time, or when worn out, and an extra set of mullers is furnished with each pan sold. It is also adapted for grinding cement, sulphurets, roasted ores, etc.

We claim all these advantages for our Pan, and that it will do more and better work, with less power, and less attention and manual labor, more rapidly and with less expense, than any other pan or miller made for the same purposes, and claimed to be of equal or greater capacity. We will sell them for use on condition that if, when fairly tried they fail to answer these promises, they may be returned.

For full description and illustration, see Mining and Scientific Press, June 15, 1867.

**Hinkle & Capp's Centrifugal Ore Grinder and Amalgamator**

May be seen in operation, and examined, at the European Metallurgical Works, on Bryant, between Third and Fourth streets, San Francisco, where all interested in mining and milling operations are invited to inspect it. Its weight, as arranged for continuous grinding and discharge, with extra set of six mullers, is about 2,700 lbs.; or as arranged for grinding and amalgamating single charges of 800 lbs. of ore, also with extra set of mullers, about 3,000 lbs. Price, as above, completely fitted and ready for use, either way, \$300, gold coin.

For further particulars, apply by letter to PHILIP HINKLE and CHARLES S. CAPP, No. 54 Clay street, below Montgomery, San Francisco, Cal. or personally to the above, or S. P. RIVERA, Esq., at the European Metallurgical Works, on Bryant street, between Third and Fourth streets, or at the Millers' Poultry, First street, near Polson, where they are manufactured.

Send for Circulars. PHILIP HINKLE, and CHARLES S. CAPP, Patentees, 54 Clay street, San Francisco. 25v14-1f

**Stair Work of all Kinds, MADE TO ORDER**  
And Shipped to all parts of the Coast.

**N. P. LANGLAND, STAIR BUILDER,**  
No. 49 Beal street,  
Between Market and Mission,  
SAN FRANCISCO.  
10v14-1y

Newel Posts and Balusters CONSTANTLY ON HAND and FOR SALE.

**HAYWARD & COLEMAN,**  
IMPORTERS AND REFINERS  
—OF—  
**Illuminating, Lubricating, PAINT OILS!**  
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**HIGHT OF MT. HOOD DEFINITELY FIXED.**  
Col. Williams, of the U. S. A., Engineer Corps, who was ordered by the Government to make an official determination of the height of Mt. Hood, has made the ascent and returned to Portland. According to the *Oregonian*, he reports that mountain to be just 11,000 feet high, thus knocking off 6,600 feet from Prof. Wood's calculation, about which there has recently been so much controversy. We understand that the Oregonians are about to petition for an official determination of the height of Mt. Shasta, which has been heretofore reported as 14,500 feet high. The Oregonians are confident they can knock off a little over 3,500 feet from the hitherto reported height of this famous competitor of Mt. Hood, and thus continue to claim to hold within their borders the highest mountain in the United States.

**BLASTING WITH SODIUM.**—The latest received number of the *Journal of Photography* says that experiments were being made in the Isle of Man to ascertain the value of sodium, in contact with water, for blasting purposes. Sodium, it is well known, decomposes water into its two constituent gases; but whether the gradually accumulated force which would thereby be brought to bear in a closed chamber of the rock would be of much avail in disrupting the same, remains to be proved. It could not break it up, as by the sudden explosion of powder, although it would doubtless rend it, until the gases found sufficient room for their accommodation or gradual exit.

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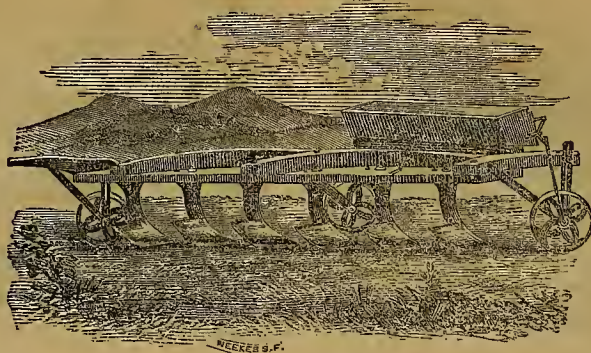
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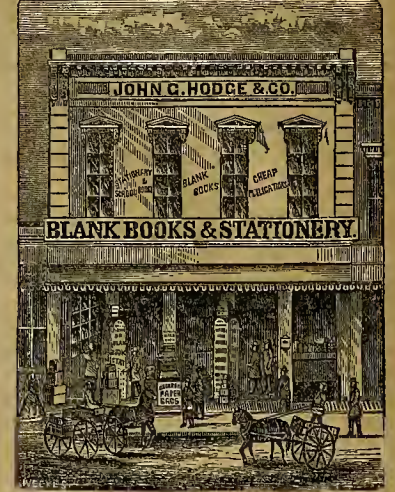
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SAN FRANCISCO, SATURDAY, SEPTEMBER 14, 1867.

VOLUME XV.  
Number 11.

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## The Large Circular Knitting Machine.

We have given, on another page, a full description of the "Pacific Woolen Mills" of this city, better known as the "Knitting Factory." All the manufactures of that establishment are knit goods. The usual complement of carding and spinning machinery accomplishes the preliminary process of putting the wool into the form of yarn; but no looms are employed—the

fact and very rapid in its operation. It was first invented about twelve years ago; but has since passed through numerous modifications and improvements, before coming to its present state of effectiveness. There are six of these machines at the Pacific mills, constructed in pairs, or two within one frame, instead of single machines as given in the illustration. A stocking machine, although working mainly upon the same principle, is nevertheless quite different in construction from that here illustrated, and

spools or bobbins, which is carried and placed between the needles, by the small wheel just below F, on the right hand side of the illustration. The wheels marked F, F, F, are for pressing upon the work, preparatory to the action of the small wheel under G, the office of which is to press the needles to form the loop or stitch. These machines are capable of turning off a great variety of both coarse and fine work.

### ORIGIN OF KNITTING MACHINERY.

The first knitting machine of which we have any account, was invented about 200 years ago, by the Rev. William Lee, of Leicester, England. Mr. Lee, like most impetuous clergymen, was blessed with a large family of children, and was greatly pained at the large amount of knitting which his good wife had to perform to keep the family supplied with coverings for their feet, and like a humane and sensible man, put his wits to work to devise some machinery for facilitating the work of knitting. The result was a *hand machine*, by which a person could do ten times as much as by the common knitting needles. Others, in the same neighborhood, took up his idea, and continued to improve upon the same, from generation to generation, until the knitting machine has been brought to its present high degree of perfection. Leicester, to this day, is noted as a great center of knitting machinery—its knit goods being now sent to all parts of the world. It has been only until within about twenty years, that power was successfully applied to this ingenious and complicated class of machinery, which has been the subject of a very great number of patents, not less, probably, than that which has given to the world the present perfected sewing machine.

### SACRAMENTO FEMALE SEMINARY.

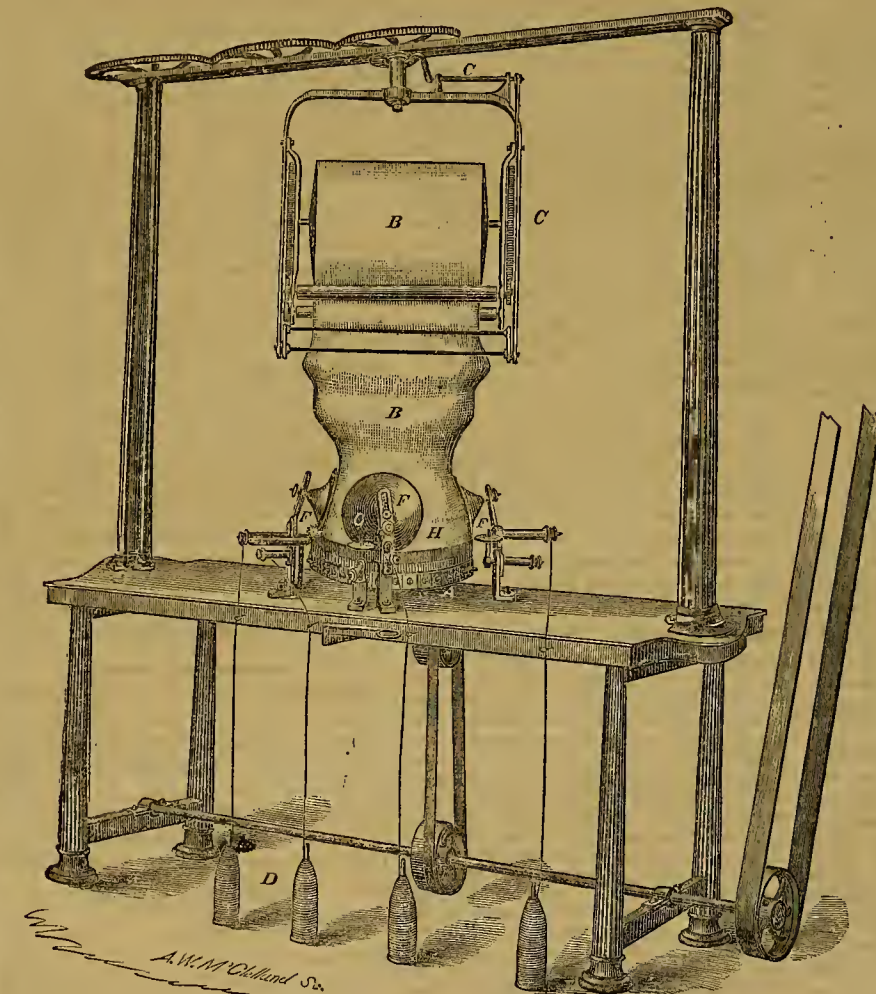
We take pleasure in calling the attention of the public to the advertisement of the Sacramento Seminary for young ladies, under the charge of Mr. and Mrs. Perry, where all the different branches pursued in institutions of a

similar character are taught by not less than six efficient teachers. The boarding pupils are under the immediate supervision of the Principal and assistants. The gratifying success which has thus far attended this Seminary, gives promise of permanency and a high stand among literary institutions and its constantly increasing patronage has encouraged and necessitated the erection of the new edifice which is to be ready for occupation at the commencement of the next term. The building is of brick, forty feet by sixty in size, and four stories in height, and is located on the highest ground in the city.

## POLITICS, HAND ORGANS AND ORPHANS.

Perhaps the largest crowd ever seen on Montgomery street, blocked that thoroughfare for several hours on Wednesday last. The occasion was the settlement of the "Hayes-Higgins" wager. Michael Hayes and Wm. S. Higgins had made a bet upon the election, the terms of which were, that in case of the success of Haight, Higgins should carry a hand-organ along Montgomery street, from Jackson to Market, and play a tune before each of the principal hotels, *a l'Italian*, collecting contributions in regular style, the sum of which collections should be divided equally between the Protestant and Catholic Orphan Asylums in this city. In case of the election of Gorham, Hayes was to be the performer. The lot, as our readers well know, fell upon Higgins; and manfully did he comply with the conditions of the bargain. The city journals had duly announced the sport; and the whole town seemed determined to "make a day of it." The procession moved with difficulty through the jam. Everybody had his cash ready, and liberally was it showered upon the party carrying the bag. Before Washington street was reached, a thousand dollars had been collected. From almost every house along the entire line of the procession, coin was scattered in single pieces and in packages. The ladies in the hotels gave generously. Halts were made at divers points, while the collectors made raids into the side streets. Hayes, the winner of the wager, staggered under the weight of a large tin box of accumulating silver. Several of the candidates in the late contest, both elected and defeated, joined the procession, and aided in the collection. The continuous cheers most effectually drowned the organ; and fortunately too, for Mr. Higgins having omitted to inform himself in regard to the manner of changing the tune, was compelled to grind out the "same old thing" from one end of the street to the other.

After the terminus of the route was reached, and the "regular" performances were concluded, a number of gentlemen visited the merchants in Front and other streets. The result of their efforts was the filling of *six wagons* with provisions of all kinds, and other goods; all of which, with the money collected, amounting to over \$5,000, will be divided as aforesaid, between the two orphan asylums.



LARGE CIRCULAR KNITTING MACHINE.

goods are put together by *knitting machinery*. There are eight different kinds or classes of knitting machines in this establishment, each designed for its own particular class of work. All these machines are of American invention. There are 39 machines in all—29 of which are small ones, for stockings. The particular machine which we have illustrated herewith, is designed for knitting shirts and drawers. Its work, as will be observed, moves upward and is wound upon a drum at B, the yarn being taken from the bobbins at D. This is one of the latest devised knitting machines, and is most per-

fects its work *downward*, instead of upward.

The above machine is capable of turning off 100 pairs of shirts or drawers each day, of ten hours, either of silk, wool or cotton. By reference to the engraving, the cylinder, A, contains a large number of needles, which, set in a circle around the periphery of the cylinder, revolve rapidly, and knit the webbing at the rate of 140,000 stitches a minute, or 8,400,000 an hour. B is the webbing, which, as fast as it is produced, passes upward and is wound round the shaft or "take up," C. D, is the yarn, on



## Communications.

In this Department we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.]

## Formation, Distribution and Age of Igneous Rocks.

[Continued from Page 150.]

The non-conducting properties of volcanic ashes are well known, and large quantities of the ashes or condensed vapors of mineral bodies falling upon a plastic or perhaps fluid surface would protect the rock beneath from cooling rapidly, and thus render the condensation of aqueous vapor possible. Water, strongly impregnated with hydrochloric and carbonic acids, coming in contact with the ashes, would tend to deprive them of the alkalis, soda and potash, and thus a crust of aqueous rock would be formed, which would require a much higher temperature for its fusion than the molten matter upon which it rested. The newly-formed crust might have been broken up by innumerable openings, through which the molten matter from a constantly increasing depth was vomited forth; but it is not probable that, when once formed, this altered granite, or gneiss, could have been dissipated, or even fused, by any subsequent igneous action. The rapid contraction of matter by loss of heat at this early period, causing frequent convulsions, which were attended by the corrugation of the thin crust, thereby exposing and subjecting new surfaces to the denuding, disintegrating and degradating effects of the elements, together with the fluid alkaline rock, which was being constantly erupted, would tend to a rapid accumulation of debris, which would be readily cemented into solid rock by the deposition of the soluble silica, which, under such conditions, must have been so abundant in the tepid waters. In consequence of the atmospheric agencies and of the powerful chemical affinities of the elements thus brought in contact, the formation of the earlier stratified rocks must have proceeded with comparatively great rapidity. It is probable that the granite upon which the stratified rocks rest remained plastic during the formation of the gneiss and clay slate systems, and that the stratified rocks of these two periods, together with the intersecting dykes of igneous rock, composed the only portion of the earth's crust that had then become solid. As the solid crust could have been only about four miles or something less in thickness, the surface of our globe must have remained nearly flat and mostly covered with water, and the corrugation or shortening of this thin covering, while adapting itself to the ever-shrinking mass it contained, was effected by the tilting and folding of the stratified rocks, like a loose robe.

During the formation of the gneiss and clay slate systems, the crust increased to twenty-four miles in thickness, of which the stratified rock alone was solid. At or near the beginning of the third or silurian period, the granite began to solidify, and the folding of the slate seems to have terminated. The solid crust could now only accommodate itself to the receding molten mass by forming into long, low ridges, which were permanently raised above the water. Plastic granite began to be intruded along anticlinal lines, in some instances forming immense cones; and it was at this period that the nuclei of many of our present mountain ranges were formed. During the formation of the silurian system, the solid crust increased from about four to some fifteen miles in thickness. Magnesium is the predominating metal in the erupted rocks of this era, the stratified rocks being largely composed of altered porphyry, serpentine, hornblende, greenstone, steatite, etc.

We will pass on to the consideration of the fourth or old red sandstone period. The crust of the earth during the formation of the three preceding periods increased to the thickness of about thirty-six miles, at

which depth the quartzose stratum is supposed to have been reached. The metalliferous stratum is estimated to have been twelve miles in thickness, and as gold expands more rapidly than other metals at an increased temperature, it is to be inferred that it existed in the greatest abundance in the earliest erupted rocks of this era. Let us consider a few facts: I have mentioned a gold-bearing specimen of soapstone. Some pioneer miners of my acquaintance inform me it is not unusual to find veins of gold-bearing magnesium rock in every way similar to ordinary quartz veins, only the difference in the gangue. These veins are usually narrow and pockety, and some of them are of extraordinary richness. One pocket was found to contain rough, scraggy plates of gold, the size of a man's hand, that exhibited no indications of attrition, and, consequently, could not have been deposited by aqueous agency. At Black Hill, W. G. Hidley recently discovered some veins of asbestus that were rich in gold and averaging about an inch in thickness and running through black serpentine rock. The magnesian casings of quartz veins are sometimes rich in gold. The blue gravel and cement deposits, which probably derive their peculiar character from decomposed magnesian rock, are proverbially rich in gold. Thus it appears probable that gold was erupted in the greatest abundance at the very outset of the metalliferous era, and, as the ores and alloys of gold are very numerous, we might infer that it was widely and generally diffused through the erupted rock of the old red sandstone period.

Whenever an upheaval occurred during the formation of the old red sandstone system, feldspathic granite, similar in composition to the eruptive rock of the clay slate period, was intruded along anticlinal lines, forming, in some instances, immense cones. Metal-bearing quartz was vomited from volcanoes which existed along these lines, while the stratum, estimated to be twelve miles in thickness, was being rendered plastic by loss of heat, and, consequently, the ores of all the useful metals known to man must have found their way to the surface during the old red sandstone period. If it is really the truth that ores were erupted identical in composition with those usually found in veins, and in such enormous quantities as the immense deposits of disintegrated quartz stained with the oxide of iron, forming the old red sandstone, would seem to indicate, it follows that the nobler metals enter more largely into the composition of the stratified rocks, and that placers are more widely distributed than has hitherto been supposed.

[To be Continued.]

**FRAUDS AMONG OREGON WOOL GROWERS.** Some of the Oregon papers are complaining very bitterly of frauds committed by wool growers in that State, who resort to various modes to increase the weight of their wool. In some cases the practice was carried to such an extent that the weight was found to lose from seven to thirteen per cent. when rendered fit for use. The manner of effecting this fraud is to sprinkle the fleeces with water. The evil of this fraud, says the Oregon City Enterprise, does not end by loss of weight, as the water, in connection with the natural grease, causes fermentation, which injures the strength of the staple, and causes it to be black yellow, instead of white, so that it can only be used for dark colored and inferior grades of goods. It is very certain that, if the practice is continued, it will destroy the reputation of the entire wool crop of the State. Oregon wool has been found to contain stones, and such like adulterations to defraud. If persisted in, the matter will return in loss account to the wool growers. It is not always that Oregon wool is inspected in San Francisco, and we should hate to see the clip of the State thrown out of the Atlantic markets on account of such tricks. If farmers think that they are not getting enough for wool, let them decline to sell it, but always keep it pure and unadulterated.

**"AN ITEM OF INTEREST."**—Computation of interest at 7.30 per cent. is a troublesome operation for many people who have never observed that 730 is just twice 365. To those who have observed the latter fact, it may also have occurred that 7.30 per cent. per annum is just two cents a day for every hundred dollars.

The new engine and pumps of the Chicago Water Works, with a capacity to raise 18,000,000 gallons of water per day, have commenced operations.

[Written for the Mining and Scientific Press.]

## Letter from Esmeralda.

AURORA, Aug. 20, 1867.

**MESSRS. EDITORS:** A few notes from this region, now that our prospects seem so encouraging, may perhaps interest you.

Messrs. Winters and O'Neil struck their ledge about the 25th July, and found it immensely rich. The rock was full of gold and small knots of native silver, both of which stuck out of it thick. They are about 1½ mile northeast of the Oxford Beta, and on the same lead. These gentlemen have a 16-stamp mill. Their experience has been rough, and to most would have been discouraging. Their perseverance, however, has met with its proper success. The deeper they sink, the better is the pay. They sunk fifty-three feet below the level which was worked on last fall, and then drifted to the lead, which they found some fourteen feet wide, well defined and very rich in gold and silver. There are about six feet of good pay ore in the lead, and some of it will pay \$1,000 per ton. It is calculated that the average will be about \$100 per ton. Winters and O'Neil are working from twenty to thirty men, and are taking out about sixteen tons good ore per day, enough to keep their mill steadily at work. When their steam hoisting works, now on their way from California, shall be erected, they will increase their laboring force, sink deeper, take out more rock, and lay off another level. This mine is valuable beyond dispute. Its success has restored confidence in the permanency of the mines in this vicinity, for this is the first claim which has struck pay at any depth, and which has been proven to be rich beyond a doubt.

Any number of mines as rich as Winters & O'Neil's, are to be found at and near Aurora. Capital and energy are the only requisites to their development. The Oxford Beta tunnel, on Silver Hill, has been steadily progressing for over four years. They have had much hard rock to contend with; but, judging from the reputation of the superintendent, Capt. Thos. Lytle, formerly of the Great Cape claim on the Yuha river, and the promptness with which its stockholders respond to assessments, work will continue whatever may be the discouragements until the ledge is struck. The Oxford Beta tunnel having run about 800 feet, has made an angle to cut the ledge (distant 80 to 100 feet) at right angles. They have already crossed two spurs containing pay ore, and, as their ledge is identical with that of Winters & O'Neil, it is confidently expected that when struck, it will be found to be rich.

B.

**SKILLED WORKMEN** are leaving England in large numbers for the United States. This is the right kind of importation. Every one of these workmen is worth 10,000 bushels of corn to the country. It is a great trouble to feed and clothe workmen and to have our shops so far from home. Over 1,200 iron-workers, mostly Germans, have quite recently arrived at Pittsburgh.

**POISONING BY EUPHORBIA.**—Several children were poisoned in this city, a few days since, by eating the berries of a species of this plant, which grows abundantly upon the hills in the western part of the city, and is even cultivated in gardens for the sake of its bright green color. It is to be hoped that this will serve as a lesson to those parents who have heretofore been unwittingly harboring an enemy, and that the dangerous ornament will at once be uprooted. All the species of Euphorbia are poisonous. The plant may be known by the fact that a milky juice exudes from a newly broken surface.

**MOLES** may generally be removed by means of a small surgical operation, in which either the knife or caustic is to be employed. Canterize them with lunar caustic or with potassa fusa. No one should undertake the operation without medical advice.

**DEATH OF AN INVENTOR IN AN INSANE ASYLUM.**—Our readers may recollect the "Cutting-Bromide Patent," to which we referred some months since, the claim embraced in which was for the use of bromide of potassium in combination with collodion in photography; and the validity of which was finally settled during the last fall. To those who remember the excitement which was occasioned among photographers throughout the country by the issue of that patent, and by the "test suit" which resulted, the following, from the Hartford (Conn.) Times of August 12th, will be interesting:

The death of James A. Cutting, at the Insane Asylum, in Worcester, is announced. Twenty-five years ago he was residing in Haverhill, N. H., in destitute circumstances, but by obtaining a patent for a new heehive, came into possession of enough money to have made him comfortable, had he remained there. He went to Boston, got up other patents and lost all his property. Finally, his attention was turned to the art of making daguerreotype pictures, then in its infancy, and he discovered the process of making ambrotypes. A patent was secured, and he sold rights in this country and Europe for many thousands of dollars. He was in the enjoyment of what was then considered a handsome income, some of which was spent in yachting. He was the owner of a handsome yacht, which he called the "Ambrotype." In these excursions he became acquainted with the habits of some of the residents of "the briny deep," which led to his establishing an aquarium in "an upper chamber" on Bromfield street, Boston. The public, attracted by the novelty, thronged his rooms daily, and it proved one of the most profitable as well as most entertaining of the places of amusement in the city. His success seemed to have turned his head, and he engaged in a much larger entertainment, the establishment of the Aqualia Gardens in Central Court, on the site now occupied by the Theatre Comique. How much money he spent and lost there is not stated, nor why the enterprise failed, but the establishment soon passed into the hands of P. T. Barnum. This was the last speculation of Mr. Cutting.

**PATENT BUSINESS.**—An examination of the work performed at the Patent Office, shows that the number of applications at the present rate of increase, will reach 20,000 during the present year, and that patents are being issued at the rate of nearly 300 per week. The applications have increased during the past four years on an average of nearly 5,000 per year, while the means for facilitating business have not been added in a proportionate ratio.

Our numerous patent clients will be pleased to read the following, which we clip from the American Artisan:

There is at last a prospect of the clearing up of the back work of the Patent Office. The Commissioner has now obtained a sufficient number of rooms in the Patent Office building to accommodate the authorized additional number of examiners, and has made the following appointments:—General Albin Schaeff, J. M. Thatcher, D. S. Stewart, L. Deane and N. Peters (five of the assistant examiners), and G. W. Gregory (a second-assistant examiner), have been appointed Primary Examiners. Messrs. A. P. Thayer, C. L. Coombs, G. A. Nolen, A. L. Hayes, C. Mygatt, J. C. Tasker, D. Curle, T. N. Bovee and E. Spear (nine of the second-assistant examiners), and M. C. Mitchell and J. S. Grinnell (temporary clerks), have been appointed Assistant Examiners. The commissions of these gentlemen have been signed by the Secretary of the Interior.

**CEMENT MILL BURNED.**—The Missouri Tunnel Company's cement crushing mill, at Yankee Jim's, was destroyed by fire on Saturday night last. Cause of the fire unknown. Loss estimated at from \$12,000 to \$15,000; no insurance.

**A SLEEPING CAR,** on a new plan, with the coaches arranged at a right angle of the track, has been introduced on the Pittsburg, Fort Wayne and Chicago railway. The car is sixty feet in length, and cost \$20,000.

**TALL HOUSE.**—There is now building in Paris an experimental house eleven stories high. It has no staircase, but the tenants are to ascend on a hydraulic elevator which goes up and down once in a minute. The sky parlors are the aristocratic rooms.



## Mechanical.

**ORIGIN OF CAST IRON MANUFACTURE.**—It is related that about the year 1700, one Abraham Darby, the proprietor of a brass foundry at Bristol, England, experimented in trying to substitute cast iron for brass, but without success, until the following incident occurred: A Welsh shepherd boy named John Thomas, rescued a flock of his master's sheep from a snow drift, and later in the same spring, during heavy rain and the melting of the snow, he swam a river to drive home a herd of mountain cattle. Having collected them, on his return he found the stream had increased to a boiling torrent. He nevertheless crossed it on the back of an ox, and brought home the whole herd in safety. As a reward for his courage, his master gave him four of the sheep that he had saved. He sold the wool to buy better clothing, and with the money obtained for the sheep, traveled to Bristol to seek his fortune. To prevent being impressed as a soldier, he requested his master to recommend him as an apprentice to a relative who was one of the partners of Abraham Darby, and he was accordingly sent into the brass works, until he could find better employment. As he was looking on while the workmen were trying to cast iron, he said to Darby, he thought he saw how they had missed it, and begged to try a method of his own. He and Mr. Darby remained alone in the shop that night, and before morning they had cast an iron pot. He was at once engaged to remain and keep the secret, which he did faithfully, although double wages were offered him by other parties. For more than a hundred years after that night, the process of producing iron castings in a mold of fine sand with two wooden frames and air holes, was practiced and kept secret at that factory, with plugged key-holes and barred doors.

**INVENTIONS OF WORKINGMEN.**—At one of the recent scientific discussions held in England, it was declared by Mr. Felkin, in illustration of the importance of diffusing scientific knowledge among the working classes, that since 1780 no less than 660 patents for inventions connected with the manufacture of lace had been taken out, of which all but some half-dozen were the discoveries of workingmen themselves, while in the last 14 years alone, machinery to the value of \$2,000,000 had been laid aside as no longer required for the attainment of the object in view. Mr. Babbage sat for two hours on the occasion of his visiting Nottingham, looking at a particular machine, by which some surprising results were accomplished, and in a reply to a question addressed to him, gave the reason of his narrow inspection of the machine, which was that, although effectual for its purpose, it had been contrived and put together by a man whose contrivances showed that he was no mechanic at all, but merely felt his way from stage to stage. In machines now in use in Nottingham, the same mesh which used to require sixty motions could now be made with six. And this was the result of the mechanical skill of workingmen, a fact not at all surprising to us, when we consider the fact that almost all the patents issued in this country are awarded to workingmen.

**STEEL IRON FROM CINDER PIGS.**—The manufacture of steel iron from cinder pigs, which has been for some time the subject of experiment, appears to be now nearly approaching a successful development. Mr. Heaton, of Langley Mills, places nitrate of soda at the bottom of the crucible, and covers it with a perforated iron plate. The iron to be purified is placed above this, and the melted nitrate of soda diffuses itself through the melted metal, producing, according to the statement of the inventor, complete desulphurization and dephosphorization. A number of experiments were made recently at Langley Mills with cinder iron, which would have been utterly useless in the Bessemer converters. The result is stated to have been the production of steel iron of the finest quality. A large Staffordshire firm is preparing to make the experiment on a large scale.

**STEEL RAILS** have been for some time past in use on the Hudson River railroad. The new track of this road, of steel, is laid from New York to Yonkers, and during this month a further section to Sing Sing will be completed.

For testing the different lubricating properties of oils and other lubricants, an English inventor has contrived an apparatus whose principle depends on the amount of frictional motion necessary to produce a given temperature.

**FIRST IRON FROM OREGON.**—The steamer *Montana*, which arrived last week, from Oregon, brought fifty tons of Oregon pig iron. As appropriate to this new industrial enterprise, we quote the following from the *Commercial Herald and Market Review*, of the 10th inst.:

It is with sincere pleasure we chronicle the commencement of a new and most valuable enterprise on the Pacific coast. In point of importance it will, if successful, yield rank to no other, and will fill the void so seriously felt at present. In the Merchant's Exchange, California street, is exhibited a pig of iron manufactured at the Oswego Iron Works, seven miles above Portland, Oregon, on the Willamette river. The iron is of the quality known as "charcoal iron," and has the appearance of being much softer, denser and finer than any imported. It is said to be fully equal to any made in the United States, being so pure, even in its prescut form, as to be capable of being run into castings for machinery as it comes from the furnaces. Iron is the most valuable of all the metals, and although its existence on this coast in vast quantities has long been known, no effort has been heretofore made for the reduction and utilizing of the ore. The "Oregon Iron Company" was organized and incorporated on the 24th of February, 1865, by H. E. Green, W. S. Ladd, and John Green. The capital stock was fixed at \$500,000, and was rapidly taken up by twenty stockholders, comprising some of the most sagacious and enterprising business men. At the present time the company is in full operation, their works being perfected and capable of turning out about twelve tons of pig iron daily. The total amount of assessments reaches only \$126,000, while the ore is said to yield 55 per cent. of iron, which is anywhere considered a rich return. One can hardly overestimate the value of this enterprise to the manufacturing interests of this coast. The capacity of the works, and the quantity of the ore, enable the manufacturers to supply nearly all the raw iron required for our present uses. The next Oregon steamer is expected to bring thirty tons of this iron. We learn that the proprietors intend furnishing a few tons gratis to each of the iron foundries in San Francisco, in order that they may give it the fullest and most thorough testing.

**THE USE OF STEEL IN LOCOMOTIVE CONSTRUCTION.**—The use of steel in locomotive construction is beginning to be more thought of than heretofore. There have been now at work for some years on the Maryport and Carlisle Railway several locomotives having steel boilers, fire-boxes and tubes, as well as steel tires, piston rods and motion bars; and there have recently been constructed for the Paris and Sceaux line, and for the Southern Railway of France, several engines with steel boilers. The use of punched steel gun barrels is rapidly extending, and the principle introduced by Messrs. Deakin & Johnson is being applied to other purposes connected with machinery. Bessemer steel is now beginning to be used for bridge construction, and it is stated that a recent French invention is likely to be able to compete successfully with the Bessemer process for the manufacture of steel. It may be accepted as a general belief that the age of iron is gradually passing away, and that in most cases where it is now employed steel will shortly take its place, as being both stronger and lighter.

**SUGAR AS AN ARTICLE OF DIET.**—Dutrone calls sugar the "most perfect alimentary substance in nature." Dr. Rush says it affords the greatest quantity of nourishment in a given quantity of matter than any other article in nature. Sir John Pringle tells us that the plague has never been known to visit any country where sugar composes a material part of the diet of the inhabitants. Dr. Cullen is of the opinion that the frequency of malignant fevers has been lessened by the use of sugar.

**WATER-TUBE BOILERS.**—The use of water-tube boilers may be classed as one of the inventions of the day, their increased strength and security contributing greatly to their popularity. Messrs. Howard, of Bedford, have recently tested their water-tube boilers to a pressure of 1,000 pounds per square inch.

**IMPROVED SOLDER.**—Deville has lately found that the addition of zinc amalgam to ordinary solder makes it applicable to aluminum bronze, and other alloys and metals, where the mercury in the amalgam could not be objectionable.

## Scientific Miscellany.

**THE EARTH'S CENTRAL HEAT.**—There is a very general belief, we might say almost a unanimity, among scientific men, with regard to the proposition that the earth was once a fluid molten mass, and that a large portion of its interior is still in an incandescent condition. The conclusions as to the thickness of the exterior crust, however, are so various that scientists differ in fixing the same all the way from fifty or sixty, to 2,000 miles or more. The conclusions deducible from chemical and physical causes, are also strongly supported by the astronomical calculations of William Hopkins, on the phenomena of precession and nutation, those of Thompson on the tides, and those of Pratt on the pressure of the mountain masses on the earth's surface, all of which conduce to the conclusion that the earth must have a solid crust 2,000 miles or more in thickness. The heat of the mass beneath the cooled surface is still nearly that at which the matter congealed; the loss of heat by radiation now proceeds very slowly.

**A NEW EXPEDITION TO THE NORTH POLE.** A committee of fifty-six persons, including Guizot, Chasseloup-Labat, Drouin de Lhuys, Henry Martin, and Michel Chevalier, has been formed in Paris for the purpose of organizing a new expedition to the North Pole. The route to be pursued is one discovered by a French hydrographer, M. Gustave Lambert, and has not been tried by previous explorers. A subscription has been opened for the expenses of the proposed expedition, which will be at least \$125,000, and it is announced that if the total of the sums collected by the committee does not reach that amount by the end of next July, all subscriptions will be returned in full. It is added that the Emperor has given his entire approval to the project.

**MUSCULAR FORCE OF INSECTS.**—An inquiry into the remarkable muscular force exhibited by insects appears to develop the following facts: 1st, Except in flying, insects have a much greater power of traction than *vertebrata*. Thus, while the draught horse can only exercise a force of traction, equal to two-thirds of its weight, the cockchafer can draw fourteen times its own weight. 2d, In the same group of insects, the smallest and lightest have the greatest power of traction. And those results, M. Plateau considers as not proceeding from muscles of a comparatively larger size, but from greater muscular activity.

**DISCOVERY OF A NEW PLANET.**—The telegraph announces that a new planet was discovered by Prof. Watson, of the Michigan University, on Friday night of last week. It appears that the discovery was made while that astronomer was making observations in the vicinity of the planet Neptune. The brilliancy of the newly-discovered planet is equal to that of a star of the 11th magnitude. It is situated in right ascension 14 degrees and fifteen minutes, and in declination 6 degrees and 10 minutes north.

**A SINGULAR "FIND."**—The Boston *Traveler* says that a rock weighing four or five pounds has been found imbedded in the earth, forty or fifty feet below the surface, on Fort Hill, by workmen. It is composed of quartz, iron pyrites, and a hard substance that resembles flint. As nothing like it can be found in Boston or vicinity, the question of how it came there is being discussed by amateur geologists.

The human body falls asleep by degrees, according to M. Cabanis, a French physiologist. The muscles of the legs and arms lose their power before those which support the head, and these last sooner than the muscles which support the back; and he illustrates this by the case of persons who sleep on horseback, or while they are walking. He conceives that sense of light sleeps first, then the sense of taste, next smell, and lastly, that of touch.

**CHANGE OF TEMPERATURE BY THE MIXTURE OF LIQUIDS.**—The following very important conclusions have been arrived at by Messrs. Bussy and Buignet in their memoir on the changes of temperature produced by the mixture of liquids of different natures. 1. In all cases under examination, with one sole exception, the calorific capacity of the mixture is a little superior to the mean capacity of the elements. 2. The liquids for which the increase of the bulk is the most considerable are exactly those which develop most heat at the moment of their union, such as ether and chloroform, alcohol and water, sulphuric acid and water. The only instance hitherto noticed of a diminution of bulk is in the case of the mixture of chloroform and bisulphide of carbon, whilst at the same time decrease of temperature takes place at the moment of the union. 3. Independently of the loss of heat resulting from the changes of volume, there exists a cause which produces an absorption of heat, which can be sometimes equal and even superior to the heat given out by the combination of the liquids. This cause is not quite clearly made out. It is suspected to be related to the phenomenon of diffusion.

**TUNGSTEN VS. THE BLACK DIAMOND FOR ROCK DRILLING.**—Our readers, says the *Journal of Applied Chemistry*, know that tungsten is a simple body of steel grey color, very hard, difficult of fusion, and of a density 17.6. It is found in combination with lime, as the tungstate of lime (scheelite), with lead, as the tungstate of lead (scheelite), and with iron and manganese (wolfram). M. Gaudin proposes the use of this metal for the drilling of rocks. Until now the black diamond has been employed, but the enormous expense of this substance has made a reform desirable. M. Gaudin prepares, in a flame of oxygen, a substance made from this metal, which is three-fold more brilliant than the ruby and will pulverize the hardest granite quite as readily as the black diamond. Emery has an action on the latter substance. Numerous experiments have shown that it can be obtained in any form and of any dimensions without alteration. This preparation may be used to drill granite mountains, and to work tempered steel. It can also be used to turn white cast iron. This discovery is very important, and is calculated to render immense service to industry.

**MINERALS AT A HIGH TEMPERATURE.**—The behavior of some minerals at a high temperature has been studied by Dr. Elsner. He has heated a great variety of minerals and other rock constituents in a porcelain furnace to an estimated temperature of 2,500° to 3,000°, and finds in general that silicates containing the alkaline metals, or iron, are much more fusible than those which contain much alumina, or no iron; with the exception of obsidian, all the rocks experimented upon, even those of volcanic origin, presented, after heating, totally different characteristics from those which accompany them in nature. The crystalline varieties became compact and semi-fused; therefore he says they must have been produced in nature under different conditions from those of his experiments. The conversion of pumice into an obsidian-like body is especially interesting. After heating, the rocks experimented on showed lower specific gravities.

**CARBOLIC ACID FOR EXTERMINATING MOSQUITOES.**—A correspondent of a New York paper writes that carboic acid has recently been successfully used, near Rahway, New Jersey, for the extermination of mosquitoes and flies. A small piece of cloth, saturated with the acid, was hung up in a room, and in two hours the flies had entirely disappeared. In the evening the acid was tried in the kitchen, where the mosquitoes were very troublesome, with like success. This remedy is worth trying, especially in the mosquito infested region of this State.

**PROF. AGASSIZ** and a Harvard class of pupils, it is reported, contemplate a visit to Southern Ohio, for the purpose of a scientific investigation of the antiquities—tumuli, fortifications and other remains of an extinct race—in which that section so greatly abounds.

**A VALUABLE** bed of amber, has been found at Ferdinand, Dubois county, Indiana. The deposit is extensive and easily worked, and the quality excellent. Amber has hitherto been found only in very limited quantities in this country.

**PROF. S. P. LANGLEY**, who is now connected with the United States Observatory at Annapolis, has been elected to the chair of Astronomy and Physics at the Western (Penn.) University.



POEMS: BY CHARLES WARREN STODDARD. We have received a copy of this book from the publishers, Messrs. A. Roman & Co.

To review a book of poems is no trifling matter. Few men are equal to it. A genuine poet should only be reviewed by a genuine poet. No other can sympathize fully with him. The heart-strings of ordinary men are not tuned with such delicacy as to vibrate promptly to such influences as those to which the poet's soul responds. He is sure, therefore, to be misunderstood by most of his readers. A few instinctively recognize the poet, although they know not wherein his power lies. Much less are they capable of putting into words—clumsy vehicles of thought as they are—the secret of that power.

The reviewer's office is a grave one. He may, by ill-considered approbation, urge on unfounded hopes to a more cruel disappointment; or, he may blight by harshness, a bud of promise, which, encouraged, might blossom into richness. Poets are sensitive plants; yet not all are crushed by being trodden upon. The youthful Byron, smarting under the flippant pen-strictures of the presumptuous Jeffrey, lashed right and left with the wrath of a young lion, who, conscious of his own power, was determined that his hopes of future fame should not be crushed out by the braying of asses. Some, who are made of less stern stuff, succumb, and are no more seen of men.

It is, then, with the utmost diffidence that we undertake the duty of reviewing a book of poems—more especially when it is a "first" book. In the case before us, we hardly know what to say. Our young friend has evidently wooed the muse with assiduity. At times he seems to have caught her ear, and a happy conception or a felicitous expression is the result. But there is often a crudeness of imagery and a failure to sustain the figure, which shows that his verse does not yet flow with that spontaneity with which the "seer," impelled perforce, indites "thoughts that breathe" in "words that burn," and draws a vivid picture with words each one of which is a picture in itself. Although our author plainly delights in the excitement of composition, it is too often labored. As he says in his opening invocation to "Poesy"—

"I wrestle with my spirit's mirth, In travail with a poem's birth. When chasing eares are wearying, With all my life to thee I cling, Believing I was born to sing."

But we prefer the more grateful task of dwelling upon the merits, rather than what appear to us the faults of the book. "Through the Shadows," is to us one of the most pleasing "morsels" of the volume. In the twilight, with the murmur of the tropic sea as it "ripples" upon the distant beach, while the "glimmering stars in their glee" listen,—

"Quiet is coming and folding Our troubles away; and our woes Are hushed in the cool, fragrant shadows Like bees in the heart of a rose."

This is certainly poetry, so far as this portion of the picture goes. But there does not seem sufficient reason for speaking of the sun as sinking, bleeding, into a coral grave; while in the next breath "sunlight" is spoken of as a butterfly which has flown "out through the mist and the vapor," "brushing the gold from its wings." The single gem which we have quoted, however, will atone for such sins. We think the poem shows traces of recent reading, both of Longfellow and Tennyson. We cannot resist the temptation to quote a stanza from the former, in "The Day is Done"—

"And the night shall be filled with music, And the ears that infest the day Shall fold their tents like the Arabs And as silently steal away."

And does not— "Come on little stars all silver, For the terrible sun has gone," etc., remind one of— "Shine out, little head"— in Mand?

The taste which suggested the meter in which the lines "At Pollock's Grave" are written, is unexceptionable. It is especially suited to the broken utterance of grief—too deep for long-drawn and elaborately-rounded

verse—hushed, as befits a poet's sacred resting-place.

In "My Little Love," these lines— \* \* \* "the feathery fragrant showers Of snow-white blossoms drift upon the grass, Kissing her whispering footsteps as they pass," have a quiet sweetness worthy of Keats. "The First Rain," is a good picture; except for the incongruity of the metaphors in the second and third lines, it is graphic. But— \* \* \* "phantom flocks of snubbeams \* \* \* With gilded feathers of the butterfly," is bad; and herein is, we think, one of our author's failings. But our space will not allow of further remark. We do not profess to have given all that is worth giving.

The book is exquisitely printed, and embellished with just enough of delicate and appropriate cuts, drawn and engraved by Mr. Keith. As regards the "getting-up," nothing could be more perfect. The paper is pure white. We rejoice over this fact, as an indication that the "tinted" style—to our mind of questionable taste—is exploded.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

67,427.—MODE OF PRESERVING EGGS.—P. Gaughran and L. Sweeney, San Francisco, Cal.:

We claim treating eggs for preservation substantially in the manner as herein described.

67,501.—GANG PLOW.—Allen T. Covell, San Leandro, Cal.:

I claim, 1st, Attaching the beams, A, A, to the pole, B, between the reacher, a, a, by the rod, C, so that the plows may be made to move up and down, swinging on the axle, J', and rod, by operating the lever, G, when disengaged, substantially as described.

2d, Attaching the axle, J', and axle-head, J, angularly to the frame, the clips, K, K, and adjusting blocks, l, l, substantially as described and for the purpose set forth.

3d, The links, D, D, attached to the beams or frame, and the rigid arms, E, E, of the roller, operating in them in combination with the beams, A, A, and pole, B, substantially as described.

4th, The construction, arrangement, and combination of the beams, A, A, pole, B, reaches, a, a, rod, C, axle and axle-head, J and J', temper blocks, l, l, roller, F, and arms, E, E, together with links, D, D, substantially as described and for the purposes set forth.

67,546.—MEANS FOR REEFING TOPSAILS.—Fridolf Höök, San Francisco, Cal.:

I claim the crutch, g, attached to the lower topsail-yard and its friction rollers, n, n, together with the segments, d, d, moving on said rollers and attached to their sides, s, s, substantially as and for the purpose described.

67,782.—WAGON SPRING.—E. P. McCarty, San Francisco, Cal.:

I claim 1st, The elastic hall C, suspended or held in place, by the rod D, between the upper and lower portion of the spring, substantially as and for the purpose described.

2d, The metal cups, BB, or their equivalent, for receiving the ball and supporting the springs substantially as described.

RECENT INVENTIONS.

A NEW AMALGAMATOR.—The Columbia (Oregon) Citizen describes a new amalgamator recently invented by Messrs. Foreman & Mattison, as follows: It consists of an upright cylinder, into which is inserted a pipe extending to within 1 1/2 inches of the bottom. The pulp, as it comes from the battery, is conducted into this pipe through a hopper. A jet of steam is directed into the pipe in the bottom of the hopper, which forces the quartz through the same into the quicksilver in the bottom of the cylinder. The action of the steam heats the quicksilver, and brings the gold into contact with it, whereby it is saved. The cost of the arrangement does not exceed \$40.

CUTTING METAL.—An improved implement for cutting pipes and bars of metal has been invented by Mr. Wolstenholme, of Redclyffe, Lancashire. It consists of a revolving circular cutter, upon a suitable slide. The pipe or bar to be cut is securely held in a vice or otherwise, and the circumference of the cutter is brought against the pipe or bar by means of a screw passing through the lower end of the slide. The implement is then turned round by the handle forming the continuation of the screw, and the cutter is set up by the turn-

ing of the screw. By this means the cutter gradually penetrates into the metal, until the pipe is cut asunder, or the metal bar is sufficiently indented to enable it to be broken.

AN INGENUOUS BULLET DETECTOR.—A very ingenious piece of mechanism for the detection and extraction of bullets in wounds has been devised by Mr. Sylvan De Wilde. The probe, consisting of two steel wires insulated from each other, is connected with an electric horseshoe magnet and a bell, and when (introduced into the wound) it touches the bullet the circle is completed and the bell rings. The forceps act on the same principle, and are intended first to detect, then to seize the bullet. The points of the probe are kept sheathed on introduction to a wound, and not uncovered until the supposed bullet is felt. This is effected by means of a sliding tube. Mr. De Wilde's probe is a sensitive artificial finger, which enters deeply into the tissues, and gives the signal at once when it detects the hidden source of mischief below.—London Lancet.

The *Alta* of the 10th inst., thus describes a combination lock, invented by Theodore Kromer, a young watchmaker in the employ of Tucker & Co.:

It contains no spring whatever, is exceedingly simple, the tumbler bolt and a lever-piece being all that is to be seen inside, and occupies little more space than a common door lock. It has no key whatever, can be readily adjusted to the required combination by anybody, and has no opening through which powder or any other substance can be introduced to destroy it. One million changes or combinations can be produced by simply turning the knob. The cost of a lock suitable for the door of a first-class residence, and admitting of ten thousand changes or combinations, on a modification of this plan, Mr. Kromer estimates at \$10.

The *Call* of this city, thus describes a dove-tailing machine recently invented in this city by Elander Heath, one of the workmen in Hobbs & Gilmore's box factory: The invention consists in a series of circular saws, set in a peculiar manner, and they perform the work of cutting the joint so quickly that one is perfectly astonished. The joints are close fitting, and remarkably strong, and the machine so simple that any boy can attend it. We timed the inventor while he made a box twelve inches long and eight wide, and found that from the time he took the board in his hand until he handed us the box he was occupied just three minutes. The machine will cut the dove-tails in the four pieces in less than a minute, and they can be put together in half a minute. These machines can be built for about \$250 in gold coin.

COPYRIGHTS.—The following copyrights have been entered in the U. S. District Court of California since Sept. 3d, 1867: By A. B. Bowers, second edition of "A Map of Sonoma County, California, made and published by A. B. Bowers, in accordance with an Act of the Legislature approved 28th March, 1863, with additions and corrections to September 1, 1867," by Charles A. Tuttle, a book entitled "Reports of Cases Determined in the Supreme Court of the State of California," Charles A. Tuttle, reporter, vol. 31, S. F.; by Mrs. R. L. Jones, of Sacramento, "A Ladies' Diagram, an improved invention for cutting ladies' dresses, basques, sacks, and children's clothing;" by John S. Hittell, the third edition of a book entitled "The Resources of California;" by Lawrence & Houseworth, a book entitled "California Scenery, a series of Stereoscopic Views," etc.

BUSSEY'S IMPROVED COMBINATION SAFE LOCK.—The many advantages of this lock are fast recommending themselves to those who wish a lock in which they can place implicit confidence. Their simplicity, compactness, and ease of management, are points which do not fail to recommend this as the best, and, in the end, the cheapest lock for merchants, bankers, and all persons having valuables for which they wish a secure place of deposit.

HENDY'S CONCENTRATOR, AGAIN.—The Empire Mill Company, at Grass Valley, having tested the merits of this machine to their satisfaction, have ordered five more from the Union Foundry. In addition to this, three have been shipped during the past week from the Pacific Foundry for the Lucy Mining Company, Owyhee District, Idaho.

AN INSTRUCTIVE BOOK!

Prof. LAYRES'

ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY.

For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

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This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytic. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Steel.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—E. W. Hatch.

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Deanna.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Schlags.

I recommend it to all those who wish to obtain a book that will give them definite ideas on the subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Hunt, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brayton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as respects pleadings and as advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Bouie.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so solid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has gone the cause of popular education good service.—S. F. Bulletin.

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times

Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken), holds it up before you; tears it to pieces before your eyes—or rather, we should say, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

His design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

This is an one in which the occasions are rapidly multiplying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—Stockton Independent.

The most eminent educators in California give their hearty approval, and we concur.—Marysville Appeal.

Not only one of the best of its kind, but what is still better, one of the briefest. It contains 166 pages.—Virginia Enterprise.

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Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, September 14, 1887.

City Stocks.

The dealings in city shares have been light, and in the Board were confined to the following: Spring Valley Water Co. at \$67 50. The usual dividend of 1/4 per cent. is payable since the 10th inst. Gas stock at \$66 50 @ 67. North Beach and Mission Railroad is lower, selling at \$50 @ 50 50 per share, owing, no doubt, to the fact that they did not declare the usual dividend for the present month.

Gold opened yesterday in New York at 145 1/2, and closed at 141 1/2. Legal Tender Notes sell in this market at 69 1/2 cents.

The Bank of California will pay its usual monthly dividend of 1 per cent. per month on the 16th inst.

The Builders' Insurance Co., at its annual meeting on Tuesday, elected the following officers: President, C. T. Hopkins; Vice-President, H. B. Tichenor; Directors, Samuel Merritt, A. J. Pope, Jerome Lincoln, Frederick Castle, Judah Baker, Charles Mayne and Peder Sather. From the annual report we take the following: Capital, \$200,000; assets, \$297,000; receipts for the fiscal year, from all sources, \$184,924 40; losses paid, \$69,376 56; dividends paid, \$48,000; expenses, \$18,203 80; taxes, \$10,573 39. This company's business is now confined to Marine risks. The stock is quotable at \$1,400 bid, and \$1,500 asked.

The Builders' Insurance Co. held its first annual meeting on last Wednesday evening. We condense the following from its balance sheet: Receipts—Capital, \$44,791; premiums, \$130,070 98; interest, \$4,390 21; State tax, \$3,000 33. Disbursements—Losses, \$34,063 67; brokerage, \$10,931 86; other expenses, \$28,775 22; assets, \$108,481 77.

Mining Share Market.

The mining share market has been quite active during the period under review at greatly depressed rates. The operations in several leading stocks have been very heavy, a large proportion being sold short. The "bears," evidently, have complete control of the market, and the effect of this action is noticeable throughout the entire list. The bullion returns from eleven different claims on the Comstock lode during the month of August amounted, in round numbers, to \$1,200,000 against \$1,220,000 in July. In these aggregates we do not place the yield of the Yellow Jacket Co., the information not being accessible.

HALE & NORCROSS—sold early in the week at \$2,000 seller 30, declined to \$1,500 s 30, and closed Thursday at \$1,500 e 30. The hoisting works at the new shaft, it is confidently expected, will be completed during the present month. The shaft has now reached a depth of forty-four feet below the 780-foot level, and after sinking upwards of seventy-five feet further, or at about 900 feet, a new level will be opened. The actual returns of bullion made by the mills for the month of August show an excess of \$3,086 over the 65 per cent. yield reported last month, the total amount being \$124,664 69. A dividend of \$125 per foot will be payable on and after the 16th inst.

SAVAGE—brought a host of purchasers into the market under the very marked recession which this stock experienced during the past week, falling from \$200 to \$135 per share, a decline of \$1,300 per foot, rallying to \$156, receding to \$149 50, and closing at \$135. The sales during the week at the regular session of the Board foot up 4,364, which at an average price of say \$150 per share will show the transactions in this stock to have amounted to \$654,600. The cave in the north and middle mines, on the seventh level, which produced the rapid decline in the stock, it is believed will require about one week's work to clear away, and will not interfere with the yield of ore for the present month. The amount of ore extracted during the week ending September 7th, is nearly 300 tons less than the product of the previous week, and is due to the anticipated cave, making it dangerous to work in the wide excavations on the eighth, ninth and tenth floors. The shaft has attained a depth of over fifty feet below the fourth station. From all accounts the breasts of the various drifts show no important change. On the 1st instant this company had 3,900 tons of ore at the mills and dumps, and during the month of August they reduced 9,147 tons, showing a yield of \$327,937 in bullion. The expenses were as follows: Mine, \$43,844; incidental,

\$10,582; reduction, \$134,128, leaving a profit of \$190,381. The average yield was \$41 31 per ton and cost of production and reduction \$20 61.

CROWN POINT—has been less active at declining rates, opening at \$945, gradually receding to \$820, and closing at \$775. The north drift from winze on the 600-foot level, at a distance of twenty-five feet below said station, was reported to be in excellent ore on the 8th instant, and telegraphic advices of the 11th say that the "drift north from the winze continues good."

The south winze from the same level is down nineteen feet, and is said to look well at the bottom. The shaft is down sixty-six feet below the 600-foot level. During the month of August 2,081 tons of ore were reduced, showing a yield of \$54,291 85, or \$26 08 per ton. The expenses during the same period are given at \$85,000, leaving on the 1st inst. a cash balance of \$10,000 in the treasury. They have supplies at the mine valued at \$30,000.

CHOLLAR-POTOSI—rose from \$428 to \$437 50, fell to \$345, rallied to \$376 @ 387, and closed at \$369. We have nothing of importance relative to the old works. The ore from the west drift on the Blue Wing level averages \$17 per ton by assay. Preparations are being made to place the pump at the fifth station of the new shaft, (about 900 feet in depth) after which this station will be opened by drifting westward and running the main drifts north and south. The ore ship of the 13th instant records the delivery of 341 1/4 tons of ore to thirteen different mills. During the month of August 12,417 1/4 tons of ore were reduced by the custom mills, showing an average yield of \$28 57 per ton. The bullion returns for the same month reach \$350,000. A dividend of \$25 per share is payable to-day.

GOULD & CURRY—The rapid decline of this stock at the close of last week was due to the levying of an assessment of \$25 per share, or \$100 per foot. During the present week the stock rose from \$307 50 to \$325 per foot, declined to \$300, then sold at \$325 @ 310, and closed yesterday at \$310. Since the close of the year 1861 no assessments have been levied by this company, but prior to that period the following were collected:

Table with 2 columns: Description and Amount. Includes Levied Dec. 22, 1860, Levied June 21, 1861, Levied Aug. 24, 1861, Levied Nov. 5, 1861.

Makes a total of \$291,699

From a statement published by us in January last we reproduce the following figures: The bullion yield of this company from July 1, 1860, to November 30, 1866, amounted to \$13,626,871, and the dividends disbursed during the same period aggregated \$3,778,800. This enormous yield was obtained from 230,546 tons of ore, including over \$900,000 obtained from tailings. During the present year the yield of bullion has only been about \$375,000. The upper works of this mine continue to return from sixty to seventy tons of ore per day, which is reduced at the company's mill. We have nothing encouraging in regard to the prospecting carried on in the lower levels.

OVERMAN—has been to a great degree inactive, selling at \$65 @ 57 50, then at \$67 50, and closing at \$63. On the 12th inst., the mine was reported to look well, both on the 300 and 400 feet levels, and it is thought that the quantity of ore will be considerably increased during the present month. On the 9th inst., a bar valued at \$2,153 69 was shipped to the office in this city. During the month of August the bullion yield amounted to about \$20,000. The ore statement for the present month to the 10th inst., shows that 834 tons were reduced, and that 318 tons remained on hand at the mills at that date.

EMPIRE—has been in the market at \$175, buyer 30. The bullion returns in August amounted to \$22,333 80 against \$25,000 in July.

SIERRA NEVADA—sold to a considerable extent at \$13 @ 14, closing at \$7 50. Nothing of an encouraging nature has yet been developed by continuing the lower drifts of this mine. An assessment of \$10 per share was levied on the 14th inst.

IMPERIAL—met with considerable inquiry, opening at \$152 50, receding to \$135, then selling at \$142, and closing at \$135. The first clean up of the Rock Point mill amounted to \$14,103. The 371-foot level yields a better quality of ore, and it is believed that the bullion returns for the current month will show an increase over the returns made in August.

The aggregate sales of Stocks, Legal Tender Notes, etc., since Saturday last, amounted to \$1,768,785.

OPEN AT LAST!—The Century Plant, at Mr. Potter's grounds, Oakland, is now in blossom. The ladies of the First Congregational Church, in that place, have prevailed upon the proprietor to allow the grounds to be open for visitors for a limited time. The proceeds will be for the benefit of the Church.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

CARSON HILL UNION M. Co.—Calaveras county, Cal. Sept. 10th. Capital stock, \$50,000; 500 shares, \$100 each. Trustees: John McManus, Robert McMillan and Cortland Wood.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF MEETING, DATE OF DELINQUENT SALE. Lists various mining companies and their financial details.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table with columns: Bid, Asked. Lists various stocks and bonds with their current market prices.

Table with columns: Bid, Asked. Lists various gas companies and railroads.

Table with columns: Bid, Asked. Lists various banking institutions.

Table with columns: Bid, Asked. Lists various insurance companies.

Table with columns: Bid, Asked. Lists various mining stocks from the Washoe District.

Table with columns: Bid, Asked. Lists various flour and grain products.

Table with columns: Bid, Asked. Lists various sugar and coffee products.

Table with columns: Bid, Asked. Lists various oil and other commodities.

Table with columns: Bid, Asked. Lists various sugar and coffee products.

Table with columns: Bid, Asked. Lists various flour and grain products.

Table with columns: Bid, Asked. Lists various sugar and coffee products.

Table with columns: Bid, Asked. Lists various sugar and coffee products.

Table with columns: Bid, Asked. Lists various sugar and coffee products.

Table with columns: Bid, Asked. Lists various butter and cheese products.

Table with columns: Bid, Asked. Lists various retail prices for various goods.

Table with columns: Bid, Asked. Lists various retail prices for various goods.

San Francisco Metal Market.

PRICES FOR INVOICE.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table with columns: Bid, Asked. Lists various metal prices including iron, steel, and copper.

INOGENUOUS MECHANISM.—By the last steamer was received a clock which has figured during the summer at "L'Exposition."

Besides the mean time of San Francisco, the hands are made also to indicate the solar time in different countries, by means of human figures representing the different races delineated upon a separate disc or face. It is on exhibition at 605 Washington street.

By MAIL.—The Mining and Scientific Press will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

MARKET STREET HOMESTEAD ASSOCIATION.—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pitts, San Francisco. 2x15

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## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Sept. 7th: Mr. J. P. Ray received orders this week from parties owning the mine in New York to start up work on the Merrimac claim situated below town. The claim is on the belt of quartz lodes of which the celebrated Florence and the Manchester are best known, and for which the Winchester tunnel is running to strike deeper in the hill. It was recently sold to New York capitalists by the old locators, through Mr. D. G. Wilson, of Tarshish memory. The Merrimac promises well, and is well worthy the free expenditure of money to open it. Mr. Ray puts in two shifts on Monday.

The workmen in the cut being run across the lode from the north drift in the Tarshish mine 90 ft. from the main tunnel, have struck first and second class ore, proving conclusively that the Tarshish is all that we have claimed for it, one of the big mines of the world.

We learn from Judge Reed, that the lower tunnel of the I. X. L. mine is developing a fine large body of ore, that hopes are entertained that the company will soon be able to fill the contract of 100 tons of first class ore they have entered into, the same being, it is said, now in sight.

## Calaveras County.

The editor of the *Chronicle* seems to be getting out of patience with the slow enterprise of miners in that county, and endeavors to stimulate its capitalists to put forth some effort to redeem its mines. He says: While our neighbors are progressing in wealth and population, Calaveras appears to be at a standstill, with the exception of our copper lodes, which are being extensively worked. All other kinds of mining seems to be paralyzed. The quartz ledges of Amador are attracting capital and enterprise, while the lodes of this county, only a few miles distant, are languishing for want of the means necessary to develop them. Calaveras has long been celebrated as a mining county. While the precious dust could be easily extracted from placer diggings, or be got by running into the mountains, immense quantities of gold were taken out; but the very moment that capital, patience and perseverance are required in order to render our quartz ledges profitable, there seemed to come over all a perfect stagnation; and while other districts have gone forward, we have laid supinely on our oars waiting for "something to turn up." We have too long looked for foreign capitalists to open our quartz ledges. Let us open them ourselves, and then look to outside capital for the means to work them.

## Nevada County.

*Gazette*, Sept. 7th: The Ancient River Channel and Blue Gravel Mining Co., at Bear Valley, are now down 55 ft. The sinking is entirely in a deposit of hard gravel interspersed with boulders, some of them tons in weight, rendering blasting necessary. From the position of the boulders, the manner in which they are worn and the drift of the sedimentary deposit, it is evident that the channel runs directly across Bear Valley, is of older formation than the present valley and entirely distinct in its drift from the course of the present surface stream. The company are sinking to find the bedrock, or bottom of this ancient channel. How far they will have to go to reach the bedrock it is impossible to ascertain from the surrounding geological appearance of the country. It is estimated, however, that it cannot exceed 200 ft. from the surface of the valley.

Sept. 9th: R. C. Black has sold one-half of his interest in the Black & Young mill and mine, between the Star mill and Eureka. The sale comprises one-third of the entire property. James F. Irwin, of Louisville, Kentucky, is the purchaser, and the amount paid \$20,000 gold. The ledge comprises 2,000 ft. of ground. A tunnel into the hill 400 ft. taps the ledge, which is developed by a drift or tunnel on it to a distance of 400 ft. more. The ledge is in excellent condition for the rapid extraction of ore. The mill employs 10 stamps, and has already crushed over 1,500 tons of rock, that has paid its owners handsomely.

The Banberry Co. have had 80 tons of rock from their ledge crushed at Black & Young's mill, yielding \$1,700—or over \$21 per ton. The total cost of mining, hauling and crushing was \$7.50 per ton—leaving the net profit \$13.50 per ton, or nearly 200 per cent. over and above expenses. This company are now getting out another lot of 300 tons, to be crushed at the same mill.

The Commercial mill will go in operation some time next week. It is run by steam

power, has 10 stamps, is supplied with Hendy's concentrators, and is fitted up with all the modern improvements. The proprietors of this mill own the Veatch & Powell ledge, located near by.

The Birchville Co. are now putting up a 5-stamp steam mill on their claim. Rock from this ledge has been crushed in arrastras, at Eureka, and yielded well. A lot of 100 tons, worked at Black & Young's mill, gave a return of \$3,400—\$34 per ton.

A company of San Francisco capitalists have recently purchased the Booth mine, near Eureka, and are putting up a whim to sink and raise rock. They have purchased of Cochran & Black the Mohawk ledge, near by, for \$1,500. But little work has been done on this claim, but it has external indications of its value. This same company own the Snapp ledge, which is opened by a tunnel 755 ft. in length.

It is reported that D. W. Snapp, of Eureka, has bought Lambert & Co's mill, that was crushed down and severely damaged by the snow last winter, and will have it repaired and ready for business in a few weeks.

Patrick Mulligan & Co. are about to have 200 tons of rock from the Golden Age ledge, crushed at Black & Young's mill.

The Reasoner Bros. have out 150 tons of ore from their claim, which is to be worked at Black's mill.

Grass Valley Union, Sept. 7th: We yesterday saw a sulphuret bar from the New York Hill mine, worked by Deetken, which is valued at \$4,813.40. The bar was the result of 22 tons of sulphurets, showing a yield of \$219 per ton.

EXCELSIOR.—Virginia (Nev.) *Enterprise*, Sept. 5th: The old wheel crushers in the mill of the Enterprise Co., Meadow Lake, are being replaced by stamps; a 30-ton roasting furnace is being erected. Workmen are engaged in raising ore, and a force of men are at work getting out a supply of fuel for the winter. The mine is looking better than ever, and the chances are that the Enterprise will again yield a profit to the stockholders.

Sept. 7th: We were yesterday shown a bar of gold bullion from the Mohawk and Montreal mine, Excelsior District, just sent in from there. It was molded and assayed at the office of George Dorwin, assayer, in this city. It weighs nearly 59 ounces, and contains: in gold, \$775.17; silver, \$13.85—total, \$789.02. This return is very flattering, being the result of the working of a small lot of sulphuret ore by way of experiment. The general run of ore from the mine pays over \$30 per ton in free gold, that amount being taken from the amalgamated copper plates over which the pulp is made to pass, without taking into account that which will be found in the battery and pans. The sulphurets in the tailings are carefully saved for future treatment. The mill has not been very regularly at work of late, owing to the difficulty of getting the ore to it from the mine; this difficulty, however, will soon be obviated by means of a railway now being constructed.

Meadow Lake *Sim*, Sept. 7th: The Eclipse Co. are taking out some very rich ore, 50 tons of which they intend to have crushed at the Mohawk & Montreal Co.'s mill.

The Green Emigrant Co. have employed the California mill, which they are now running. They have a large amount of ore on hand.

*Gazette*, Sept. 11th: We were shown yesterday, by John Pattison, the superintendent, some fine specimens of gold bearing quartz from the Cunningham mine. The specimens were taken from the bottom of the incline now being sunk, and contain much free gold and sulphurets.

## Placer County.

*Herald*, Sept. 7th: A couple of miners working a quartz claim near North Ravine, recently made a rich strike. We are informed they took out one piece of quartz which is estimated to contain \$1,500 worth of gold.

*Transcript*, Sept. 8th: One hundred tons of rock, worked from the Grizzly ledge, Devil's Cañon, yielded \$10 per ton.

*Alta*, Sept. 11th: The Missouri Tunnel Co's gravel mill at Yankee Jims, was destroyed by fire on Saturday night. Cause of fire unknown. The loss is estimated from \$12,000 to \$15,000. No insurance.

## Plumas County.

Downville *Messenger*, Sept. 7th: We understand that fine prospects are being obtained on Squirrel creek, near Jamison City, Plumas county, and that extensive preparations are being made to work the mine to advantage.

## Shasta County.

*Courier*, Sept. 7th: R. J. Holmes recently took two lots of ore, from the Crystal ledge, to the celebrated San Francisco assayer, Mosheimer, who reduced the rock, with the following result: Lot No. 1, from croppings,

\$42 per ton in silver, and \$5 in gold. Lot No. 2, from rock taken from the shaft, 30 feet from the surface, \$103.20 in silver, and \$5.50 in gold.

The excitement in regard to the newly discovered placer mines on First creek, near Pittsburg, has subsided, as there is not sufficient water in the creek to run sluices. The ground prospects rich, however, and claim holders think they will take out large quantities of gold dust when the rainy season sets in.

A miner's meeting, held to consider the propriety of admitting Chinese into the Buckeye mining district, took place at Buckeye, Aug. 24th, when the question was decided in the negative.

The coal vein near Round mountain has increased in size, and continues to grow wider as it is sunk upon. The quality of the coal is said to be equal to any yet discovered on this coast, and the Red Bluff blacksmiths, who have tested it, are anxious to secure an interest in the mine.

A gold nugget, weighing near \$1,000, was lately found on Dog creek, and is now on exhibition at Red Bluff.

## Sierra County.

Downville *Messenger*, Sept. 7th: The Monumental Co. at Potosi, has just made the connection between the shaft and tunnel, and will be prepared for blasting in a few days. It is believed that this claim will compensate for the loss of both the Pittsburg and Hawkeye, and when fully opened times will be livelier than ever before in that locality. The Hawkeye and Pittsburg are still prospecting, and will, perhaps, after awhile be taking out gravel of usual richness.

The Down East claim, which for a time ran considerably below wages, is again doing well.

A friend from Mohawk Valley, engaged in prospecting the new mines recently discovered there, informs us that prospects are bright. There are five companies working, who make good wages working with a ton. The diggings are surface, and the gold coarse.

## San Bernardino County.

*Guardian*, Sept. 17th: The operations on Lytle creek are spoken of in the most encouraging and appreciative manner. It is well known that there is a great breadth of country in that vicinity, evidently of a gold bearing character; that wherever this ground has been prospected, gold has been found; and it is thought that if water could be brought on the land in quantities sufficient for ground-sluicing or hydraulic mining, not only would the water pay, but all this ground would be made tributary to the labor of man.

## ARIZONA.

*Gazette*, Aug. 21st: Mr. Beardsley, and others, are putting up a water wheel on the Hassayampa, with power to run several arrastras, to crush rock from mines in that vicinity.

Mr. Robert Groom, and others, discovered a silver bearing lead a short distance from the Sterling mill, some weeks ago. They sunk on it eight or ten feet, and took out about a ton of rock, specimens of which have been assayed by Mr. F. A. Cook, and yielded very largely.

The Virginia *Trespass* of (Sept. 7th, has the following from an old Californian, concerning a ledge in which he owns an interest, and which he and others are trying to perfect machinery for working, he says: The leads are 7 ft. 2 in. wide, with occasional masses of solid sulphurets. The rock concentrates about 40 per cent. of sulphurets, that averages \$500 per ton. There is also about \$10 per ton of free gold in all the rock. There is an abundance of wood and water at the mine; so you can see what my prospects are. The prospects of the country are anything but bright. Principal cause, Indians. They have stolen the whites poor, and although Uncle Sam has been trying for three years to do something with them, they are worse and more numerous than ever.

## COLORADO.

Georgetown *Miner*, Aug. 22d: The Philo Scoville lode appears to be rich, and continually grower richer.

The editor has seen a piece of ore that had been roasted in a stove, perfectly spangled, throughout, with globules of silver. The ore was from the Dixou lode, Republican Mountain. The crevice is four ft. in width, showing a fine vein of sulphurets.

The New Boston lode, under the development it is now receiving, is showing the best body of galena ore ever found in the district.

Many parties from the east are now here, examining our resources. The richness and extent of our mines astound them.

On Monday last we saw some very fine ore from the Cashier lode. The ore vein in the Cashier is 13 in. in width, carrying ga-

lena and sulphurets of iron combined with zinc blende. The ore assays from \$150 to \$800 per ton.

In Gold Run they have struck a large body of pay dirt, that is yielding free gold in fabulous quantities.

While selecting ore for milling at the Hunkadora lode last Saturday, we found a couple of specimens bearing native silver.

The Herkimer lode is yielding large quantities of very rich ore.

The Silver Star lode at Gray's Peak, has an 18-in. ore vein, composed of galena and silver sulphurets, that show by assay \$350 per ton. The Flying Cloud lode presents an 8-in. vein, averaging \$420 per ton. Ore from the Monitor lode assays \$125 gold, and \$75 silver per ton. The Anglo-Norman lode has a crevice 30 in. wide, with a 16-in. ore vein of sulphurets. This mine has yielded considerable ruby silver and crystallized sulphurets, that has shown by assay from \$22,400 to \$27,000 per ton.

*Times*, Aug. 27th: The Briggs Co's mine has been improving of late. Their 50-stamp mill is kept steadily at work on ore from the Briggs lode.

A new silver lode has been discovered about a mile east from Lyon's works, and is causing much excitement in Black Hawk.

The Keith mill has commenced operations on Pewabic ore, which is said to be of unusually rich quality.

Mr. Miley has started the Holbrook eight-stamp water mill, on second quality ore from the Bobtail's Co's claim, on the Bobtail.

The Black Hawk G. M. Co. cleaned up and retorted, to-day, 359 ozs. of gold, as the result of one week's run from 80 stamps, on average ore from their Gregory mine.

The Troy lode, Nevada Dist., owned by Hinds & Ware, is now being successfully worked, and giving most satisfactory results. There is a "timbered" shaft 55 ft. deep on the discovery, out of which the owners are taking ore from a crevice from two to three ft. in width, that runs under stamps, \$151 per cord in gold. Also, a shaft on No. 1, 30 ft. deep, the quartz from which runs from \$80 to \$100 per cord, gold.

## IDAHO.

*World*, Aug. 28th: Col. Fogus and party this week discovered a gold bearing ledge somewhere between the head of Purdy Gulch and the New York mine. The ledge is 2½ ft. wide, and free gold is plainly visible all over and through the quartz on the surface.

Chas. Lihenau, metallurgist of Boise City, gives the following figures as the result of an assay of some picked ore from the Atlanta ledge, of Alturas county: Per ton, 9,720 ozs. silver and 2 40-100 gold, valued—in silver, per ton, \$12,636; gold, \$50.11, Total, \$12,680.11.

On last Saturday Mr. Harley brought a variety of specimen pieces of the ore, taken from various portions of the famous Atlanta ledge, to our office for exhibition. They were all rich, and some of the pieces showed actually more silver than rock or foreign substance. One piece is equal to the best specimens we saw at the celebrated Poorman mine of Owyhee last year, while the richest ores were being taken from it. This piece was taken from the first extension east of the Atlanta, at a depth of eight ft. from the surface croppings. From this portion of the ledge 55 lbs. of ore was recently taken, burnt and crushed in a hand mortar. The ore was picked from a rich central streak of 18 in. in width. The result was 4¼ lbs. of bullion! Ten tons of the average rock is now being crushed at Defries' mill to test the average yield.

Next to it is the second extension east, taken up by Mr. Motherhead, and in which very rich gold and silver quartz has been found all through the tunnel which pierces it. The ledge averages full 14 ft. width, and the rich streak extends all the way through it, of about 18 in. in mean thickness. The whole Atlanta ledge has been distinctly traced about a mile in length, and wherever prospected it has yielded from very good to exceedingly rich ore.

The fine new quartz mill recently bought in San Francisco, for the English Co., will be here about the middle of September, and will be put up early next spring.

New diggings have been found in a small basin about 125 miles from Boise City, which prospect from 12½ cts. to \$1 to the pan.

Owyhee *Avalanche*, Aug. 31st: The ore now being taken from the Whisky ledge is considerably richer than that which yielded \$300 per ton a couple of weeks ago.

In the Poorman mine, they have recently come upon a large quantity of pure, white, and soft wax-like substances, interspersed with large masses of black sulphurets. The Poorman yet sustains its world-wide reputation of fabulous richness.

The Oro Fino has just cleaned up, after crushing 80 tons of ore, amounting in the aggregate to \$13,300, or \$160 per ton.

Another rich ledge has been discovered



in Flint—right in town. It was located on the 24th.

**MONTANA.**

**Post, Aug. 24th.** The 15-stamp mill, known as the Seneca Falls mill, at Summit, belonging to McAndrew, Wann & Co., has been removed to Hot Springs creek. An addition of steam batteries, equal to fifteen stamps, is to be added to the above, and another mill of the capacity of 30-stamps, is on the way from New York. The Co. intend to concentrate all of their energies at that point. The mills will be up and in operation in 30 days.

The hydraulic claims of Messrs. Vivian & Co. were cleaned up on Thursday last, and the sum of \$5,500 taken out. The amount was from a run of eight days, and from the disadvantages under which the owners labored in starting their hydraulics, may be considered as a good test of the richness of the ground.

A gentleman who has just arrived from the Meadow creek country, informs us that a good mining region is being opened up on the head waters of Meadow creek. It is principally bar diggings, prospecting from 5 to 25 colors to the pan, and extending over a large surface of country. He estimates the hydraulic yield at \$10 to \$15 per day, and ground enough to employ 1,000 men. Water is plentiful, taken from North Meadow creek, and requiring to be conveyed from a half mile to one mile and a half. The country has been districted and Recorders elected. This may have something to do with a stampede if one is gotten up. About 25 men are employed there now, and 8 or 10 went over yesterday. A town has been laid out and christened "Bluff City."

**Aug. 31st.** Quite a stampede has happened lately towards Washington gulch, and the ground is staked off on all the gulches in the vicinity. From 12 to 20 cts. to the pan has been obtained, and about five feet to bed-rock. Isdell, who has a hydraulic working, has found the old channel some 15 feet below the bar where he is working, with as high as 25 cents to the pan, but will have to start in a new cut to reach it.

At Highland gulch, Graves & Co. have an arastra running near Red Mountain city, and are doing well, from the clean up Mr. Mansfield reports to us. They are crushing from the Last Chance lode, which has a three and one-half foot crevice. The dirt is hauled in a small wagon, drawn by one yoke of oxen. From six loads they cleaned up 56 ounces of retort, which sells at \$23 per ounce, and left 30 ounces still remaining in the arastra.

In speaking of Highland quartz and the prospects of Highland district, the editor says: It is less than a year since any leads were discovered in the district; in fact, the gulch had scarcely been prospected a year ago. Now we have specimens from thirty-one lodes, whose richness and width of crevice are not excelled in Montana. We have seen certificates of assay giving \$141 per ton on one of the larger lodes, and have no doubt that many of them are equally as rich. The larger proportion of the lodes are gold bearing, but specimens from some of those lately discovered and subjected to the action of fire, show rich in silver. We believe that Highland district is destined to become a great quartz mining camp at an early day, from the extent and richness of its leads, the excellent facilities and abundance of wood and water, the great requisites to successful mining.

**NEVADA.**

**Esmeralda.**  
**The Pine Grove correspondent of the Enterprise of Sept. 10th,** says: The Wheeler boys have struck a ledge of rich sulphuret quartz, which prospects \$40 free gold to the ton, and will, from appearances, yield five or six times that amount in silver. The Deposit Co. will soon have a return from a clean up of a run made by the arastras.

The Poorman and Imperial Cos. each, are in daily expectation of striking their ledges below water level. The Midas mine is looking fine. Lieut. Bourne is having 75 or 80 tons of ore worked.

The Wilson mine is being steadily worked. Mr. Toombs is taking out of it, under contract, some very fine looking white quartz rock, which is rich in gold, but the gold is covered over with a black substance which causes it to look like copper or iron until it is subjected to the action of friction or acids. The Central, which is a new discovery, southwest from Wilson's, is having some very fine rock taken out of it. The new mill recently purchased in San Francisco, is expected to arrive soon. It is a 10-stamp mill with a perfect amalgamating battery and the ordinary paraphernalia for saving the free gold only. Mr. Wilson intends saving his tailings and salting them as they accumulate. At the expiration of three or four months after their first working, he will then re-work them, with the expectation of

greater returns per ton than was first yielded and before the desulphurization.

**Humboldt.**

**Unionville Register, Sept. 7th:** The machinery for the Essex Co. is now on the ground at Dun Glen, and will be put up with all possible dispatch. A full set of hands are now on both the Essex and Empire mines, with the intention of having out a large quantity of ore as soon as the mill is ready to run.

**Pahranaगत.**

The Carson Appeal says that the mining prospects of the Pahranaगत Lake Mining Dist., never looked so fair as during this summer. The miners are all working in earnest, and as they go down upon their numerous ledges, find them well defined and immensely rich. There are three miles now ready for operation. Within the last year sales of mines have been made in that district to New York capitalists, amounting to over \$5,000,000.

**Reese River.**

**Reveille, Sept. 2d:** In Reveille and adjoining districts, business is more active than ever before. In Reveille Dist., the Rutland mill has been sold to Leason & Co., and is to be overhauled and put in shape for better work. Geo. Nichols, the assayer, has discovered a great ledge in the South Mountain, above the Desert Queen, which exhibits very rich ore to the depth of 12 ft., as far as it has been opened.

The owners of the Desert Queen, Idaho, Adriatic and Fisherman, are busily employed in taking out ore for the Old Dominion mill at Hot Creek, which will be completed and running about the 10th inst.

In the Morey Dist. the owner of good mining property is getting out 100 tons of first class ore for the mill at Hot Creek; and in the Danville Dist. the owner of the Vesta—a fine ledge of excellent mineral—is engaged in getting ore for the same purpose.

Persons just in from Belmont say that the 40-stamp mill of the Combination Co. bids fair to be a splendid structure. The Belmont Co. is about to overhaul its mill and put it in good working condition, with new cam shaft, improved pans and settlers, and the addition of a large new boiler. In the meantime, the mines of these companies are being well developed. The Combination is running a drift from the vertical shaft to the vein. The drift begins at the water level, and is now in close proximity to the ledge. As soon as the hoisting works shall be placed on the mine, the machinery for which is now in transit, the shaft will be continued. In the incline upon the Transylvania No. 1, belonging to the Belmont Co., a level extends north about 140 ft., in which the vein is much wider than near the surface, and carries ore of superior richness.

There were shipped from this city in the month of August by Wells, Fargo & Co., 11,265 lbs. of bullion valued at \$170,373.03.

Russell's stage from Cortez, on Saturday brought 19 bars of bullion, valued at about \$17,000, from the mill of the Mount Tenaho Co.

On Saturday three bars of bullion from the Belmont Co., were brought in by the stage.

**Sept. 3d:** Newark Dist. is quite lively, owing to the operations of the Centenary Co., which is hastening to complete its fine quartz mill.

White Pine Dist. is deserted by its ambitious miners, who have frantically rushed to Goose Creek.

**Sept. 5th:** The ore in the Twin Ophir mines in Park Cañon has greatly changed in quality, since the mine was opened. The ore formerly produced was a mass of metal, with almost no gangue, much resembling ordinary iron ore. But the mineral shown to us as coming from the mine is a very hard granular quartz of bluish-gray color, the surface of which contains points and flakes of native silver.

We saw at Lundholm's assay office yesterday a small bar of bullion, valued at \$595, which was produced by the first lot of ore worked in Coover's mill at Bunker Hill. The bar was very small; about seven inches long, two inches broad, and 1½ inches thick; but its value was derived from the large amount of gold that it contained, which was \$426 to \$169 of silver. This high bullion is the product of ore from the Victorine ledge, which will average upwards of \$60 per ton.

**Sept. 7th:** The other day a single blast threw out of the old Dominion mine in Hot Creek Dist., 3¼ tons of ore, the estimated value of which was from \$500 to \$700 per ton. We are assured that this estimate is low, for the ore exhibits the richest masses of soft, wax-like horn silver yet developed in the district.

Since the 24th of August 41,347 ozs. of crude bullion were received at the assay office of the Manhattan mill for melting and assay.

This morning the stage from the east brought 3,222 ozs. of crude bullion from the mill of the Social and Steptoe Co. at Egan.

**Alta, Sept. 10th:** The Parrott quartz mill at Big Creek, was entirely destroyed by fire on the 7th inst.

**Silver Bend Reporter, Sept. 7th:** The pulp assay of the first lot of Victorine ore crushed at Coover's mill, Bunker Hill, shows \$39.62 of gold and \$25.29 of silver per ton—a total of \$64.91.

The Murphy mine and mill of the Twin River Co. at Ophir Cañon, produced during the month of August the sum of \$34,015.90. And this at only one-half the capacity of the mill. There is a probability of the mill being closed shortly for the reason that a sufficient quantity of ore cannot be taken from the mine at the present stage of development to supply one-half the battery. The ore is plentiful in the mine, but the vein-stone is so extremely hard that it is tedious work to sink and run levels.

The mill of the Belmont Co. is now closed for repairs, but will soon be in operation in better trim than ever before.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

**Enterprise, Sept. 6th:** The editor states that he has seen an assay of ore from the Lawson & McMeans mine, American Flat, made by Mr. Kern, of Virginia City, which was exceedingly encouraging to owners in that vicinity. A sample from the surface showed \$11.51 per ton, while another sample taken out eight ft. below the surface yielded at the rate of \$307.11. The company have a stream of about four inches of water on their ground and seem to be in a fair way to make something handsome out of their mine. The walls of the lead are said to be the same as those of the Comstock.

The Kentucky Co. has declared a dividend of \$25 per share on their capital stock, payable Saturday, the 7th of September, at the Bank of California in Virginia City and San Francisco.

Work has been resumed upon several old claims situated to the eastward of the Comstock range, in the direction of Silver Star Dist.

**Sept. 7th:** Wells, Fargo & Co. shipped during the last week from Virginia City and Gold Hill, 16,148 lbs. of bullion, valued at \$261,526.69.

**Sept. 8th:** Day before yesterday an eight-horse team, owned by Joe Reed, hauled from the Imperial dump, Gold Hill, to the Rock Point mill, Dayton, 38,850 lbs. of ore. The wagon and load weighed 48,350 lbs.

Work has been resumed upon the old Sutro mine on the north side of Cedar Hill, and excellent indications are being met with. A shaft has been sunk about 120 ft. from the mouth of the main tunnel, and at the depth of 55 ft. excellent ore obtained—assaying from \$25 to \$30 per ton.

**Trespass, Sept. 7th:** Recently an additional vein of water has cut in the McMeans & Clawson mine, at American Flat, and some ore from the ledge assays several hundred dollars per ton. The water seems to be permanent, and if so, will prove of great value to the owners.

The Crown Point shaft is now down 640 ft., and it will be completed 700 ft. by the first of October, if nothing should happen to keep the workmen back in the shape of a large vein of water.

**OREGON.**

The Eugene State Journal says that parties are still prosecuting their researches for quartz, in the mountains about the headwaters of the Willamette.

**Walla Walla Statesman, Aug. 23d:** In our issue of the 9th inst., we noticed the reported discovery of rich paying mines in the neighborhood of Pen d'Oreille Lake. In corroboration of this report we give place to an extract from a private letter, written by a gentleman who is on the ground, and whose statements may be considered entirely reliable. He says: "We are in the midst of an excitement caused by new gold discoveries in this vicinity. If these mines are half as good as represented, they will be the making of this place. Men in whom I have the utmost confidence tell me that they have prospected about seven miles of the creek, and got from 25 to 50 cts. to the pan. A prospecting party has just started out, and in a few more days I shall be able to inform you sure as to details."

The late 20-inch gun manufactured at the Fort Pitt Works at Pittsburgh, Penn., was tested by Commander Lowe of the United States Navy, August 5th. The test, so far as made, was entirely satisfactory.

**Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!**

**REASONS WHY.**

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, he is no nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium at State Fair

**Opinions of the Press and others in regard to Bussey's Combination Lock.**

The Bank of British Columbia ordered the first one of these locks introduced in this city, and the following recommendation has been received by the inventor:

**BANK OF BRITISH COLUMBIA,**  
San Francisco, May 24, 1866.  
Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor and in every way meet our fullest approval. They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We use the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable. As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it.

We do hereby certify that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and impossible to be picked. We have applied special to Vanita and Safes, to entire satisfaction to parties interested.

**W. H. TILLINGHAST,** Sub-Manager.  
Placer Iron Works, cor. Fremont and Market sts.  
SAN FRANCISCO, May 6, 1867.

I do hereby certify that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safe and Vaults in every other respect as good as any other improved combination lock which I am acquainted with.

**JOHN R. SIMES,**  
Vault Manufacturer, Oregon street.  
JACKSON, April 27, 1867.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons:

- 1st.—Because it is impossible for either burglar or export to pick it.
- 2d.—The lock being constructed without a key-hole, it cannot be blown to pieces by powder.
- 3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making.

**R. GOSNER,**  
Attested by J. C. SHEPMAN, County Clerk.  
JACKSON, April 27, 1867.  
The undersigned, Treasurer of Amador County, do hereby certify that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any bystander gaining a knowledge of the set of the combination, when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it.

**OTTO WALTHER,**  
Attested by J. C. SHEPMAN, County Clerk.  
**CALIFORNIA LOCK AHEAD.**—A special premium was awarded Mr. W. C. Bussey for his Superior Combination Powder and Burglar Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been sustained. It can be used for its full purpose. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at a very reasonable rate.—**(Mining and Scientific Press, Sept. 29, 1866.)**

They are the only SAFE LOCK ever invented. Every State and County treasury vault, and every bank and business place should have one.—[Amador Ledger.]

This is a lock in which a series of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts, whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which he was awarded a special premium at the State Fair.—[San Francisco Union.]

We, the undersigned, practical Locksmiths, unanimously pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed.

**F. MARKT & C. FLAISEL,**  
No. 18 Post street.

**REFERENCES:**  
R. GOSNER, Sheriff.  
O. WALTHER, Treasurer.  
W. JENNINGS.  
C. H. INGALLS, } Supervisors.  
L. McLANE, }

Any good blacksmith can put this lock on safe doors. Boxed or single old locks removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—[See page 20 in Pacific Coast Directory.]  
A deaf or blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination.  
19v14ny11&18.lam



## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

O. W. M. SMITH, W. B. EWER, A. T. DEWEY.  
DEWEY & CO., Publishers.

OFFICE—No. 505 Clay street, corner of Sansome, 2d floor.

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WRITERS should be cautious about addressing correspondence relative to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1865.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. T. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

San Francisco:

Saturday Morning, Sept. 14, 1867.

## Notices to Correspondents.

ITALIANO.—The Amazonian artist, named Ornata Rudiano, your countrywoman, whose memory you wish to be specially noticed amongst the number of remarkable artistic females which have at sundry times graced this sublunary sphere, certainly merits a few lines being devoted to the enumeration of some of the remarkable incidents connected with her most romantic life. Ornata, in her 23d year, had obtained so great a reputation for skill as a painter that Gahrino Fondolo, the tyrant of Cremona, proffered her the commission of adorning his palace. Ornata was desirous of declining the dangerous honor, but the Marquis would not admit of any excuse. At this period to excite the anger of such a vindictive and unscrupulous a personage would have been dangerous. One day, whilst engaged in painting the walls of one of the apartments in Fondolo's palace, one of his most dissipated courtiers entered the room and attempted to take some unjustifiable liberties, which were indignantly repulsed by this truly heroic lady. In place of retiring, the scoundrel made a second and more violent attempt, on which Ornata drew a dagger which she always had concealed beneath her hodie, in anticipation that such an emergency might at any time occur. She plunged it to its hilt into the villain's heart; then rushing from the palace, disguised herself in male attire and fled to the mountains, declaring that she would rather perish in exile and a wanderer, in purity, than enjoy splendor with tainted honor. The Marquis was furious, sent soldiers in every direction in pursuit, with orders to bring her back alive or dead. She fortunately avoided all the dangers which beset her. On finding further pursuit useless, owing to her escape from his dominions, and not being able to obtain any one capable of completing her labors, he proclaimed a full pardon, on condition that she would return. In the meantime, retaining her disguise, Ornata became admitted as a member of one of the companies of Condottieri which then infested Italy, in which capacity, by her courage and good conduct, she soon rose to the post of Captain. The independence and excitement accompanying this position, appears to have possessed considerable charms, as it tended to draw out a congenial and innate warlike spirit, as she subsequently refrained from entirely abandoning her new career and continued for thirty years thereafter fighting and painting alternately. In 1472, her native town, Castelligne, was besieged by the Venetians, on hearing which she flew to its relief, and forced the enemy to raise the siege, but was mortally wounded in the conflict, and died a few days later.

FOUNDRYMAN.—The capacity of the human frame to withstand elevated temperatures, is much greater than is generally supposed, and by physiologists is very generally attributed to the cooling influence of perspiration; the evaporation in ordinary life is calculated to amount to from two to five pounds every 24 hours. Dr. Southwood Smith, however, ascertained that workmen in gas works employed in making up fires and similar occupations, subjecting them to great heat, lost on an average, 3 lbs. 6 ozs. in 45 minutes, and when working for 70 minutes in an unusually hot place, their loss was 5 lbs. 2 ozs. and 4 lbs. 14 ozs. respectively.

[Editorial Correspondence.]

## Fourteenth Annual State Fair.

The Fourteenth Annual State Fair is proving, as we predicted it would, the most successful of the series, both pecuniarily and as a representative exhibit of the various industries of the State. Its active and energetic Secretary, Mr. Hong, together with other officers and members of the Association, and the cooperative committee, appointed by the Mechanics' Institute of San Francisco, have been unceasing in their efforts to bring about this result; and it must be as gratifying to them as to the public to witness the result of their endeavors.

At a meeting of the Board of Directors, held on Wednesday evening, it was unanimously resolved to continue the exhibition over until Wednesday of next week. This action alone is sufficient evidence of its great success. Indeed, it is universally conceded that the State Agricultural Society has this year, at least, achieved a most gratifying success.

San Francisco is largely and well represented in almost every department. The success of the present effort will doubtless operate largely in securing for the future a progressive improvement in these annual exhibitions, and one which shall be more fully in keeping with the progress of our various industries, than has heretofore been generally witnessed. Too much importance cannot be attached to these practical exhibitions of the advancement of the material interests of the State. However much visitors may have been heretofore interested in and astonished at these developments, we feel well assured that the present exhibit cannot fail to impart to all careful observers, new and much enlarged ideas of the productive wealth of California, and operate as a most powerful incentive to redouble the exertions of all actively engaged in industrial pursuits.

It would be impossible in the brief space which we can allot to the present letter, to give anything like even a "brief mention" of the various exhibitions which have been made. We can only allude to a few of the more prominent ones, and reserve for the future more particular reference to them and others.

## THE ATTENDANCE,

Upon this exhibition has been unusually large. Every boat from San Francisco up to the present writing, has come crowded with visitors; the same has been the case with every train by the railroad; while the country round about in the immediate vicinity, has poured forth its population through every medium of travel attainable. The city is crowded to excess with strangers, and great numbers of visitors are obtaining their meals at restaurants and hotels, while lodgings are furnished at various private dwellings, whose occupants have come freely forward to accommodate the rushing throng.

The streets present a most cheerful and lively appearance, being constantly thronged with pedestrians and vehicles of every description. The rushing and jostling on the sidewalks quite reminds one of Montgomery street in its liveliest times.

## THE PAVILION,

Is constantly thronged with visitors. In the evening it is most inconveniently crowded, so much so that locomotion is almost out of the question, and hundreds are constantly coming and going. Very little, if any, room has been allowed except to meritorious exhibitions. The usual display of fruit is very considerably curtailed in extent, mainly, we presume, for want of room; but ample amends are made in excellence and variety. The wine exhibit is hardly up to what was expected, or what should be made by so large and growing an interest. The upper floor is mainly devoted to manufactured goods, the fine arts, and miscellaneous exhibitions. The display of woollens is most particularly striking and suggestive, especially that portion which embraces "knit goods," and exhibited by the Pacific Woolen

Mills. The works of this company are fully described in other parts of our present issue. It can scarcely be credited by the thousands of visitors at the Pavilion, that such an extensive and intricate branch of manufacture could have grown up in our midst within less than one year, and almost unheralded. Yet such is the fact, and the evidence is spread out before the visitors at the Fair in a manner which is as unmistakable as it is astonishing to all beholders. They exhibit fully one hundred different varieties of manufacture, to which we shall more particularly refer at a future time. The Mission and Pioneer Woolen Mills have also most gratifying and extensive exhibitions. No visitor can pass them by without being strongly impressed by the great importance and value to our industrial interests. The Pioneer Company has a fine loom at work on the lower floor. The aggregate value of the productions of these will reach to nearly or quite two millions of dollars the coming year!

## THE SILK EXHIBIT,

Also on the upper floor, is one of the chief attractions of the exhibition. Through Messrs. Prevost and the managers of the Silk Factory at San José, the public are favored with a continuous exhibit of this business from the cocoon to the manufactured dress goods. There is a reel at work on the upper floor, showing the manner in which the silk is taken from the cocoon, and by its side is a loom in which is seen the progress of weaving a piece of dress goods. The advance in this branch of industry is still progressive, and as promising as ever of early and most important results.

## THE MACHINERY DEPARTMENT,

Is much fuller than it has ever been before at our State exhibitions. It attracts much interest. A long line of shafting has been put up the whole length of the Pavilion, in a shed which has been constructed upon the outside and along its whole length. One of the chief attractions in this department is a Hicks Engine, exhibited by the Miners' Foundry, which we propose hereafter to fully describe. Mr. Hallidie also exhibits one of his wire-rope making machines; Mr. Hanshrow exhibits his planetary or waltzing pan. Various other machinery of different kinds is exhibited, which we cannot to-day notice even by name, but shall do so in future.

## THE RACES,

Of course, attract, as usual, a large amount of the attention of a certain class; but as we never have yet been able to see how they specially benefit the industrial interests of the State, we have not found time to visit or notice them.

AN OREGON COLLEGE OF MEDICINE AND SURGERY.—We have received the Annual Announcement of the Medical and Surgical Department of the Willamette University, at Salem, Oregon, in the shape of a neatly printed circular, and are pleased to learn that the department is in a flourishing condition. The Faculty is composed of eight professional and practical resident physicians of that place, and a Professor of Medical Jurisprudence. The object of uniting this department with a regular College, is to allow students to prosecute their studies in both branches at the same time. We are pleased to receive these notices of educational progress, as every step in the right direction more fully does away with the necessity of sending our young men away from their homes in order to acquire a professional education. From the circular we find that three graduates have been sent out to heal the sick, and that there are now twenty students in attendance. We are personally acquainted with the dean of the faculty, Prof. H. Carpenter, a gentleman of unusual medical acquirements, and under whose care the institution is sure to establish for itself a wide reputation.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

## Progress of Our Industrial Interests.

## OUR WOOLEN MANUFACTURES.

Chief among the important manufacturing interests which are growing up in our midst, may be mentioned that of woolen. It is only about seven years since the first attempt was made to establish a woolen factory in California. The business was inaugurated amidst predictions of failure on all sides; but the enterprise and energy of the parties engaged in the experiment succeeded in overcoming all obstacles, and we have now three establishments in this city, each as complete in its line as any similar mills in the Union, besides several others projected or in progress of erection in the interior, to say nothing of Oregon. The quality of the goods turned out at the California mills has also constantly improved, while the business of the several establishments has been as regularly increased. It is a matter of history that the blankets and clothing furnished the California troops during the war excited the admiration and unqualified praise of the authorities at Washington, and all others who took the pains to examine, and possessed the requisite knowledge to judge of such matters. Subsequently, large contracts for the Spanish and Russian navies gave equal satisfaction as that of our own Government. Taking into consideration the past prosperity of this branch of our State's industry, its future promises a still more profitable result, as increased facilities and experience come to our aid. We are already able to supply all our own wants in those classes of goods, the manufacture of which has been undertaken here; and the time is not far distant when we shall be able to meet the entire wants of the Pacific coast, and even compete, by our superior position and facilities, for the markets of Eastern Asia and the islands of the Pacific.

## THE PACIFIC WOOLEN MILLS—CALIFORNIA KNIT GOODS.

Although our people are familiar with the fact of woolen mills in our midst, comparatively few, we opine, are aware that we have in successful operation in this city an establishment devoted especially to the manufacture of knit goods—all wool and cotton and wool. This new enterprise presents a most interesting feature in the history of the industrial progress of the State. We took occasion, a few days since, to visit this factory, where we spent some two hours or more in examining the latest, most improved and most interesting class of machinery connected with the modern production of woolen goods.

The Pacific Woolen Mills, designed for the exclusive manufacture of knit goods, were started in April last, but have only recently got fully under way. This establishment is owned by a joint-stock company, with a capital of \$400,000—about \$200,000 of which has already been paid in, and expended in land, buildings, machinery and stock. The main building is a substantial brick structure, 112x60 feet, and 3½ stories high. The machinery is of the latest and most approved kind, combining the best features of both English and American invention.

## THE MANAGEMENT.

The mill has been erected under the immediate supervision of Mr. James Roberts, one of the proprietors and chief manager. The superintendent of the mill, and the one who has the general charge of the detail of the work, is Mr. Thomas Appleton, Jr., a gentleman who has had fifteen years experience in this especial branch of woolen manufacture in the Eastern States. The agent for the mill is George F. Bragg; agents for the sale of the goods, Lazard Frères, Battery street. Through the kindness of Mr. Roberts, we were shown over every part of the works, tracing up the various stages of progress, from the washing of the wool to the final finishing touches of the manufactured goods.

## THE MACHINERY.

On the lower floor are the various machines for picking, washing, drying and finishing. The machine for washing wool



is a recently invented and great labor-saving machine, applicable to wool, but not to clothing. There is on this floor a centrifugal drying machine, for removing the water from the manufactured goods, which runs at a speed of 1,200 revolutions a minute, and forces the moisture from about sixty pounds of goods in about five minutes' time, so that a few minutes subsequent exposure to the sun or a drying room readily removes the remaining dampness. There are two picking machines, one of which is more particularly designed for removing the clover hurr and filagree seed, and other such like foreign substances from the wool. Mr. Roberts informs us that the removal of the clover hurr and filagree seed is a very difficult and expensive work; and that any considerable quantity of either of these substances depreciates the value of wool nearly one-third—or from twenty or twenty-one cents (the value of the raw wool) to twelve and a half cents per pound. Wool growers will do well to make a note of this, and use every exertion to keep their fleeces as free as possible from such depreciating entanglements.

The second floor is the carding room. The wool first passes through what is called a "scribbler," which is a kind of carding machine that prepares the wool for the "breakers." This scribbler is an English machine. The solidity and massiveness of its every part fully indicates its nationality. The wool next passes through a first and second breaker and a finisher, which last delivers it in the form of a large loose slightly-twisted rope yarn, ready for the spinners. There are five sets of this last machinery, which is of American make. There are also in this room two sets of self-cleaning cotton carding machines—an American invention, of some ten years standing. These machines are among the novelties of cotton machinery, and are but recently introduced into Europe. Their presence in this establishment is one among the many indications of a determination to be behind no other similar manufactory in the way of improvements.

THE SELF-OPERATING MULE.

We next go into the third story, where, first of all, is seen that great novelty in human mechanism, the self-operating mule. As we stood watching the stately marchings back and forth of the long rows of spindles, and observed the growing bulk of yarn neatly and uniformly wound upon each, with all the complex machinery, moving obedient to the will, but yet unaided by the hand of man, we could scarcely refrain from the thought that the whole must be instinct with life and reason. Our imagination involuntarily wandered back to the dark and dingy garret where the genius of Arkwright first wrought out from his prolific brain the dim outlines of a machine, which, by gradual and progressive improvement, has finally culminated in this apparently *ne plus ultra* in spinning machinery. What would be the feelings of that great pioneer inventor could he but revisit this earth for an hour and witness the perfection to which his early invention has been carried? Even to the eye of one accustomed to the intricacies of modern invention, the heterogeneous mass of clock-work, levers, springs, pulleys, weights, etc., by which the complicated movements of this wonderful machine are produced, seem almost a miracle of human ingenuity. There are four of these machines at this mill, each about eighty feet long, and capable, by the attention of one man to each, of doing the work of 800 persons by the primitive mode in which it was done before the immortal Arkwright introduced his first spinning machine. This machine is susceptible of ten different changes, by the substitution of different sets of gearing, by which as many modifications may be effected in the fineness, hardness, greater or less twist, etc., of the yarn which it produces.

THE KNITTING MACHINERY.

Passing to the further end of the room we were, if possible, still more interested in the wonderful performances and varied movements of the knitting machines. Of these machines there are nine in a row, known as the "Shaker Ribbed Stocking Machine," all tended by one boy, and capable of knitting the legs of one dozen stockings each hour. These machines are quite new, the latest invention in this line, and are just beginning to be introduced even at the East.

The legs of great number of stockings are knit in one long piece of hose, and afterwards cut into proper lengths for single stockings, and the heels and toes added by a subsequent process, in another machine. There are seven of these machines. There are next twelve machines for making both plain and ribbed stockings for ladies, each

of which may be run separately, or all together. One boy, upon six of these machines, can make twenty-six dozen pairs in one day.

There are next four other machines, of a different description, designed for knitting patent elastic ribbed shirts and drawers, capable of making twelve dozen each day with one attendant for the four.

Then we have six machines similar to the one which is illustrated and described on our first page, designed for plain shirts and drawers, each of which turns off 100 shirts or drawers per day.

MORE MACHINERY EXPECTED.

The proprietors will receive a lot of new machinery in about six weeks, which has been ordered for the especial purpose of manufacturing a finer class of goods than any which have yet been produced. It is the determination of the proprietors to fully answer the demands of this market for every possible quantity of goods of this description. The machinery now expected will supply the finer qualities, such as are now imported from England, and the manufacture of which has not yet been attempted, even in the Atlantic States.

CAPACITY OF THE MILL, ETC.

This mill is now capable of turning out 100 dozen stockings and 62 dozen shirts and drawers daily. It uses up about 24,000 pounds of wool and 4,000 pounds of cotton monthly, and turns out about \$25,000 worth of goods in the same time. The goods are all of a very superior quality, heavy, strong, remarkably well finished, and quite superior and more desirable than the same classes of goods brought from the East. They are furnished to the trade at prices always as low, and in some instances lower than inferior goods from the Atlantic States.

Upwards of 100 hands are now employed at the mill, about half of whom are Chinese; 30 white women and 20 white men are also employed. The Chinese are mostly employed in tending machinery, and take the place of boys and girls. They live together and by themselves in a house belonging to the mill company. They are said to be very quiet, teachable and effective. They can attend a machine as long as everything works smooth, but when anything goes wrong John don't *sabe*, and must look to the white man. All the skilled work is done by white men, and nobody about the establishment has any fears that John will ever aspire, or reach, if he does aspire, to any proficiency as a skilled laborer.

A large item in the labor employment at this establishment is the work done outside by females, who take their work home. This work is the fine seaming of the goods, joining the edges together, etc. Such work cannot be done by machinery. About 200 females are employed in this business, mostly those having families, and who have a few hours to spare each day. This is a kind of employment greatly needed in this city, and as furnishing it, this establishment is doing a most important and philanthropic work.

THE PEOPLES' COAL MINING COMPANY.—We have received the prospectus of this company, organized for the purpose of working the coal veins near Corral Hollow, in Alameda county. Considerable work has already been done upon the mine. A shaft has been sunk to the depth of 310 feet, and a steam engine with hoisting and pumping apparatus erected. To increase its facilities for extracting and delivering coal, the company now solicit a subscription of \$100,000. They offer full paid stock at one-half its par value, convertible at the option of the holder into coal certificates, payable in the company's coal at market rates. They state that with this aid they will be in a position, by the 1st of May next, to raise and deliver 300 tons of coal per day, with a constantly increasing yield.

The officers of this company are: H. J. Booth, President; A. Casselli, Vice President; Camilo Martin, Treasurer; A. Noel, Secretary. The office of the Treasurer is at the London and San Francisco Bank.

READING FOR SUNDAY.—Most people in this State depend upon the weekly papers for their Sunday reading. Some prefer *solid* matter; while others forget care and hard work in the perusal of emotional and sensational literature. To the first we say, read the PRESS; to the last, take the Golden Era—the oldest weekly paper in the State—a paper which offers you 48 columns every week of light and entertaining matter, both original and selected. See the advertisement of the same in another column.

NORTH AMERICA Life Insurance Company.

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SECRETARYSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v151f

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. SEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with *PERM COBALT*—thus restoring them to their original usefulness and beauty. Call and examine the work. Finest quality of artificial work also manufactured. 16v14tf

Gold Bars, of whatever size, if well cast, assayed for two dollars, at A. P. MOLLITOR'S Assay Office, 61 Commercial street, opposite United States Branch Mint. 15v14-3m

Brown's Filtering Heater.—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler—repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where rights can be procured, or all needed information, on application, in person or by letter, to 5v14-1v AUSTIN A. WELLS, Agent.

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA

Is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Normalizing and Improving Influence, exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.

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THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars and further particulars, address Du. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15-6m

SACRAMENTO SEMINARY.

Boarding School for Young Ladies, 1st street, between Tenth and Eleventh streets, Sacramento. The present Session commenced July 29th, and will close December 29th. A full course of instruction is given. Six Teachers are employed. For further particulars, address HEDDON PERRY, Sacramento, Cal. 11v15-1m

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street. FIRE AND MARINE INSURANCE. 10v1419pqr

BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

FOR CABINET PHOTOGRAPHS, or Enneamed Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos 25 and 27 Third street. Every picture warranted to give perfect satisfaction. 5v15qr B. F. HOWLAND, Artist.

Perry Davis' Vegetable Pain Killer.

We sell the following from the Providence (Mass.) General Advertiser: "At this season of the year, when cholera, cholera morbus, dysentery, and other kindred complaints are sure to prevail, everybody should be liberally supplied with Perry Davis' Vegetable Pain Killer. Persons leaving home, whether it be for a day's excursion or a trip to Europe, should be in a condition to place their hands upon that a moment's warning. Many diseases incident to the summer months, which will prove fatal if not immediately checked, can be promptly cured by one or two doses of the Pain Killer. On more than one occasion have we been relieved of intense suffering by the timely use of the above named preparation. Sold by all Druggists, Grocers and Medicine Dealers everywhere. 10v15-1m

ROOT'S Patent Force Blast Blower.

Adapted for Smelting, Foundry, Mining and Steamships. Requires 50 per cent less power than any Blower now in use. For further particulars, address KEEF, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 6v15110p

Oakland College School.

THE PATRONS of this institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California. The SENIOR ENGLISH affords a complete course of instruction in the English branches, in Theoretical and Practical Business, Science and Art. The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided. Throughout all the various departments, great attention is given to the study of the Modern Languages. For further information, or Catalogues, address, I. H. BRAYTON, Principal. OAKLAND, California. 5v15qr5p.

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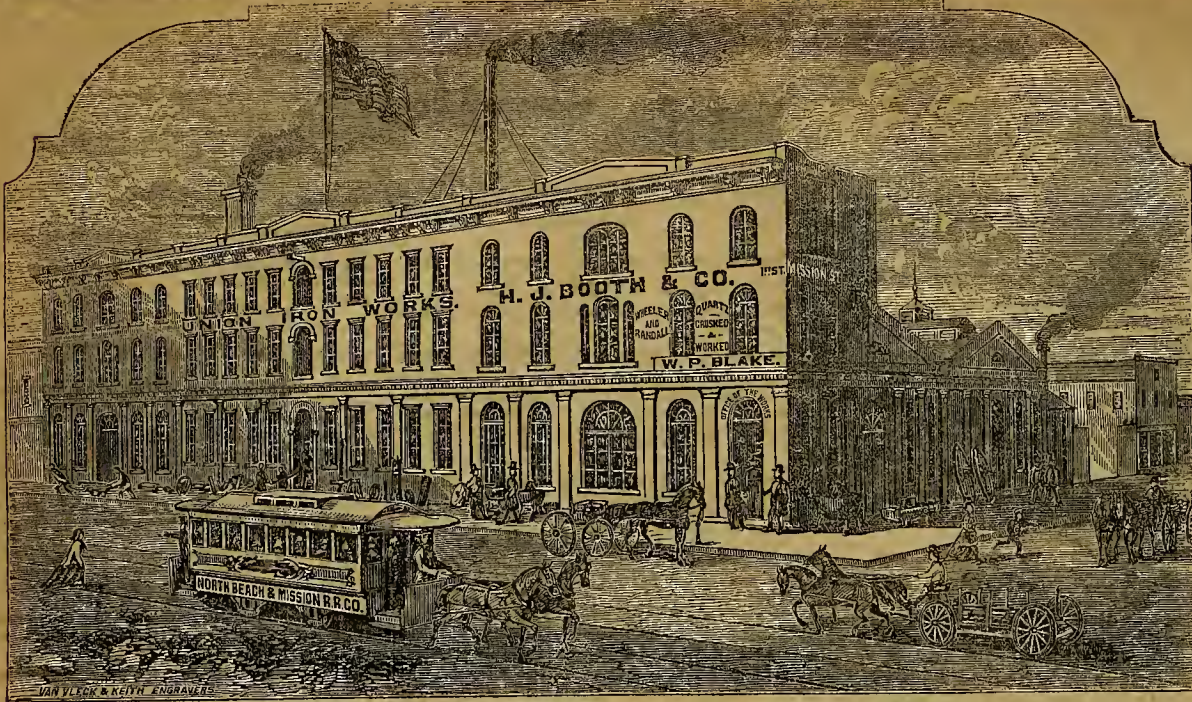
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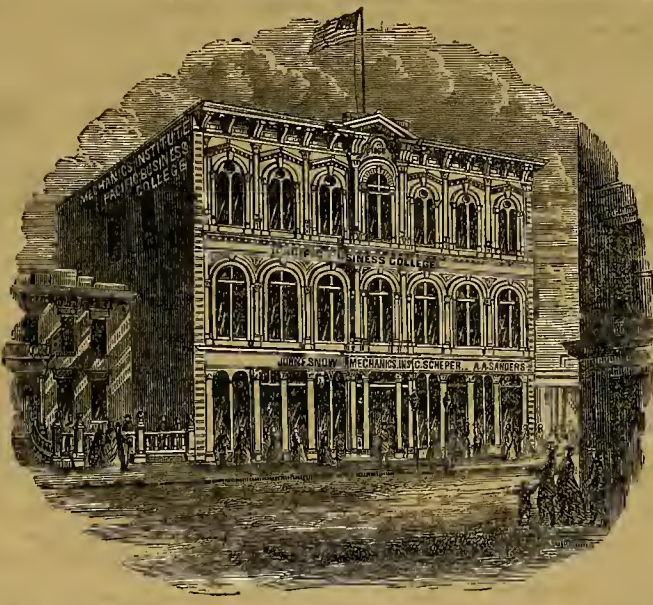
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Shot Guns and Rifles Selling at Five Dollars Each! THE AMERICAN ARMS COMPANY, are closing out their large stock of Heavy and Light Single Barrel Guns, suitable for Geese, Duck, Pigeon or Quail Shooting. Heavy and Light Rifles at \$5 each. Euclidean stamp and send for Catalogues. AMERICAN ARMS CO. 639 1/2 Market street, San Francisco. 9v16-3m

Schmiedell & Shotwell, Stock and Money Brokers, and dealers in Government Bonds, State, City and County Securities, Gas, Water and Insurance Stocks, etc., southwest corner of California and Sansome streets, opposite Bank of California. 1v15-6m

ISAAC E. DAVIS. HENRY COWELL. DAVIS & COWELL, DEALERS IN Santa Cruz Lime, Cement, PLASTER, HAIR, LATH AND LATH NAILS. Marble Dust, Fire-Bricks, Fire-Clay, Fire Tiles of all sizes. Cor. Front and Washington Streets, San Francisco. 25v14-tf

REMOVAL. The well known establishment of LUCY & HYMES, MANUFACTURERS OF Genuine Pale and Chemical OLIVE SOAPS,

Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged. The capacity of this establishment is now the largest on the Pacific Coast. It is now in full operation, and prepared to supply the demand of the trade. Office—319 California St., San Francisco. 1v15qr

We take occasion to inform our friends and customers that we have sold our entire stock in warehouse, also in-voice to arrive, to Messrs. N. P. COLE & CO., 312 and 314 Pine street. The whole forms a most complete and desirable assortment of PURCHASERS, and well merits attention before purchasing elsewhere. J. PEIRCE & CO.

FURNITURE. We beg leave to call the attention of the public to our warehouses,

Nos. 312 and 314 Pine Street. Having purchased the entire stock of Messrs. J. Peirce & Co., and in addition to our large invoice from our factory at the East, we are prepared to fill all orders promptly, both WHOLESALE AND RETAIL, and call the attention of the public to our sales-room, as containing the most complete assortment of desirable goods on this coast. 2v15-1qr N. P. COLE & CO.

BROWN & CO., HATTERS, Importers and Manufacturers of the LATEST STYLES, At No. 132 Kearny Street. CALL AND SEE THEM. 4v16qr

International Hotel, JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS., SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$3 per day for Board and Room. FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 2v15

Trades and Manufactures.

W.M. BARTLING. HENRY KIMBALL. BARTLING & KIMBALL, BOOKBINDERS, Paper Rulers and Blank Book Manufacturers. 505 Clay street, (southwest cor. Sansome), 15v12-3m SAN FRANCISCO.

JOHN DANIEL, (SUCCESSOR TO O. GOULD) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco

Mantels, Monuments, Tombs, Planners' Slabs Etc., On hand and Manufactured to order. Goods shipped to all parts of the State. Orders re- spected. 5v15-3m

Palmer's Patent ARTIFICIAL LEG, Manufactured in Philadelphia, Penn. JARVIS JEWETT, AGENT. 213 Montgomery Street, San Francisco. 10v15-1m

HUCKS & LAMBERT, SOLE MANUFACTURERS OF THE CELEBRATED H. & L. AXLE GREASE, Natoma Street and North Beach, 2v15-3m SAN FRANCISCO.

HARRIS BROS., OUTLERS, LOOKSMITHS, BELLHANGERS And Model Makers. 208 Leidesdorff street, bet. Sacramento and Commercial, SAN FRANCISCO. 2v14-tf

LEATHER HOSE AND BELTING, ALL SIZES. SUCTION HOSE MADE TO ORDER At short notice, by M. M. COOK & SON, No. 801 Battery street, SAN FRANCISCO. 13v13-3m

McNALLY & HAWKINS, Plumbers and Gas-Fitters, No. 645 Market Street, Adjoining R. C. Orphan Asylum, nearly opp. Montgomery street, San Francisco.

BUILDINGS FITTED UP WITH GAS, Water and Steam Pipes, and all work warranted. Have constantly on hand an assortment of Gas-Fixtures, Lead and Iron Pipes, Marble Slabs, etc. 6v15qr

E. POWER, WOOD CARVER -AND- Composition Ornament Manufacturer. Designing, Modeling and Patterns FOR CASTING. INTERIOR DECORATIONS OF ALL DESCRIPTIONS, In Wood, Composition and Metal. Nos. 311 and 313 Market street, San Francisco. 25v14-qy

J. M. STOCKMAN, Manufacturer of PATTERNS AND MODELS, (Over W. T. Garratt's Brass Foundry,) S. E. Corner of Mission and Fremont sts., SAN FRANCISCO. 6v14tf

J. B. WHITE. JACOB KRAMER. Petroleum Oil Works.

J. H. WHITE & CO., No. 109 Commercial street, San Francisco, Are now manufacturing LUBRICATING OILS & AXLE CREASE, From Petroleum of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricators are equal to any in the market, and surpass all others in cleansing off gum caused by the use of animal oils which contain stearic and margaric, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 25v14tf

THEODORE KALLENBERG, Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc. L. LAUSZWE EKT. No. 10 Stevenson street, near First, San Francisco. Repairing promptly attended to. 3v15tf

Pacific Chemical Works. NITRATE OF SILVER.

Messrs. FALKENAU & HANKS—Gents:—I have subjected the sample taken from your Nitrate of Silver to a thorough analysis, and find it to be chemically pure, not containing the slightest trace of any impurities whatever. Respectfully yours, THOS. PRICE. Messrs. FALKENAU & HANKS—Gents:—I have examined the sample of Nitrate of Silver of your manufacture. I have never seen in this market, Nitrate of Silver, manufactured here or imported, so free of every kind of foreign matter, and find it not only adapted to Photography, but it was subjected to every mode of examination, aside from critical chemical analysis, and every test applied confirmed the opinion that a purer article could scarcely be produced or desired for medicinal purposes. DR. L. LAUSZWE EKT. Nitrate of Silver manufactured by FALKENAU & HANKS, Pacific Chemical Works, San Francisco. For sale by all Wholesale Druggists and Importers of Photographic Stock. 4v15altw

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SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco, Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 2v15-1qr

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of Models made for parties applying for patents at Washington or London. mar23-d.

JAMES M. TAYLOR, Attorney and Counsellor at Law, Court Block, 636 Clay Street, SAN FRANCISCO. 2v15-1qr

ISAAC LOBREE & CO., GOLDEN STATE POTTERY, ANTIOCH, CAL. Office in San Francisco, 516 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware. Is prepared to fulfill all orders at the shortest notice. 20v14tf

J. N. ECKEL, M. D., Homeopathic Physician, 226 Post Street, San Francisco. 2v15qr

DR. H. AUSTIN, DENTIST, No. 634 Washington Street, Between Montgomery and Kearny Streets [OVER SAN FRANCISCO BATHS] SAN FRANCISCO. 20v10-qy

J. W. WINTER, DENTIST. Office, 647 Clay street, San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$30 to \$35. Teeth extracted without pain by local application. 18v14-tf

RADICAL CURE -OF- RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 424 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU Has his studies and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 24v14-11ptf

MOSHEIMER'S PIONEER MINING SCHOOL -AND- Metallurgical Works.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches:

- 1. Assaying of ores, metals and other mineral substances.
2. Technology, or Chemistry, as applied to any special branch of manufacturing.
3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc.
4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed.
5. Concentration. Dressing of ores.
6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology.
Mining is considered by many a very hazardous undertaking; but I can assure anyone that our mines are as safe an investment as any other business when properly understood and managed; therefore learn first, if you have a mine, then study the nature of the ore, and how to work it, and you will never fail to be successful.

It may not be superfluous to state that I am theoretically and practically acquainted with all the branches I offer to teach. Years of actual experience in the laboratory, smelting works, quartz mills, and other manufactories carried on on my own account, have not only given me lessons, but more than ordinary ability.

I was the first one in California who successfully extracted silver by smelting, on a large scale, and have since been traveling through the manufacturing and mining towns of Europe, to study all improvements, and am now again the only one in San Francisco who undertakes to work any kind of ores by either roasting, smelting, lixiviation, or chlorination process.

I also undertake the erection of smelting and roasting furnaces, and furnish plans and estimates for any kind of works. My lately invented Roasting Furnace has the following advantages: A Furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$300. It requires half a cord of wood per ton of sulphurets. The total expense of roasting are not over \$6. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine gas or quicksilver when amalgamated. A large size furnace in successful operation may be seen, by permission of Mr. Naitman, in his works in Nevada City. Several others are in progress of building. Charges for assaying gold or silver ores.....\$3 00 Copper ores..... 5 00

JOS. MOSHEIMER, Practical Chemist, Metallurgist, etc. Office, No. 329 Montgomery street, San Francisco, Cal. 9v15-3ms

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADLERBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. B. TIEMANN, MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, -AND- CENTRAL CITY, COLORADO. 19v12-1y

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN

ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware Photographic Stock, Etc 512 and 514 Washington Street, SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1865. 11v10-tf

J. A. BAUER, Chemical Laboratory AND DRUG STORE, 644 Washington Street. [Established 1849.] SAN FRANCISCO.

Careful Analyses made of Ores, Minerals, Waters, Oils, Liquors, Wines, Products of Art, etc. Pharmaceutical Preparations Made to Order. Opinions given on Chemical Questions and Geology. Particular attention paid to Analyses of all kinds, in cases where legal questions are involved. Pure Nitric Acid, Nitrate of Silver, Gold Chloride, Platin Chloride, Sodium Amalgam, Sulphate of Copper, etc., for sale. 12v14-6m

T. R. CHURCH, FASHIONABLE

CLOTHING EMPORIUM No. 223 Montgomery st., Russ Block. WHOLESALE AND RETAIL DEALER IN

FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices. 9v15-qr

MEUSSDORFFER, Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867.

An Entirely New Style of Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dressy Hat ever introduced on the Pacific Coast. 8v14

Cyanide of Potassium -FOR-

QUARTZ MILLS, Photographers, Electrotypers, Etc. Manufactured by the

PACIFIC CHEMICAL WORKS. For sale by all Wholesale Druggists and Dealers in Photographer's Stock. 2v15-altf

Postage.—The postage on the MINING AND SCIENTIFIC Press to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and county. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents



BULLION.—The amount of bullion assayed in this city during the month ending on the 10th inst. was: Gold, \$3,332,750; silver, \$75,944. Of this the United States Mint assayed, gold, \$823,140; silver, \$55,870; the San Francisco Assay and Refinery Works, gold, \$1,533,387; silver, \$7,666.

New Mining Advertisements.

Adela Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of August, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like E. F. Hauldwin, J. K. Hauldwin, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, at No. 415 Montgomery street, San Francisco, Cal., on Monday, the thirtieth day of September, 1887, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 479 Pacific street, San Francisco, Cal. sc14

Chick Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirtieth day of August, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like John Penhallman, H. W. Hill, etc.

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of August, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on Monday, the thirtieth day of September, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sanson streets, San Francisco, California. au17

Chilpana Mining Company.—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of September, 1887, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco. sc14

Hansen Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of July, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Shares, Amount. Lists shareholders like Ayres, Washington, Burch, W. W., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Badger & Chapman, N. W. corner of Kearny and California streets, San Francisco, Cal., on Monday, the thirtieth day of September, 1887, at the hour of 12 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN O. HANSON, Secretary. Office, at the Etina Iron Works, Fremont street, between Howard and Folsom, San Francisco. Office hours: from 8 A. M. to 12 M. sc13

Keley Gold and Silver Mining Company, El Derado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1887, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Treasurer, D. C. BRECK, at his office, northeast corner Battery and Clay streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. V. HERBERT, Secretary. Office, No. 407 California street, San Francisco. sc14

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

La Blanca Gold and Silver Mining Company, District of Ures, Sonora, Mexico.

Notice is hereby given, that the Annual Meeting of the stockholders of the above Company, will be held at No. 103 California street, corner of Davis, in San Francisco, on THURSDAY, the tenth day of October, 1887, at 7 1/2 o'clock, P. M.

Proxies must be written and filed with the Secretary. sc14

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1887, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, 290 Sacramento street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

OEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. sc14

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of August, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like F. H. Alderling, A. Winger, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 403 California street, San Francisco. sc14

To Capitalists.

GOLD QUARTZ MINE, SITUATED IN CALAVERAS COUNTY, with steam mill fitted up with Amalgamating Pans, etc. FOR SALE. The mine has three main veins, and will net \$30,000 per year in operating them and completing the mill. Good wagon roads all the way. Apply to BELLOC FRERES, Bankers, 535 Clay street, San Francisco.

Mining Notices—Continued.

Ancient River Channel Blue Gravel Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the second day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House. sc7

Ancient River Channel Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—All persons are cautioned against purchasing the following Certificates of Stock in the Ancient River Channel Blue Gravel Company, as the transfer has been stopped on the same:

One Certificate, No. 82, for 125 shares; one Certificate, No. 5, for 10 shares; one Certificate, No. 27, for 15 shares. S. A. MORE, au31-4\*

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificates, No. Shares, Amount. Lists shareholders like Camp, James, Drinkhouse, J. A., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, Auctioneers, on Thursday, the twenty-sixth day of September, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Clay and Front streets, San Francisco.

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifteenth day of August, 1887, an assessment (No. 16) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Any stock upon which said assessment shall remain unpaid on Thursday, the nineteenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventh day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. au17

La Blanca Gold and Silver Mining Company, Location of Works: District of Ures, State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of August, 1887, an assessment of two dollars and fifty cents per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, southeast corner Front and Commercial streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on Saturday, the fourteenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirtieth day of September, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOS. GOLDMAN, Secretary. Office, southeast corner Front and Commercial streets, San Francisco, California. au13

Lady Franklin Gold and Silver Mining Company.—Silver Mountain Mining District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of May, 1887, an assessment of thirty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 335 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the fifteenth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. S. LUTY, Secretary. Office, 305 Montgomery street, Rooms 5 and 6, San Francisco, California. au17

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of August, 1887, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the fifth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

B. P. WILKINS, Secretary pro tem. Office, 618 Market street, San Francisco, Cal. au24

Mout Tenabe Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of September, 1887, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Any stock upon which said assessment shall remain unpaid on the tenth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the thirty-first day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco.

N. B.—Two per cent will be allowed on all payments made on the above prior to 17th inst. sc7

Neagle & Corcoran Silver Mining Company.—Location of Works: Storey County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Bell, Rosena, Bell, John, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the second day of September, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. P. GREEN, Secretary. Office, Room No. 11, 338 Montgomery street, San Francisco, California. au17

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the second day of October, 1887, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. sc7

Potrero Company.—Location of Works: San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1887, an assessment of two dollars and a half (\$2 50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 533 Kearny, corner of Sacramento street.

Any stock upon which said assessment shall remain unpaid on the tenth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. sc7

Neagle & Corcoran Silver Mining Company.—Location: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1887, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-third day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary. Office, No. 408 California street, San Francisco. sc7

Santa Cruz Petroleum Oil Works Company, Location: Santa Cruz County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of August, 1887, an assessment (No. 20) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Tuesday, the seventeenth day of September, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the eighth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. au17

The above assessment, No. 20, is hereby rescinded. By order of the Board of Trustees.

R. WEGENER, Secretary. San Francisco, Sept. 12, 1887. sc14

Santa Cruz Petroleum Oil Works Company, Location: County of Santa Cruz, State of California.

Notice.—The fifth Annual Meeting of the stockholders of the above named Company will be held at their office, 415 Montgomery street, San Francisco, California, on Tuesday, the twenty-fourth day of September, 1887, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and transacting such other business as may properly come before it.

R. WEGENER, Secretary. San Francisco, August 13, 1887. au17

Tuolumne Mountain Gold and Silver Mining Company, Old Buchanan Ledge, Tuolumne County, State of California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of July, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like John Antles, Byrne, H. H., etc.

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of July, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Saturday, the thirty-first day of August, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

D. F. VERDENAL, Secretary. Office, 22 Court Block, 636 Clay street, San Francisco, au17

POSTPONEMENT.—The above sale is hereby postponed until Saturday, the fourteenth day of September, 1887, at the same hour and place. By order of the Board of Trustees.

D. F. VERDENAL, Secretary. au17

Whitann Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of October, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. sc7

Whitlatch Gold and Silver Mining Company, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Allen, H. H., Allen, J. H., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of June, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, by Jones & Bendixen, auctioneers, on Thursday, the twenty-sixth day of September, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

N. C. FASSETT, Secretary. Office, N. E. corner Front and Clay streets, San Francisco, California. au3

OLNEY & CO., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Mill men are invited to examine these pans and settlers for themselves, at the

PACIFIC FOUNDRY, San Francisco.

\$85 for Hunter's Improved Concentrator.

The patentee is prepared to sell his Concentrators for the above price, and guarantees, when the machines are run according to directions, to give 20 per cent better results than from any Concentrator built on this Coast, and will refund the money if they will not perform what is claimed for them. Machines with copper plates, will cost \$10 extra. The Machine can be

Seen in Operation At Booth & Co's Union Foundry, up stairs. Parties purchasing Concentrators will do well to examine before buying others of pretended merit. Persons desiring it can have a practical concentration made of tailings at any time, and prove the working of the machine.

FOR \$50.

HUNTER'S EUREKA AMALGAMATOR.

For sale, the right to build and use in mills. A working plan will be furnished each purchaser. Five machines can be seen in operation at the Eureka Mill, Grass Valley. The cost of the iron for the machine, without the iron-box, is about \$50. The box will answer of wood.

By reference to the Mining and Scientific Press of May 25th, a full description of the above Machines may be found. For particulars, send for Circulars, or address

ANDREW HUNTER, Union Foundry, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines, Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco, 23v12 3in

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

BY

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers Pumps, Pumping Frames and Gearing.

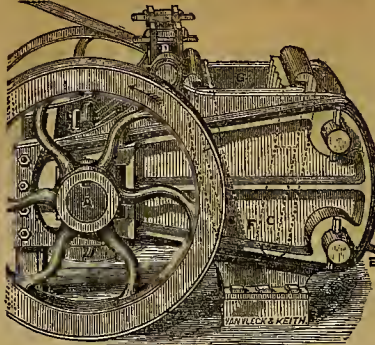
HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Second St., and 108 and 110 Jessie St. 2v15qy San Francisco.

Invulnerable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1.—Or 12 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price.....\$600

No. 2.—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour..... 850 No. 3.—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour..... 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, E, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1865.

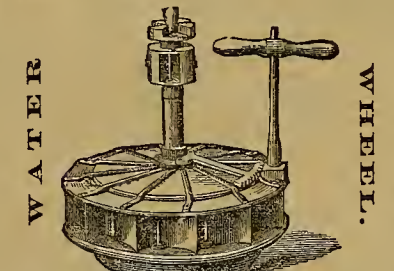
JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your best sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. F. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers. Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1865.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in California, and Nevada. Stockholders and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 23, 1865. BRODIE & DOBLE, Express Building, 402 Montgomery street, San Francisco. 12v15tf

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA: KEPPNER & STODDART, Colson, O. Simmons, Oakland, (Mill at Clear Lake); MORZAN COVINGE, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular to

LEFFEL, KNAPP & GRANT, Agents for California, 26v15-lyq 310 Washington street, San Francisco

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine, With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a First-class

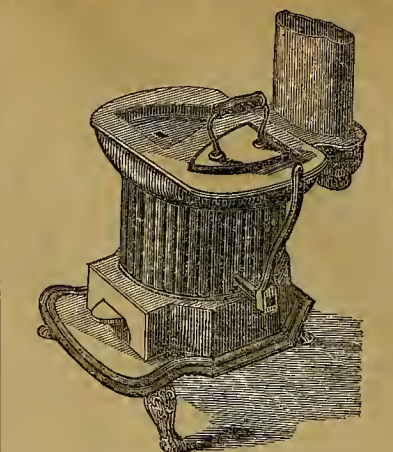
Fuel-Saving Engine, Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, San Francisco, Aug. 29, 1867. 9v15tf

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

WESTGATE'S PATENT NON-CONDUCTING SAD IRON AND SAD IRON HEATER



Is the best and cheapest Ironing Apparatus ever invented. It will save fifty per cent of Fuel. No family should be without one. For sale by LOCKE & MONTAGUE, 10v15-2t 112 and 114 Battery st., San Francisco.

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, (San Francisco. 10v14q

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use. Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. THOMAS PATTINSON, 7v15-qy

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address, F. M. SHAW, San Francisco, care Mining and Scientific Press. 26v143m

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-ly Stove Store, No. 125 Clay street, below Davis.

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 16th and 30th of each month that has 31 days. When the 10th, 16th and 30th fall on Sunday, they will leave on Saturday preceding, when the 18th falls on Sunday, they will leave on Monday following. Steamers leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 14th or 18th connect with French Trans-Atlantic Co's steamer for St. Nazaire, and English steamer for South America. Departure of 14th connects with English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America. The following Steamships will be dispatched on dates as given below: September 10th—GOLDEN WELLS.....Capt. W. F. Lapidge, Connecting with UENRY CHAUNCEY, Capt. Gray September 18th—CONSTITUTION.....Capt. Parker, Connecting with the RISING STAR, Capt. Conner. September 30th—GOLDEN AGE.....Capt. J. M. Cavarly, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attend ance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$20 to \$25 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. 23—The Steamship CHINA, Capt. E. W. Smith, will be dispatched October 14th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

MECHANICAL PROGRESS IN ENGLAND.—The London Quarterly Journal of Science, takes Dr. Playfair severely to task for asserting that English manufacture is retrograding, and that her mechanical and civil engineers are lamenting the want of progress in their industries, while other nations are making wonderful advances. The Review asserts that "the English iron furnaces are improving in construction and increasing in size. The iron from inferior ores is greatly improving in quality. Her mills are the finest in the world, and capable of executing any work for which there may be a demand. They are the only people in the world who are striving—and striving, too, with any prospect of success—to carry out the process of puddling by machinery; and where else is coal cutting by machinery in so far advanced a state as in the British coal fields? In the processes of smelting, great advances are being made—and from ores of lead containing copper, the best lead can now be manufactured. Indeed in each of our metallurgical processes, we can point to improvements which will show how exceedingly imperfect is the knowledge possessed by Dr. Playfair; and a little consideration would have prevented Earl Granville from basing his remarks—made at the distribution of prizes at the London University—on so fallacious a letter as that addressed to Lord Taunton."

THE IRON SAND OF New Zealand, according to the London Quarterly Journal of Science, is again attracting attention in England, and a new company has been formed to work it. The Journal expresses the hope that the next experiment of making pig iron from this ore may be practically more successful than the former attempts to do the same thing. We are of course to infer from the above, that the experiments to which we referred in the PRESS, a little over one year ago, were a failure. This "iron sand," it should be borne in mind, is the same mineral as the "titanic iron sand," found on the beach near the Ocean House, to the west of this city. Parties interested in the experiments to utilize that sand, will doubtless be pleased to learn that there is yet a prospect of devising some method for rendering the remarkable qualities of that mineral of practical value in the production of superior iron.

GOLD MINING IN ENGLAND.—The gold mines of Wales, which a few years since were of considerable promise, have recently become almost entirely unremunerative. But two of these mines produced any gold in 1866—the Vigra & Clagon, and the Castell Carn Dochan. Both of these mines yielded an aggregate of only 1,200 ounces of gold.

GROWTH OF THE WEST.—The progress of the west is described by a writer in the Cincinnati Gazette, who says that seventy-three years ago the first boat started from Cincinnati up the Ohio. It was bullet-proof, equipped with two cannon and small arms. The round trip to Pittsburg was made in about four weeks. At that time Cincinnati was a mere military post, which, three years afterwards, only contained 500 inhabitants. Pittsburg was a little nest, built away up in the forks of this great highway of nature, and between these two points a wilderness stretched on either side of the river. Seventy-three years since, and Fort Washington, with a population of two or three hundred, is Cincinnati, with a population of 250,000; Pittsburg is no longer a nest, but it is a great city; the two or three dots of civilization between those two points have multiplied into 110 thriving cities and villages, all palpitating with the industry of a free and generous people. The steamers that now ply the river, could they all be brought together, would make a floating city in which a hundred thousand people could dwell in comfort.

WORK on the Virginia and Truckee Railroad, says the Virginia Tresspass, has been commenced. The engineers began, September 2d, the work of leveling, and soon the contractors will be offered the data on which to base their proposals for contracts.



WASTE.—As many as 50,000 tons of soap, used in silk manufacture, were formerly allowed to pass off to waste in the Rhone.

A NEW SPRING.—A large stream of cold, pure water, says the Arizona Gazette, has lately burst forth from the rocks about 300 yards north of the Dos Palmas station.

TWO MEN SUFFOCATED IN A MINE.—A dispatch, dated Grass Valley, Sept. 8th, says: A sad accident occurred last night in the Iouic mine, about two miles from this city.

THE advance in the price of petroleum has set the wells in the Pennsylvania oil regions flowing again, and the production is perceptibly on the increase.

Our Patent Agency.

THE PATENT AGENCY of the MINING and SCIENTIFIC PRESS has been signalized with remarkable success during the past two years.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

THE SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1887.

TERMS.—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$35.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

5v15-lin REV. A. MASNATA, S. J., President.

The Commercial Herald

MARKET REVIEW

Will be issued early on

EVERY STEAMER-DAY MORNING.

(TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

THE HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

The Letter Sheet Market Review, containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper.

Weekly Stock Circular.

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

THE CENTRAL PARK OF THE PACIFIC.

Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, AND ZOOLOGICAL GARDENS.

A GRAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SAURED MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

Entrances on Mission and Valencia streets, between Thirteenth and Fourteenth. OPEN EVERY DAY. Admission to all parts, 25 Cents. Children, under 12 years, half price.

Stair Work of all Kinds, MADE TO ORDER, And Shipped to all parts of the Coast.



N. P. LANGLAND, STAIR BUILDER, No. 49 Real street, Between Market and Mission, SAN FRANCISCO. 10v14-ly

Newest Posts and Builders CONSTANTLY ON HAND and for sale.

NEW YORK PRICES. WATCH REPAIRING AT NEW YORK PRICES. C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. Superior Watches, In Gold and Silver Cases. Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers.

LIST OF WM. H. KEITH & CO'S Proprietary Preparations.

- Florentino Tooth Wash; Saponaceous Tooth Powder; Rosemary and Castor Oil; Wine of Peppermint; Glycerine; Devine's Pitch Lozenges; Verbena Water; Bay Rum; Cologne Water; Aurantique; Oriental Perfume, for the Handkerchief; Sparrow's Perfume, for the Handkerchief; Glycerine Lotion, for the face and hands; N. E. Rum, quart bottles—a superior article; Solution of Citrate of Magnesia; Granular Effervescent Citrate Magnesia; Cold Cream of Roses; Keith's Cholera Mixture; Electro-Silica Polishing Powder; Kissengen Water; Carlsbad Water; Vichy Water; Seltzer Water.

WM. H. KEITH & CO., 5v15-qr 520 Montgomery st., San Francisco.

WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods AT PRICES THAT DEFEY COMPETITION.

Our Stock of Clothing Consists of ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH. A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc., AT EXTREMELY LOW PRICES. J. R. MEAD & CO., 5v10 Cor. of Washington and Sansome streets.

California Steam Navigation COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE CHRYSOPOPOLIS.....CAPT. A. FOSTER YOSEMITE..... CORNELIA.....CAPT. W. BROMLEY JULIA.....CAPT. E. CONCKLIN

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Office of the Company, northeast corner of Front and Jackson streets.

JOHN BENSLEY, President.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS

Illuminating, Lubricating, AND PAINT OILS!

CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINED, CASTOR AND CHINA NUT.

SPIRITS OF TURPENTINE & ALCOHOL

NOTE.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil.

Lamps and Lamp Stock! An elegant and complete assortment on hand. 19v13-3m 414 Front street, San Francisco.

Golden City Chemical Works.

LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets.

CAPITAL STOCK, --- \$500,000

Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNING, THOS. BELL, CHAS. E. MOLANE.

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THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Mariatic Acids of superior quality, in quantities to suit.

Orders will be received at the office on'y for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14-3m

THE WILCOX & GIBBS IMPROVED NOISELESS Family Sewing Machine

Challenges the world. It has beaten the Florence badly Come and see it, or send for Report of the trial. 13v14-6m SAMUEL SWIFT, Agent, 03 Kearny street, near Sutter.

THE GREAT LIGHT.

THE DANFORD Atmospheric Lamp.

This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent. less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used. CALL AND SEE THEM. E. AYERS, 2v15-qr 417 Washington street, opp. Post Office, S. F.

Pratt's Abolition Oil.

FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Head-ache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 531 Sacramento street, opposite What Cheer House, San Francisco. 10v14-ly

GOVERNMENT HOUSE,

Corner of Sansome and Washington sts. SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes. Our terms are less than any other place in this city. Our rooms are less than any other place in this city. Our terms are less than any other place in this city. Our rooms are less than any other place in this city. Our terms are less than any other place in this city.

Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than any other place in this city. Our rooms are less than any other place in this city. Our terms are less than any other place in this city.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street. CASH ASSETS, JULY 1, 1887, \$1,238,054 91. FIRE, OCEAN, MARINE, INLAND INSURANCE.

DIRECTORS: Oliver Eldridge, J. B. Roberts, B. Steinhart, P. L. Weaver, Wm. Hooper, J. W. Clark, A. Hayward, T. L. Parker, Alex. Wells, Chas. Meyer, Moses E. McLane, M. J. Rosenbaum, Henry Carleton, Jr., A. J. Roston, T. Lemmen Meyer. Sacramento: Louis McLane, Fredk. Billings, J. B. Newion, J. G. Kellogg, Wm. T. Coleman, Moses Ellis. San Francisco: W. C. Halston, A. L. Tubbs, Wm. Alvord, Jonathan Hunt, A. B. Borbes, A. G. Stiles, A. Seligman, L. E. Benchley, Wm. Sherman, L. Sachs, James DeFremery, G. B. Gray, David Stern, D. O. Mills, I. Friedlander, Moses McLane, II. M. Newhall, G. T. Lawton, Edward Martin, Chas. Mayne, E. L. Goldstein, J. O. East, Lloyd Tevis, Thos. H. Selby, Adam Grant, Alpheus Bull, S. M. Wilson, D. J. Oliver, Morton Cheesman, A. Hansmann, D. W. U. Elice.

LACOUR'S SARSAPARIPHERE BITTERS

Have so speedily grown in favor that their unrivalled sale has attracted remarks and criticisms of the trade. Jealousy attributes their success to the baseness of their general style, and principally to the originality and beauty of the bottle, which was conceived and manufactured by California artists. MR. LACOUR, an energetic promoter of California resources, desired to show that California has no need of being tributary to other countries for talent or mechanical industry.

LACOUR'S SARSAPARIPHERE BITTERS.

They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions, and other substances which gently stimulate the secretions of the lower glands and organs, render digestion easy, obviate constiveness, and remove regularly every impurity of the blood.

Who Takes Them?

- The Old Man: Takes them as a gentle stimulant and mild rejuvenator. The Young Man: Takes them to regulate his system, prevent disease, and stimulate to new life his overworked body. The Young Woman: Takes them to secure regularity in her habits; to tint her cheeks with the bloom of health, to give a sparkle to her eyes, and sweetness to her breath. The Husband: Takes them to promote vitality, give strength to the body, peace to the mind, and with his health, wealth and comfort to all his family. The Wife: Takes them to invigorate and strengthen her system, and as an aid to nature in regulating her periodical sickness.

- Children: Take them as a gentle, yet effective tonic. The Dashaway: Takes them as a mild, pure stimulant, containing none of the deleterious, essential and useless oils of ferri-bolide drinks. The Inebriate: Takes them to give tone to his poisoned stomach and allay the fearful longings for strong drink with a stimulant that does not madden or destroy. The Traveler: Takes them to prevent sea sickness, and secure his health against change of climate. Everybody Takes Them! PRO BONO PUBLICO! 2v15-6m

Assayer and Chemist. A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given inquire at this office. 5v16r



Contributed for Our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

We have received a box containing several fine specimens, among which are the following:

175—Nevada Co's large lead, Grass Valley, consisting of a mass of sulphurets of iron, about fifteen per cent. of quartz and five per cent. or upwards of galena, said to be paying well under the superintendence of W. M. Radcliff.

176—The Wigham ledge, Nevada county, owned by Merritt & Co., San Francisco, specimens of quartz-bearing gold, interspersed with bi-sulphuret of iron.

177—Lucky mine, Grass Valley, Bamber & Co. proprietors. A very rich specimen of gold-bearing quartz, gold in the utmost purity being interspersed throughout the rock in a moss-like and feathered condition. This rich lead is said to be twenty inches wide.

178—Eureka mine, Grass Valley, Watt Brothers part owners and exclusive managers. Specimens, consisting of quartz and pyrites, both intermixed with spots of gold. At the junction of the more quartzose portion with the pyritous vein, gold is visible in the same manner as that described in the last named specimen. The same box which contained the above, also had others, the description of which has not been forwarded to us, but which we hope to be able to describe next week, as well as some from Arizona.

JACOB SNOW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street.) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new 'Cabinet Photographs,' which he is taking to perfection. 10v14t

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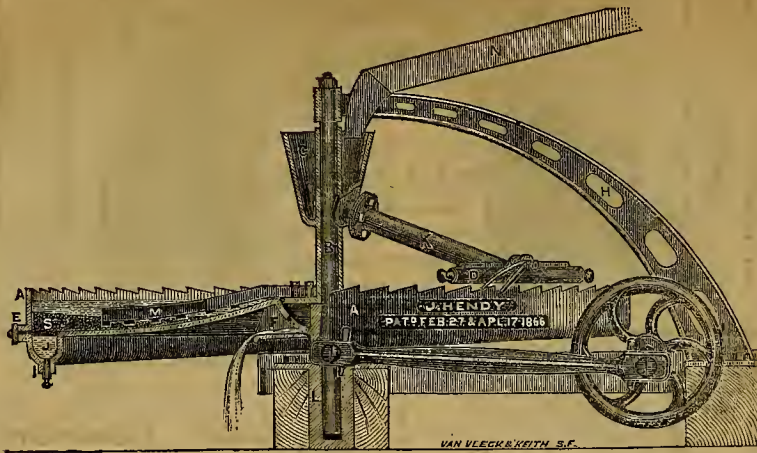
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CHICKERING & SONS'  
PIANOS  
Received the  
FIRST PREMIUM  
(Gold Medal)  
And Decoration of Legion of Honor, at the  
Paris Exposition.  
KOHLER, CHASE & CO., Agents,  
25v14n16p 421 Montgomery street, San Francisco.

HENDY'S LATEST IMPROVED CONCENTRATORS,



FOR GOLD AND SILVER ORES,  
With Revolving Stirrers and Rotary Distributor.

Can be seen in Operation at the Union Foundry, First St., San Francisco.

Directions for Operating Hendy's Concentrators:

The sulphurets are drawn off while the Concentrator is in motion, in the following manner:

- FIRST—Set the Pan, A, level, by its inner rim.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

The above directions, if followed implicitly, are all-sufficient. But, strange as it may appear, the proprietor has found that, in certain cases, they have, owing to the carelessness or to the ignorance of the operators, failed to serve as a complete guide. He, therefore, in the present edition of his circular, insists upon their being followed to the letter; and in order that there may be no mistake in future, he thus elaborates and explains them:

First, then: Unless the pan is level, it is out of the question to expect it to do its duty. One would imagine that the slightest possible examination of the illustrations would be sufficient to show this. Yet, in one case, where the machine did not work satisfactorily, it was found that no regard whatever had been paid to this point! The word level is in itself precise; it admits of no latitude, and cannot be misunderstood. Nothing is easier, to a mechanic, than to place the pan absolutely and mathematically level. It cannot be necessary to dwell further upon this point.

Direction Second, viz:—"Keep the pan about half full of sulphurets," has also, in some cases, been disregarded. A moment's reflection will point out its importance. The operation of the machine is such, that grains of any kind, whatever may be their size or weight, will seek the periphery of the pan, and unless discharged, will there remain, until other grains of greater specific gravity take their place. Of course, then, at the starting of the machine, and for a short time thereafter, the periphery will be partially filled with sand. It is therefore necessary to allow a quantity of sulphurets sufficient to completely occupy that space to accumulate, before the gate is opened, and their discharge commenced. It is obvious that they will otherwise be accompanied with more or less of sand. Once properly commenced, the discharge will be continuous. It must be regulated, however, by the richness, in sulphurets, of the pulp under treatment. A little practice will enable the operator to gauge it without difficulty.

After what has been said, direction Third requires no further explanation. Direction Fourth is, to a mechanic, sufficiently explicit.

These concentrators can be set in pairs, for which a single crank shaft will suffice. Two such pairs can be so arranged as to require a driving shaft of only six feet in length.

The guaranteed capacity of each machine is five tons every 24 hours. Eight tons, however, can be and has been put through in that time. The small proportion of sand which the sulphurets carry, when thus rapidly concentrated, is not an objection but rather an advantage, in case the operators themselves intend to work them. Either in roasting or in pan-working, a small admixture of sand is unquestionably an aid. But if the sulphurets are being prepared for sale, they must of course be clean. In this case, the discharges from four machines can be conducted into a single additional one, and the concentration thus be made complete.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

References:

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

- FOREST SPRINGS MILL.....Grass Valley, Nevada County.
- EMPIRE MILL.....Grass Valley, Nevada County.
- INDEPENDENCE MILL.....Brownsville, El Dorado County.
- HUMBOLDT CANAL CO.....Humboldt County, Nevada.
- EL TASTE CO.....Sonora, Mexico.
- BENTON MILL.....Bear Valley, Mariposa County.
- LOUISIANA MILL.....Coulterville, Mariposa County.
- PEOPLE'S MILL.....Allegany, Sierra County.
- TYRON & CO'S MILL.....Prescott, Arizona.
- WOOLSEY & CO'S MILL.....Prescott, Arizona.
- NOYES & CO'S MILL.....Prescott, Arizona.
- GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinaloa, Mexico.

RECENTLY ORDERED FROM THE UNION IRON WORKS:

- VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators).....Nevada County.
- GOULD & CURRY G. & S. M. CO. (4 Concentrators).....Virginia City, Nevada.
- VULTURE CO. (4 Concentrators).....Prescott, Arizona.
- MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
- PLYMOUTH ROCK MILL CO. (2 Concentrators).....Mariposa County.
- B. F. BROWN (1 Concentrator).....Melbourne, Australia.
- MOREY & SPERRY (1 Concentrator).....New York.

And in use in many other parts of this coast.

These Machines are made of iron, thoroughly constructed and ready for immediate use. For description, etc., send for Circular.

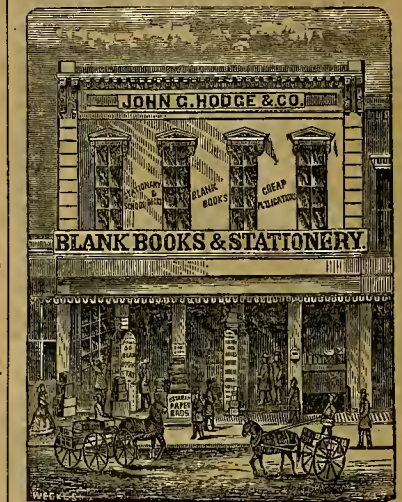
Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit.

CAUTION.

All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."

Orders or letters of enquiry, address,  
JOSHUA HENDY, Patentee,  
Union or Fulton Foundry, San Francisco.  
March, 1867.

W. T. GARRATT,  
City  
BRASS AND BELL FOUNDER.  
Cor. Mission and Fremont sts.,  
SAN FRANCISCO.  
Manufacturer of Brass, Zinc, and Anti-Friction or  
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CHURCH AND STEAMBOAT  
BELLS,  
TAVERN AND HAND BELLS AND GONGS,  
FIRE ENGINES, FORCE AND LIFT PUMPS,  
Steam, Liqueur, Soda Oil, Water and Flange Cocks, and  
Valves of all descriptions, made and repaired. Also and  
all other Joints, Spelter, Solder, and Copper Rivets, &c.  
Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles,  
HYDRAULIC PIPES AND NOZZLES  
For Mining purposes, Iron Steam Pipe furnished with Fit  
tings, &c. Coupling Joints of all sizes. Particular attention  
paid to Distillery Work. Manufacturer of "Garratt's Pat-  
ent Improved Journal Metal."  
Highest Market price paid for OLD BELLS, COPPER  
AND BRASS. 61f



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New York Ledger.....		
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Harper's Weekly.....		
Chimney Corner.....		
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London Society.....		
All the Year Round.....		
London Ill. News.....	15 00	

Foundry for Sale.

A One-half Interest in the  
UNION IRON WORKS,  
SACRAMENTO,  
Owned by William R. Williams, is offered for sale on the  
most favorable terms.

A Good Bargain

May be had, as the proprietor is going home to Europe. It  
is seldom that so good an opportunity is offered for a sure  
and permanent investment. The business of the establish-  
ment is exceedingly flourishing, as can be shown. The  
Shop is of brick, new and well built. The lot is 85 feet front  
by 163 feet in depth. In a good location for this business, on  
Front street, between N and O streets.  
Inquire at the office of the Foundry, or address  
WILLIAM R. WILLIAMS,  
Sacramento, Cal.  
25v13f19-16p

Greatest Invention of the Age.

BOWMAN'S  
AMERICAN WASHING COMPOUND  
And housewife's true friend, saves one-half the labor,  
one-half the time, and one-half the expense.  
For WASHING CLOTHES, CLEANING HOUSES, RE-  
MOVING PAINT, GREASE, etc., it is unequalled.  
It makes hard water as soft as rain water.  
For sale at \$1.50 per can of five gallons, at the manufac-  
tory, 222 Jackson street, near Battery. Please send your  
orders, by mail or express, to LYNCH & PARSONS,  
25v14-2m6t San Francisco, Cal.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new  
laws relating to mining and corporations in Cali-  
fornia and Nevada, passed in 1865-6. Some of  
these laws are of the highest importance to parties  
interested in the matter of locating and holding  
claims, and prospecting mines, in these States.  
Copies sent by mail. Price, 25 cents.  
Address, DEWEY & CO., Patent Agents,  
San Francisco, My 1st, 1866.



# AND SCIENTIFIC PRESS.

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A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS,  
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, SEPTEMBER 21, 1867.

VOLUME XV.  
Number 13

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**OCCLUSION OF HYDROGEN GAS BY METEORIC IRON.**—Thos. Graham, F. R. S., read before the Royal Society on May 16th, a paper on the above subject, detailing some interesting experiments in the investigation of the history of metals by means of the gases which have been absorbed by them when last in a state of ignition. The Lenarto meteorite was selected as the subject for examination, being pure and soft, and therefore well adapted for the purpose. It was found to have retained within it, imprisoned or occluded, hydrogen from the fixed stars, far beyond the brief space of a few thousand millions of miles to which our solar system extends. A piece of this meteorite 50 millimeters long, 13 wide and 10 thick, was cut from the mass, cleansed and placed in a porcelain tube connected with a Sprengel aspirator. The tube was then heated in an ordinary combustion furnace by ignited charcoal. Gas was freely evolved, which in 2½ hours amounted to 16.53 cubic centimeters. This gas burned like hydrogen, and when analyzed gave 85.68 hydrogen, 4.46 carbonic oxide, 9.86 nitrogen in the 100. As the volume of the iron was 5.78 c.c., it appears to yield 2.85 times its volume of gas, of which 86 per cent. is hydrogen. Now, since hydrogen has been shown by spectrum analysis to be present in the fixed stars, and by Secchi to be a principal element in some of them, we may fairly suppose that the Lenarto meteorite has brought to us the hydrogen of those distant bodies. Moreover it is found that malleable iron can scarcely be made to occlude more than its own volume of hydrogen under the ordinary atmospheric pressure. But the meteorite gave three times this quantity. Hence Graham infers that it must have originated in a dense atmosphere of hydrogen gas, beyond the limits of the light cometary matter of our solar system.

**A NEW AND USEFUL PREPARATION.**—We would call the attention of laundrymen, clothes-cleaners, milkmen and others requiring an article for facilitating their operations in washing and cleansing, to the advertisement of Messrs. Lynch & Parsons. This compound, introduced here by this firm and to be found at the groceries throughout the city, is becoming a favorite among the different classes using it, in consequence of its cheapness and efficiency.

**CENTRAL PARK,** always a pleasant and quiet retreat from the noise and dust of the business portion of the city, continues to attract crowds of visitors, particularly on Saturdays and Sundays, when music is made part of the entertainment. Since our last visit to the Gardens, Mr. Woodward has added a very large polar bear to his zoölogical collection. It is said to have been taken at sea, many miles from the coast.

## Wood's Gas Governor.

It requires no argument with any person at all conversant with the consumption of gas to prove the value of a simple, cheap and reliable apparatus, or "governor," to secure an automatic regulation of the pressure of service pipe, and keep it constantly at the proper standard to give a good, cheap and economical light at the burner. This regulation is usually effected by frequently

who turn on their gas early in the evening, or those who continue their lights after the bulk of the burners throughout the city has been turned off.

By reference to the illustration, the gas is supposed to enter the right hand pipe, E, at the top, and is conveyed to the receiver, C, passing out of the pipe just below—the discharge being regulated by the elevation or depression of the cone-shaped valve, h, through the opening in the top of the

the valve, h, which closes upon its seat and shuts off the gas just in proportion to the pressure; thus keeping the pressure uniform in the receiver, C, and consequently in the service pipes, F.

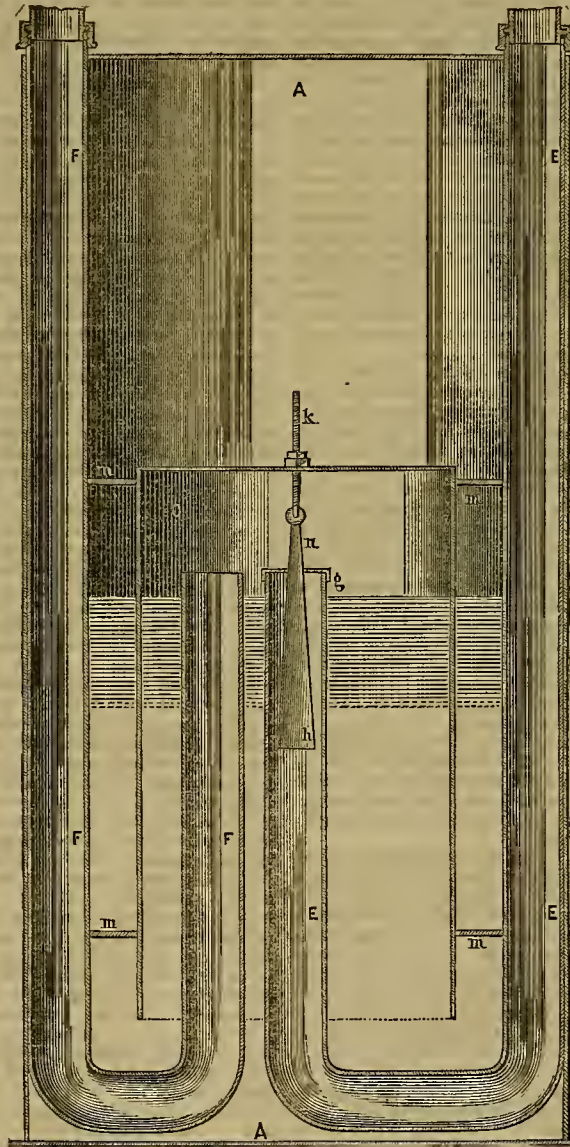
A personal inspection of the working of this governor enables us to say that there is no doubt about its ability to regulate the pressure in the service pipe to the proper standard, giving thereby a steady, bright and economical light, strongly contrasted with the usually variable light obtained directly from the constantly varying street pressure. The saving made by its use is claimed to be from twenty to forty per cent. of the amount of gas consumed in the ordinary way.

Its simplicity of construction overcomes all objections in regard to complications, making it at once patent to every observer, that it can be regulated and managed by the merest child, avoiding even a possibility of getting out of order. Its cheapness brings it at once within the reach of all classes, thereby benefitting the small as well as the large consumer.

Messrs. Bush & Stokes, who have bought the patent right of this useful instrument, may be seen at 706 Montgomery street, where they will be happy to exhibit the same to all gas consumers. They have there fitted up a series of burners by which they are able to explain and illustrate to the comprehension of the dullest intellect, the difference between burning gas taken direct from the supply pipes, and after it has passed through one of their governors. The effect of this gas governor is more perceptible than that of the mechanical contrivance usually attached to a steam engine, which is expected to do constantly varying work.

**ANOTHER ICE MACHINE.**—Monsieur Carré has invented a new machine for making ice, based upon the experiments of Dr. Leslie. He says it costs only sixty francs, and has been worked by him eighteen months, without requiring repairs. The acid used is dilute, of 52° Beaumé. The receivers are made of an alloy of lead and antimony, which will resist the action of sulphuric acid, he thinks, for twenty years. A crust of sulphate of lead is formed upon the surface at its first attack, which effectually prevents farther corrosion. The copper air-pump is preserved from contact with acid by an arrangement which constantly bathes its inner surface with oil. The apparatus maintains a vacuum for several months, and produces two or three parts—by weight—of ice, to one part of acid of 66° Beaumé; no ice being obtained until it is diluted to 52°, by the vapor of water flowing in a tube in which a small stream of the acid is allowed to circulate. Potash and caustic soda are also used instead of the acid, although the latter is the most economical.

**MUSIC.**—"When shall I see my darling again," is the title of a song by Stephen Masset, which has just been published by J. T. Bowers & Co., 133 Montgomery street. It is printed in good style by Truesdell, Dewey & Co., 505 Clay street.



WOOD'S PATENT GAS GOVERNOR.

turning on or off the gas as the street pressure varies. The trouble and lack of efficiency connected with that is obvious. When a portion only of the lights in a city are turned on, the pressure is excessive, and a large amount of gas escapes from the burner in the form of smoke, visible or invisible, and is wasted, while the light from the balance is much less than it would be if a less amount of gas was passing to the burner. This is especially noticed by those

short leg of the right hand pipe, E. After passing into the receiver, C, it passes thence, under a uniform pressure, through the left hand pipe, F, to the burners. The action of the governor is in this wise: There is a closed chamber in the bottom of the receiver, C, which buoys up or balances the weight of the receiver when immersed to the proper point of adjustment. Any increase of pressure in the supply pipe, E, causes the receiver to rise, together with



[Editorial Correspondence]

## Fourteenth Annual State Fair.

Space will not admit of a full report, even on the more prominent exhibitions at the State Fair. We append a partial report, and shall continue the same next week. Our present issue is confined chiefly to the agricultural and mechanical parts of the Exhibition. In our next, we shall allude to the leading manufacturing interests, and miscellaneous matters, including silk, hops, wines, etc.

## CLASSIFICATION.

The entire exhibition was divided into seven classes, as follows: 1st class, Live Stock; 2d, Machinery, Implements, etc.; 3d, Mechanical and Domestic Products; 4th, Agricultural Products; 5th, Horticultural Products; 6th, Fine Arts, etc. We will endeavor to give a brief review of the exhibition, taking up each class separately, and in its order.

## 1ST CLASS, LIVE STOCK.

The display at the stock grounds was quite full, and attracted much attention. The first parade of stock took place on Monday, at the stock grounds. The procession was headed by a line of seven thoroughbreds, followed by graded horses, each in charge of a groom; roadsters to wagons followed, and draft horses, jacks and jennies came in turn, the line being closed up with Durham, Ayrshire and Devonshire horned stock. A large number of ewes, of the most improved breeds, were exhibited. J. H. Laundrum of Stanislaus, exhibited four Cashmere goats.

Mr. Laundrum has 400 head of goats of full, three-fourths and seven-eighths blood. The fleece of either of the two latter is said to be nearly equal to the full thorough bred. The fleece from a thorough bred, such as is employed in the manufacture of Cashmere shawls, is worth from \$6 to \$8 per pound in France. The heaviest fleece ever taken from either of those on exhibition at the present fair, weighed about four pounds.

The races attracted a large and miscellaneous crowd at the Park. The carriages and buggies in and about the enclosure, numbered at times not less than 300; and over 1,500 visitors are estimated to have been present at one time. The daily programme generally included three races. The total number of visitors at the Park could not have been less than 5,000. We may take some future occasion to speak in full of the management and morality of exhibitions of this description.

## 2D CLASS—MACHINERY, IMPLEMENTS, ETC

The chief portion of the machinery was located on the lower floor of the Pavilion, and under the temporary shed on its south side. Great efforts have been made by the society, in this department; and through the especial exertions of Mr. Thomas Hansbrow, actively aided by the committee of the Mechanics' Institute, a really fine exhibition was made—one much in advance of any of the previous displays of the State Society. The exhibition department was made under the immediate supervision of Mr. Hansbrow, who devoted his entire time and efforts to the same. We regret our inability, from want of space, to do full justice to this part of the exhibition. We can allude only to its most prominent and novel features.

**The Corliss Engine.**—Goss & Lambard, of Sacramento, exhibited one of the celebrated Corliss engines, of about 50-horse power, which was the chief motive power employed at the Pavilion. This is really a beautiful piece of mechanism, and by its nicety of adjustment of regulator, cut-off, etc., a saving of fully thirty per cent. in fuel is claimed for it over most other engines. The cut-off adjustment takes place twice with every revolution of the crank. Several ends of great importance are claimed to be secured in this engine, chief among which may be mentioned the rapid and wide opening of the valves in the cut-off and their almost instantaneous closing. By this means the greatest possible amount of power is derived from the least quantity of steam. The automatic action of this engine has probably reached a greater degree of perfection than is found in any other in use. While this is a great advantage in localities where fuel is scarce and labor and mechanical skill is cheap, it must be proportionally inconvenient and less economical where fuel is cheap and labor high. Such an engine should never be trusted to any but a skilled mechanic and engineer. Its employment in cities and populous places, with dear fuel and cheap skilled labor, will probably be found more economical than in interior or isolated localities, where the reverse is true of fuel and labor. In the latter case, we should be inclined to recommend rather

the Hicks engine, which, being exceedingly simple in construction, needs less skill and care to keep it in order, and which we will, in this connection, briefly introduce to the reader.

**The Hicks Engine.**—One of the most attractive features in this department, is the four cylinder Hicks engine, manufactured at the Miners' Foundry in San Francisco. It was almost constantly surrounded by visitors anxious to understand the mechanism of this novel motive power, so totally unlike any other engine ever seen. Its performance gave most universal satisfaction, and fully proved its great utility if not decided superiority over steam engines of other construction. The limits of this review will not admit of a full description of it at this time; but we shall endeavor to give such a description at an early day. For the present, we can only describe it as an engine without either valves, valve-rods, eccentrics, rock-shafts, packing-boxes, slides, cross-heads, or even piston rods. It is constructed with four cylinders, set in pairs, with a crank shaft running between them. By curiously constructed ports and passages, and a novel connection of the pistons with the crank shaft, the steam is admitted directly into two of the cylinders, first acting upon their own pistons, and next with a new supply, transmitted through them, into the other two. Each piston having performed its share in urging forward the revolution of the crank, immediately becomes itself, a slide-valve, to govern the inlet and outlet of steam to its neighbor—at the same time each piston acts as a cut-off to its own cylinder, stopping the supply at half stroke, and accomplishing the balance of the stroke by expansion, aided by a full head of steam in another piston. By this latter arrangement every half stroke is produced by a conjoint action of full and expansive steam. The economy of such an arrangement must be manifest to every engineer. This engine is a recent American invention, and is now for the first time introduced upon the Pacific coast. The claims for it are: Great economy in space and weight; a great reduction in friction; extreme simplicity in construction; superior durability and saving in repairs; more rapid valve motions; impossibility of getting cylinder out of line, or of stopping on its center. In fact, it has no center—no more than a rotary engine has—while it can be almost instantaneously stopped and reversed.

The Committee on Awards reported that it was difficult to determine as between these two engines, both claiming a premium, unless they could see tests made by the indicator, with exact data as to fuel consumed and work performed. The tests could not be had. Hence the committee made their awards simply upon an examination of the principles of construction, and the appearance and action of the two engines, while in the performance of work. The first premium was awarded to the Hicks engine for simplicity of construction, economy in space, facility of transportation, and little experience required to operate it; and recommended it for use in mining, hoisting, saw-mills and other places, where simplicity of design and small liability to get out of order are considered advantages.

To the Corliss engine was also awarded a first premium, for economy in the use of fuel, and for the ease and certainty with which its motions can be regulated, and recommended it for mining and flouring mills, and heavy work.

**Amalgamating Machine.**—Senatz & Knowlton exhibited their patented amalgamator, a full description of which we gave a year ago. The committee called especial attention to this concentrator for concentrating ores, and recommended it as having the appearance of being effective and economical.

**Washing and Wringing Machines.**—Several of these useful labor-saving machines were on exhibition, and in operation more or less of the time, doing daily washings, much to the edification of both male and female lookers-on. F. B. Lamb, who exhibited the Pioneer Washing Machine, from San Francisco, appeared to be tireless in his efforts to show up the superiority of his machine. He claims to have sold 3,000 of his machines on this coast. A. B. Parsons, of Sacramento, exhibited a machine of quite a novel construction, and which approached the nearest to hand work of any machine we ever met with. The ladies seemed much pleased with it, if we are to judge by the number of fair hands which tried it. Mr. Lamb also exhibited Williams' cog-wheel wringer, for which a two dollar premium was awarded. Honorable mention was made of his Pioneer Washing Machine.

**Tube Wells and Pumps.**—Most of our readers have heard of the method lately devised of obtaining wells by merely driving a tube into the ground, and placing a pump into it. The apparatus by which this is

effected, together with the tubing employed, is exhibited by Mr. S. P. Roberts. When the tubes are driven into the earth, they are preceded by an iron "plug," with a point, like that in a stake, the first section of the tube being perforated with a great number of holes, to let the water through the side thereof. Section after section is added to the tube, as it is forced down, precisely as is done in tubing artesian wells, only that in the case of these wells the tubing is made thicker and stronger, to admit of the necessary pressure being applied to force it down. After the pipe is driven to the necessary depth, it is withdrawn a few inches, by which operation the plug is separated from the tube, and the holes in the side of the first section of the tube left free for the ingress of water—the flow of which is greatly increased by the vacuum created by the action of the pump. The pump employed is somewhat novel in construction, and peculiarly adapted to this description of wells. The valve, which is a common iron ball valve, is placed below the water line, and is so constructed that it is hardly possible for it to get out of order. This pump and well is particularly applicable to sandy and other loose soils, easily penetrable, although it can also be readily and economically employed when it is found necessary to drill, as in artesian wells. The cost of sinking a well in the sandy or clay soils in and about San Francisco, is about 50 cents per foot, for 50 feet or more, including the pump. It only requires from thirty minutes to two hours to sink a well in any of the loose soils about San Francisco, Oakland, etc. One of these pumps was in operation in the yard of the pavilion, and attracted much attention. The committee recommended this well and pump for honorable mention.

**Hooker's Pumps.**—Mr. Wm. D. Hooker, already well known as the inventor of the Excelsior pumps, exhibits quite a novelty in this line. It is the model of a direct acting steam pump. In this new invention, which is now for the first time, placed before the public, the slide valve used in all other steam pumps, being entirely dispensed with, as well as all other outside attachments. These usual appendages to a pump are substituted by a single plain cylinder, which is perfectly balanced, and operated by the exhaust steam from the main cylinder. By this arrangement, the pump can be driven to an unlimited velocity without danger of injury to any of its parts. This little model attracted much attention from mechanics and others conversant with such machinery, and was unanimously pronounced a most ingenious and valuable invention. We shall soon illustrate, and more particularly describe it. Mr. Hooker also exhibits one of his Excelsior pumps, with a glass covering on one side which exhibited the somewhat peculiar working of the valves of that pump, of which seventeen different patterns are made. A first premium was awarded the above described direct-acting pump, for fire engines and other purposes, and it was recommended for simplicity and rapidity of motion.

Mr. Hansbrow, of Sacramento, had on exhibition several styles of his celebrated challenge pumps. This pump is too widely known to need any description at this time. Mr. H. also exhibited his patent planetary, triturating and amalgamating pan, which was in motion during the entire time of the exhibition. It appeared to attract considerable attention from persons engaged in quartz mining. This pan is highly spoken of by those who have used it. It was awarded the first premium.

**Of Stoddard's Pumps** there were two on exhibition—a 3-inch and a 4-inch; the latter having a capacity of lifting a column of water 240 feet high. These pumps are simple in construction, effective, durable, and economical. He also exhibited several of Gifford's injectors. Huntington & Hopkins, of Sacramento, entered the Holly elliptical rotary pump and engine, a well known Eastern invention.

**Hoyes' Patent Steam Pump** was also exhibited—a 4-inch pump which it is claimed is capable of ejecting 100 gallons a minute, and throwing a stream 200 feet from an inch nozzle. This pump has two discharges and two suction. Hineckly & Co., San Francisco, were the exhibitors. Mr. H. also exhibited the model of a novel and valuable fire escape ladder, for which an application for a patent is now pending. The same gentleman exhibits his patent fire hose clamp, a most useful invention for the temporary closing of leaks or bursts in fire hose, when in action. A first premium was awarded for his hose clamp; also for his fire escape ladder.

**The American Steam Siphon Pump** was exhibited by David Strickland, of the Steam Navigation works, through Mr. Garratt as agent. We have fully described the action

of this pump in past issues. This pump recently had a pretty severe trial in pumping out a grain loaded and water logged barge, on the Sacramento river. Both water and grain was discharged in six hours. The barge was 180 feet long, 32 feet wide, by four feet depth of hold.

**Wilcox's Water Lifter** occupied quite a prominent place in the machinery department. This lifter is worked directly by steam without the intervention of an engine. It uses both expansive and exhaust steam; is without piston, plunger or buckets. It will raise sand or grain as well as water; and will raise to any height within the pressure limit of the steam boiler which may be used. It is cheap, durable and simple in construction, but difficult of description without an illustration. We shall probably soon be able to give an illustrated description of it, when our readers will be able to form their own conclusion with regard to the principle and efficiency of this new device for raising water. Especially economy is claimed for this pump in raising large quantities of water. A first premium was awarded to it as the best apparatus for irrigating purposes.

**Woodward's Mechanical Novelties.**—F. Woodward exhibited models of a number of mechanical novelties, among which was an improved gauge for centering round iron; a dredging machine, for removing sand-bars in rivers; an improved snow-plow and shovel; an improved car wheel, so arranged as to greatly avoid the friction incurred in passing around curves; an improved locomotive driving wheel; and an oil-box and car axle. His novelties excited considerable interest, and he was indefatigable in explaining them to visitors. The Committee on Awards in the machinery department stated that they desired to call especial attention to these various inventions and improvements, as exhibiting originality of thought, and many of them as being worthy of practical experiment.

**Cross' Patent Boiler Feeder and Heater** were pronounced by the Committee on Awards as the best, most practical and most effective for heating and purifying water for steam boilers. A first premium was awarded for this feeder and heater, as the most practical and effective invention for the object designed.

**Church Bells.**—Wm. T. Garratt was awarded the first premium for church bells. His exhibition was of his own manufacture, and his bells were pronounced superior in tone and workmanship.

**Saws.**—The Pacific Saw Manufactory made a fine exhibit of mill saws of various kinds, for which they were awarded a first premium. Their exhibit was highly recommended by the Committee for its superior temper and finish.

**Wire Work.**—Mr. Graves, of San Francisco, made a most extensive and meritorious exhibition of wire work. He was unanimously pronounced the most extensive and complete wire-worker on the Pacific coast. He was accordingly awarded a special premium and diploma. His exhibition, in connection with the

**Wire Rope Exhibition** of Messrs. Hallidie & Co., attracted much attention, especially the wire-rope machine, with which this process of manufacture was practically displayed. This machine attracted much attention, and was quite a feature of the Exhibition. A first premium was awarded to it, and it was specially recommended by the Committee as an ingenious and highly useful machine for the carrying out a most important branch of industry on this coast.

**Lead and Pipe.**—After "wire-working" "pipe-laying" is generally considered as presenting the next most important branch of industry in this direction. The Pacific Lead Pipe and Shot Works, of San Francisco, T. H. Selby & Co., made a fine display of lead works, demonstrating for the first time, by public exhibition, that California can furnish everything she needs in the line of lead manufacture, from her own mines and through her own manufacturing works. Though quiet and modest, this was one of the most really valuable exhibitions made at the Fair. Lead pipe was exhibited of all sizes, from one-fourth of an inch to six inches in diameter, of a quality equal, if not superior, to any heretofore brought forward from any part of the world; also sheet lead, bar lead, drop and buck shot, mine balls, pistol balls, etc. In erecting these works the company appear to have had in view the future as well as the present wants of the coast, as they have not been sparing of expense to perfect their establishment. The Committee on Awards called special attention to the above, retaining as it does a large amount of money in our State, encouraging and aiding in the developing of our lead mines, and giving an impetus to home industry. The articles exhibited were pronounced by the Committee superior to any



they had ever seen imported, and would receive high commendation at any exhibition in the world. The Committee recommend not only a diploma, but such other testimonials as the Board of the Society might see fit to confer.

**Powder.**—The Santa Cruz and the Marin mills both made a very fine and full exhibition of California made powder. The Committee on Awards for this section stated in their report that both companies presented powder of various grades and very excellent quality. The agents of the Marin mills, Howard & Coleman, display a great variety, viz: eight degrees of blasting powder and seven of sporting powder. The agents of the Santa Cruz mills, Adams, McNeill & Co., exhibited seven grades of blasting powder and four of sporting powder. It was thought that the qualities were so nearly equal that it would be unsafe and unjust to give a credit of superiority to either; and the Committee, in view of the great importance to the State, reported that full and elaborate tests should be had before a decision could be made as to the superior quality of either. Both were commended as home manufactures of great importance, and a special premium for each was recommended.

**Eureka Hair.**—Among the new articles of California production—and, indeed, an entirely new contribution to the world's necessities—was the "Eureka Hair," as it is called, a manufactured vegetable product from the hitherto worthless California soap-root, and intended as a substitute for curled hair and pulu. It is furnished at about half the price of the former, and is considered nearly or quite as good. There were few articles on exhibition that exceeded in prospective importance this novel exhibition. It is an entirely new article of production, and may ere long enter into the consumption of almost every civilized household in the world. The extent of this industry is almost unlimited, and as utilizing a thing heretofore considered a nuisance, it would seem to be worthy of special attention. This material was brought from Dutch Flat by the Eureka Hair Company, who hold a patent right for its manufacture. We clip the following notice of it from the *State Fair Gazette*: "Who would have thought that the 'tarnal peskey soap-root' of California, that has caused so much trouble and violation of the principal commandment among our farmers, would ever be turned to any good use? It is true that the Diggers, from a time whereof the memory of Mahalax runneth not to the contrary, have used it for cleansing purposes, whenever they were tired of being classed as the 'great unwashed,' but that it should ever be brought into service as a luxury, discounting any other article heretofore used for comfort and cheapness, never before entered the noddle of any sane man. Yet here we have it, dur, shredded and curled, all ready to be placed into the most luxurious couch or easy chair which the upholsterer's skill can produce. There is one thing about this article that we must make mention of, and that is, it contains no animal matter, and is never troubled with moths or vermin." This interesting and really meritorious exhibit appears to have entirely escaped the awards of the Committee to whom it should have been referred—at least, we do not see any mention made of it in the published list. This must have been an unintentional oversight, for its value is beyond question. It has been thoroughly tested for mattresses and upholstering purposes. The Union Square Baptist Church, in this city, is entirely upholstered with it, cushions and backs, and is pronounced one of the neatest and best executed pieces of church upholstering in California. Quite an extensive factory for its preparation has been put up at Dutch Flat, and additional works have been established in this city for its further preparation, coloring, etc. It already affords employment for quite a number of people, which employment is rapidly increasing. We noticed a large number of bales of the root as collected, lying by the side of the C. P. Railroad, during the excursion to Cisco, evidently awaiting transportation to the factory.

#### AGRICULTURAL MACHINERY.

In the agricultural section of this department there was a very fine display of machinery of almost every description employed for farm use. This display was one of the most interesting and important in the Fair. Agriculture, always of promising importance in every community, is fast becoming one of special interest to this State, as a source of revenue from abroad. The sudden increase of our flour export from a mere nominal amount to *ten millions* annually, seems to have infused new life into our agricultural population, and the present indication is that almost every branch of that industry available for exports, will soon furnish its quota to swell our rapidly increas-

ing shipments. To accomplish this we must have machinery. Our broad fields and ample and fertile valleys, afford a most extraordinary field for the employment of capital in this direction, and our inventors are already at work, devising new mechanical appliances, and modifying those already in use to suit our particular needs. The display at the State and District Fairs this year, show that we are not behindhand in such matters.

Such has been the progress in this direction within the last few years, that machinery for planting and harvesting has almost entirely changed the character of that labor. Eight and ten times more work is now done on a farm, by the aid of machinery than could be done twenty years ago, while the price of produce has been vastly decreased and the value of farms proportionally increased by the same medium. We have already recently illustrated several important California inventions in farm machinery and have several more to follow.

The Messrs. Treadwell, of San Francisco, contributed to the Fair a most wonderful evidence of progress in the line of agricultural machinery, in the form of threshers, reapers, mowers, fan mills, drills, churns, etc., for which quite a number of premiums were awarded.

Baker & Hamilton exhibited a six by twelve inch portable steam engine, with one of Pitt's improved threshers; also reapers, mowers, horse rakes, cider press and mill, a burr stone farm mill for grinding corn or wheat, a corn sheller, cultivators, etc. One of their mowers was subjected to a trial at the Park, with Treadwell's "Kirby mower." A large number of premiums were awarded for their exhibition.

**Jackson's Grain Lifter.**—Mr. Wm. M. Jackson exhibited a grain lifter, which is certainly a most useful machine for the farm. The object of this invention is to enable the farmer to save his grain which has lodged or been broken down, so as to lay below the reach of the "header." It runs ahead of the cutting teeth, carefully picking up the fallen or trampled corn, and carrying it direct to the "header," thus saving from one to two sacks on almost every acre of ground—often more. It is extremely simple and cheap, costing but \$50, and adapts itself, with very little human help, to all sorts of grain, tangled or untangled. Those who have used the machine—and the number of such is large—say that it saves from forty to fifty dollars' worth of grain per day. We shall illustrate and more fully describe this machine in a future number. A diploma was awarded to this useful agricultural implement, several hundred of which are already at work in this State.

**Fruit-Drying House.**—The usual process of drying fruit in the open air is so uncertain and difficult, and so objectionable for want of cleanliness, that there is a universal demand for some different method. Various devices have been resorted to; but we have seen nothing which seems better calculated to accomplish the object than Billings' Patent Drying House, exhibited in model. It is so constructed that there is no danger of scorching the fruit, or of communicating fire to the house. A long cylinder of sheet iron is constructed, running entirely through, with a returning flue on each side. By this means a steady heat can be obtained at small expense of fuel; and being made on the principle of the air-tight stove, it will require but little attention. By the admission of a proper draft into the drying house, a constant change of air is secured, and a constant and rapid removal of moisture, so that the properties of the fruit are fully preserved, and no fermentation or decomposition can take place. It is an Eastern invention, has been largely introduced into the Western States, and should be employed by every fruit-grower in California.

**TRIAL OF AMERICAN AND ENGLISH ORDNANCE.**—The *London Engineering*, gives an account of some experiments made with an American 15-inch smooth-bore gun, and an English rifled 9-inch gun, against a solid target covered with iron armor eight inches thick. The greatest effect produced by the first, with a charge of sixty pounds of American powder, and a steel shot weighing 498 pounds, was an indentation of 8 1-5 inches, while the English gun sent a chilled iron shell, weighing 250 pounds, into the same target 19 1/2 inches, with forty-three pounds of English powder, making a hole eleven inches in diameter.

**FIFTY PHOTOGRAPHS AT ONCE.**—Mr. Helsey, of Liverpool, has, it is said, invented a machine by which he can take fifty photographs simultaneously.

#### Mechanical.

##### Tungsten Steel by the Bessemer Process.

Since the notice to the communication of Talpa was written, which appears in this day's Notices to Correspondents, respecting the possible use of tungsten, we have received the last publication of the *Journal of the Franklin Institute*, in which appears the following article, by which it would seem that many of the points on which we have only theorized, have been made practically available.

We translate from the *Comptes Rendus*, page 609, the important parts of a note by M. Le Guen:

"The superior quality of steel made of wolfram is well known; it is only desirable now to make it in large masses. I have succeeded in doing this by the Bessemer process, at the steel works at Imphy. The steel was made as usual, taking 3,200 kilogrammes of a gray iron which is known to make the best steel, by the addition of 400 kilogrammes of a white laminated iron—the spiegel-eisen—which is obtained in Prussia, being, after fusion in the reverberating furnace, decarburated in the converter. Then, instead of spiegel-eisen, we added 400 kilogrammes of an ore containing tungsten. We thus obtained a steel capable of being tempered and forged, and which was well laminated. When made into railroad iron, wagon-springs and sheet iron, it has resisted severe tests.

I here give the result of my experiments:

1st. That you can use the Bessemer process to combine tungsten and steel.

2d. That the loss of tungsten, found by analysis, is comparable to that found in other processes previously tried.

3d. That an ordinary, even rather impure, gray coke iron has become, when treated with wolfram, susceptible of transforming into steel of good quality the decarburated metal in the converter, which opens a vast field for research and employment of irons which are likely to give steel of any desired quality.

4th. Finally, by means of this method, it is possible to obtain pieces of Bessemer steel made by tungsten."

**DRILLING MACHINES FOR TUNNELS.**—One great difficulty which has been felt by most inventors of these machines, has been in making them self-adjusting, as regards the feed—and at the same time sufficiently strong. Prof. Wood, of the University of Michigan, with his associate, Prof. Robinson, have, it is claimed, invented an arrangement which entirely overcomes the difficulty. If this be the case, a great point will have been gained; for the question of abandoning all attempts to perfect machines for this purpose, and resorting to hand-drilling only, has been seriously discussed, in reference to the Hoosac Tunnel. The defect to which we have alluded, was the cause of such frequent breakage of drills, as to make it a very expensive matter to keep up the supply.

**TRUE PLANES.**—Mr. Whitworth has offered to deposit in the South Kensington Museum, "to be there perpetually preserved, three original true planes, and a measuring machine or instrument demonstrating the millionth part of an inch." He also proposes to make a sufficient endowment, subject to conditions, to provide for the delivery of lectures to explain such instrument.

**TEMPERING STEEL CUTLERY.**—An English patent has been taken out by a Mr. Newton, for a new mode of tempering the steel portions of cutting instruments previously welded on iron. A drop-die is allowed to fall upon them while they lie upon an anvil block. The blow, together with continued metallic contact and the waves, or "shiverings," of motion caused by the reaction of the foundation of the anvil, effect the end.

**STEEL IN THE UNITED STATES.**—A company in Vermont is establishing works for the manufacture of steel locomotive tires. In Troy, New York, preparations are being made for the making of steel rails. The Bessemer Steel Works in that place are expecting soon to turn out fifty tons of steel per day.

**MANUFACTURE OF STEEL.**—An invention has recently been patented by Mr. V. Gallet, of Lavauseau de Benassais, France, the object of which is to facilitate the manufacture of steel. He proposes to take iron, by preference such as has been submitted to one rolling operation only—puddle bar—and to coat it with a paste made by mixing water with the following ingredients: Carbonate of lime, 37 parts; vegetable mold or clay, 13 parts; carbonate of potash, 10 to 20 parts; oxide of manganese, 3 parts; resin, 3 parts; soot, 10 parts; wood charcoal, 40 parts; and common salt, 1 to 3 parts. The iron coated with this composition is melted in a crucible, and cast steel is thus obtained from iron in one operation. The proportions in the composition may be varied, and the vegetable mold and the soot may be omitted. In order to prepare steel by the process of cementation, he employs the same composition in a dry state, (or it may be moistened) and conducts the process in the manner usually practised in preparing steel by cementation. The quantity of cement necessary to coat the fragments of iron varies from 2 to 7 per cent. of the weight of the iron, according to the nature of the iron and the quality of the steel that it is wished to obtain. The object of the invention in the case of cast steel is to supersede cementation in furnaces to purify the iron, and to combine it chemically with wood charcoal by the cementation which takes place in the vessel in which he makes the steel. Charcoal having very little affinity for iron requires, in order to cause it to enter into intimate combination with it, to be increased at a stated time, and to be aided in its combination by numerous electric currents; these conditions Mr. Gallet claims to have entirely fulfilled by his process, since—firstly, the mutual reaction of the carbon and the carbonates produces a greater proportion of carbon and takes a smaller determined proportion; and, secondly, the change of the carbon and the carbonates, the action of the hot iron upon the resin, and the aluminous oxides of potash at a stated time, engenders or produces numerous sources of electric currents; ultimately the alkaline metals appear at a stated time, and absorb with avidity phosphorus, sulphur and the other metalloids. The alkaline and earthy bases pass to the scoria.—*London Mining Journal*, Aug. 3d.

**DRILLING MACHINES.**—In a description of the Iron Works of Hewes & Phillips, Newark, N. J., the *Artisan* has the following:

The drilling machines constantly seen in machine shops are frequently faulty in construction. The belt cones are placed at the top, and the base of the machine is often disproportioned to the table on which the work rests or is secured. The consequence is that when a small drill and quick speed are used the drilling machine shakes, and the holes drilled are "out of truth." The weight in a drilling machine should be thrown as much as possible into the lower part, and a good wide heavy base will tend to keep the machine steady without the application of iron rods and braces for that purpose. All the drilling machines at the works of Hewes & Phillips are attached to some of the cast-iron columns supporting the floors. These columns are finished all over. The table is made so as to be raised, lowered, or swung round at pleasure. These machines are very steady in their action, economize the space in the rooms, and work of all descriptions can be put under them and drilled. For heavy work there are some very large and strong drilling machines, which are placed transversely between the columns. A strong and heavy casting, fitted up and finished similarly to the cross-slide of a planer, extends from one column to another in the center of the room. This casting is fitted to the two columns, and the casting can be raised or lowered by power. Upon this cast cross piece are two boxes with the gearing, spindles and adjusting gear all attached. The whole is so arranged that a hole can be drilled at any angle. Under the cross-piece and drills and between the columns are placed two tracks on the floor, which allow the work and heavy castings to be brought on carriages and trucks directly under the drills, when one or two holes can be drilled at the same time, and at any angle indicated by the engraved index at the ends of the cross-piece. When the machine is not in use, the cross-piece or slide can be raised to such a height as not to obstruct the passages through the shop.

**A SIMPLE RULE.**—To ascertain the length of the day or night, at any time of the year, double the time of the sun's rising, which gives you the length of the night, and double the time of its setting, which gives the length of the day.

**THE SUMMIT TUNNEL** on the C. P. R. R. was opened through on August 30th.



[Written for the Mining and Scientific Press.]

## Letter from Kearsarge.

INDEPENDENCE, Inyo Co., Sept. 8.

EDITORS PRESS:—That you have not heard from me before, in reference to this part of the country, is because I have been waiting for developments which I hoped to see made. You know I like to be accurate, and if I say little, I wish that little to have at least the merit of being true.

## SILVER SPROUT COMPANY.

The state of affairs here is not so favorable as might be wished; yet there is no real cause for discouragement. The Silver Sprout Co. has committed the error, against which it was forewarned, but of which it is not yet convinced, of attempting to treat their ores by the common methods, in iron pans, without roasting. The result, as might have been expected from that of all similar attempts in this district, was a failure. The proportion of these ores which can be so worked is very small, and is confined to the superficial portion of the veins. From present indications, this company is apparently disposed to repeat the experiment with, I venture to predict, precisely the same conclusion. However, as it is paying its way honestly, and is determined that none but itself shall lose by the operation, it is entirely its own misfortune.

The ores of this district have never yet been successfully worked in that way, although dozens of attempts have been made, in the various mills and arastras about here; the few apparently exceptional cases being readily traceable to equally exceptional causes, such as unusual richness of the ore, or a special course of treatment between crushing and amalgamating, requiring time.

The Silver Sprout company, after a temporary suspension of operations, is about to resume with vigor the work of opening the mines and completing the mill, which, when finished, will have ten stamps, three Wheeler and six Wakely pans, with a due proportion of separators, etc., lacking nothing but reverberatory furnaces to treat the ore as well as it can be done anywhere.

The mines of this company are situated very high up in the mountains, and are rather difficult of access, which retards their development; yet the time will come when the steepness of the mountains will be an advantage, rather than the reverse, as a tunnel can be run which will cut the veins more than a thousand feet deep. At the slight depth yet attained, the ores are considerably decomposed. The principal silver mineral is a more or less altered arsenical sulphuret of silver and lead. Occasionally the cubical crystals of pure silver glance are found; also a peculiar kind of iron pyrites, galena, various arsenides, oxides and carbonates, a little chloride of silver and lead, and rarely the dirty yellow annular crystals of "murio-carbonate" of lead are seen. The gangue of these veins is quartz. It is too soon to pronounce an opinion as to their permanency; nor are they yet in a condition to yield any considerable quantity of ore for working. The most promising of the series is the "Mountain Sheep," which is about five to seven feet wide, and as well defined a vein as need be, but, so far, not exceeding rich. The Silver Sprout, though richer, is neither so wide or well defined.

## THE KEARSARGE COMPANY

Have a very fine mill of ten stamps, and six Wheeler pans, etc. It is arranged for wet crushing, but can be easily altered for dry work. It is well built, well arranged, and remarkably roomy mill, better located than the other, and like it wants only furnaces to make it complete. A curious, to me unaccountable thing about this mill is, that it is driven with a steam engine, although one of the finest water powers in the world—a thousand inches of water, with, if required, a thousand feet of fall—runs by the very door. The ores of this company's mines are very similar to those described above; but, from being more decomposed, and containing more chlorides, they yield better in the pans. They also yield more lead, inasmuch that, unless special means are used to prevent it, the bullion obtained is of a very low grade of fineness. I am particular to state this, because no less than three

analyses of these ores, made in San Francisco, not only ignore the presence of lead, but distinctly affirm its absence; notwithstanding which it is readily detected in the ore by means of the blow-pipe. I will send you a sample if you wish it. [We should be pleased to receive samples of ores from this district, with full description, for our Cabinet.—Ed.] These ores contain, by my assays, from \$100 to \$1,600 per ton in silver, and as high as \$175 in gold. I do not speak of specimens, but of tons.

But the mines are not yet thoroughly opened, and until they are it would be folly for this, as it is for any other company, to expect important returns. Fortunately for itself, this company has had the good sense—as rare as it is commendable in a G. & S. M. Co., notorious as they are for folly and mismanagement—to select a superintendent who knows his business, and, having so done, to trust him to do it. Mr. J. B. Low is carrying on the operations of the company with vigor and discretion, with all the economy consistent with the due prosecution of the enterprise, but with the full understanding that it takes money to work a silver mine. He also comprehends the requirements of the ores, and as soon as the mines are sufficiently developed to justify it, will complete the requisite appliances for their reduction. The company could not have sent a better man for its own interest, and that of the country, with which latter I am more concerned. This, at least, is my opinion; if I find myself mistaken, I will let you know.

## THE PIONEER MILL.

In addition to the two mills mentioned, there is the "Pioneer," a small affair, with four light stamps, a pan and barrel, driven by water. It is now idle, and sadly out of repair.

There is also an arastra, operated by Mr. Wood, who amalgamates in a harrel, after grinding.

## THE RESULTS

Obtained in working ores in this district have been, and are, most deplorable as a rule; notwithstanding which I consider these ores rather docile than otherwise, especially as compared to those of some parts of Mexico. The whole difficulty lies in the fact that there are, as yet, no works provided with suitable means.

There are very many veins about here, all very similar in their mineralogical character to the foregoing, and I have no doubt some valuable mines will be found when they are thoroughly prospected. The mountains are high, and of the most rough and craggy description, and the veins seem to run in the most inaccessible places; but the ores are rich, the climate is excellent, there is abundant water-power, wood at \$8 per cord, lumber at \$70 per M, and the most fertile valley I know of on this side of the Sierra Nevada, where vegetables and grain can be, and are, raised in plenty.

Next week I expect to visit the celebrated Lone Pine country, and will give you the result of my observations. C. H. A.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

FIELD'S FIRE-PROOF ROOFING AND PAVEMENT Co.—San Francisco, Sept. 20th. Capital stock, \$25,000; 1,000 shares, \$25 each. Trustees: S. P. Leeds, James Chaplain, James A. Hope, George H. Russell and A. C. Dodge.

ELECTION OF OFFICERS.—COSALA S. M. COMPANY.—Sept. 16th. President, J. Mora Moss; Secretary, Chas. Baum; Treasurer, Bank of California. Office, 510 Battery st.

GRAIN AT THE WEST.—The grain trade of Buffalo, N. Y., twenty-five years ago, was between two and three millions of bushels yearly. On a single day, during the past year, the receipts at that port reached the largest quantity above named.

QUADRICHLORIDE OF CARBON.—This is a new anæsthetic agent which has recently been experimented upon. It is said to produce its effects in much less time than chloroform or any other substance which has been used for the purpose. It has the odor of quinees. Its use is not followed by nausea, or any other disagreeable symptom.

AN ABUSE CORRECTED.—We are glad to learn that officers are now stationed to board in-coming vessels, for the purpose of preventing their invasion by sailor boarding house runners, until permission is given by the captain. This is as it should be.

## A New Mechanical Movement.

Among the novelties in the machinery department at the Fair was Redstone's Patent Sawing Machine, which, it is claimed, will saw forty cords of wood per day, and can be run by horse or steam power. This saw was manufactured at the Union Iron Works, Sacramento, and costs \$125. Visitors were very much pleased with its performance, and expressed much surprise at its novel and simple, yet effective arrangements. The work is accomplished by quite an ingenious and novel mechanical movement, which we have not space at the present time to fully describe. By it, it is claimed, that large trees may be readily and easily felled, and cut close to the ground. It is especially serviceable in cutting up logs into convenient lengths or blocks, as for firewood, shingles, rifles for sluice-boxes, etc.

This saw cuts both ways, and appears to be the simplest form of a machine for a farm or for use in the woods that we have ever seen. Circular saws must be driven at a certain speed, or they will not cut at all; but this machine can be driven at any speed, and will do work proportionate to that speed. It is almost impossible for it to get out of order. It is an American invention, which, besides its extensive introduction into the Atlantic States, has also been largely introduced into England.

The advantage of this device for sawing, or for any employment on any shafting, for changing rotary into reciprocating motion, will be seen in the fact that while it serves the purpose of producing a direct line, usually effected by a cross head, it also adapts itself to the cut of the saw, as it descends, in sawing, always preserving a strict motion over the cut; thus avoiding the long attachment which is usually employed in connection with a cross head and pitman.

By this device they have accomplished what has never been accomplished by any other arrangement. In short, an *absolutely new mechanical movement is thereby effected*—the first which has been produced for the last thirty years, even during the present activity of inventive genius. Mr. Redstone also exhibited the model of a steam engine with this attachment, instead of the ordinary cross head, of which honorable mention was made in the report of the committee. A shingle machine, also by the same inventor, was reported as worthy of especial consideration for originality of design and apparent utility.

## [COPY.]

SPRINGFIELD'S OFFICE, GOULD & CURRY S. M. Co.,  
Virginia City, Nev., Sept. 17th, 1867.

JOSHUA HENDY, Esq., San Francisco:—  
Dear Sir:—According to the terms under which I secured from you four (4) of your concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value, I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the company. You will please present the bill for said concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours very truly,

LOUIS JANIN, JR.

We are told by Mr. Hendy that the bill was presented in accordance with the above request, and duly paid.

Mr. H. also informs us that the order of five of his concentrators for the Empire mill, Grass Valley, noticed by us last week, has been increased to six. [Eds. Press.]

MICRO-CHEMISTRY OF POISONS.—An interesting volume on this subject has been published by Professor Wormley, of Capital University, Columbus, Ohio. He uses the microscope for the examination of the various minute crystals which are produced by the action of re-agents upon the various poisons.

It is said that the number of patents annually issued by the United States is three times greater than that of Europe. More than 200 patents a week have been issued at Washington for the last six months.

## AN INSTRUCTIVE BOOK!

Prof. LAYRES'

## ELEMENTS OF COMPOSITION,

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For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

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This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner,) in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

## RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Seely.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hall.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hatch.

It is admirably arranged to develop the correct idea of the whole sentence, and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text-books.—James Deanna.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Lund, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brighton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and advocates at the forum.—John Garry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boate.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Bulletin.

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times.

Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken) holds it up before you; tears it to pieces before your eyes—or rather, he should say, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

This is an age in which the occasions are rapidly multiplying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—Stockton Independent.

The most eminent educators in California give it their hearty approval, and we concur.—Maryville Appeal.

Not only one of the best of its kind, but, what is still better, one of the briefest. It contains 166 pages.—Virginia Enterprise.

PRICE, \$1.10. Sent by mail, postage paid, without extra charge. Liberal reductions made to the Trade, Teachers and Schools, ordering by wholesale. Orders received by our Travelling Agents.

Address DEWEY & CO., Mining and Scientific Press, San Francisco. 6v15-1f



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board

SAN FRANCISCO, SATURDAY MORNING, September 21, 1867.

CITY STOCKS.

The dullness in city shares we have noted for some time past has continued during the period under review. No desire is manifested to invest in them under the present violent changes the mining share market is undergoing, and the transactions coming under our notice are confined to a limited number of stocks.

The annual meeting of the stockholders of the Bank of California will be held at the banking house on Tuesday, the 1st of October next, at 11 o'clock A. M.

The receipts of the local insurance companies during the first eight months of 1867, according to the returns made to the Internal Revenue Department, on a currency basis of 72 cents, have been as follows:

Table with columns: COMPANIES, August, Previously this year, Total. Includes Pacific, Union, National, etc.

The aggregate increase of receipts in August over July is \$56,497.

The receipts of the city railroads for the month of August and previously this year have been as follows:

Table with columns: August, Previously this year, Total. Includes Omnibus, North Beach & Mission, etc.

The aggregate decrease of receipts in August as against July is \$2,271. The North Beach and Mission Road has gained the head of the list. The receipts of this company prior to the opening of the City Gardens were generally from \$4,000 to \$5,000 less per month than the Omnibus, but are now in excess, and the only company that shows any gain in August over the receipts of the previous month.

Mining Share Market.

The mining stock market continues active. Within the past week the "bears" for the most part controlled the operations; however, on Wednesday and Thursday, in the open board, the "bulls" managed to raise Crown Point, Kentuck and Yellow Jacket to higher prices than had been previously obtained. The present unsettled state of the market produces extremely fluctuating prices irrespective of the condition of the various claims. Speculative transactions in various leading stocks have been made upon an extensive scale.

HALE & NORROSS—experienced a very marked depression during the period under review, falling from \$1,400 to \$1,000 per foot, and then selling at \$1,100 s. 30. We are informed that the ore extracted between the 700 and 780 feet levels during the current month falls short of the average yield per ton in the month of August. This may be but temporary, since we have a parallel case in the yield of the months of March and April of the present year, when the average was very nearly as low, but subsequently regained the former standard of quality. During the first half of the present month 1,473 tons of ore were extracted from the mine. The new shaft is now about sixty feet in depth below the 780-foot level. Further developments are being made on the 300-foot level, and they are thoroughly prospecting the 175-foot level, a work which has been neglected on account of the full employment of the hoisting works in taking ore and waste from a greater depth. Owing to the present heavy expenses of the company and the decreased value of the ore, no dividend is expected in the month of October. In this connection we mention the fact that this company, since March, 1866, paid to its stockholders \$790,000, equal to \$1,975 per foot, in the shape of dividends.

CROWN POINT—has fluctuated very materially under quite active influence, opening at \$750, dropping to \$525, rapidly improving to \$830 in the open board, receding at the regular session

to \$720, and closing yesterday at \$715. We learn that on the 19th inst. the main shaft was 87 feet in depth, and that the south wize from the 600-foot level was down twenty-six feet, and reported to continue in very good ore. The quantity of ore taken from the 600-foot level has increased considerably of late. A sufficient amount is extracted from the mine to supply the Rhode Island Mill, the reduction capacity of which is 1,500 tons per month.

CHOLLAR-POTOSI—sold to a large extent, declining from \$335 to \$285, rapidly rising to \$347 50, and closing at \$334. The ore from the Blue Wing station assays \$20 to the ton, an improvement of \$3. The New Santa Fé level is yielding about thirty tons of ore per day, with prospects of an increase; and the vein on the third Santa Fé level is worked to a width of eighty feet; the old works, altogether, producing at present about 400 tons of ore per day. The new shaft is nearly 900 feet deep, and at that depth they reached the west wall of the ledge. The fifth station is being opened at a point twenty-five feet from the bottom, or at a depth of about 875 feet. During the week ending Sept. 13th, 2,223 tons of ore were sent to custom mills.

SAVAGE—continues to attract the greatest attention, and the sales during the week have been very large, falling from \$147 50 to \$115, improving to \$145, then selling at \$136, and closing at \$144. During the week ending Sept. 14th, 1,631 tons of ore were taken from the mine, showing an approximate value of \$68,747 in bullion, or \$42 15 per ton. Of this amount the north mine, on the seventh level, yielded 848 tons, and the middle mine, same level, 324 tons. This decreased product is due to the interference of the cave, which is but partial in the north end of the middle mine. At the north and south ends the caving has been complete, and work has been resumed at these points. We learn that the breasts on the third station, near the winze from the second station, show twenty-five feet of ore which is reported to be of an average quality. The east drift from the bottom of the incline winze (north mine, seventh level) has developed twelve feet of ore which assays \$45 to the ton.

KENTUCK—has been in the market to a considerable extent, opening at \$165, declining to \$155, advancing to \$230 in the open board, and closing yesterday at \$200. The bullion sent to the office in this city from the 1st to the 18th inst., amounted to \$54,922 91, and it is believed that the returns for the present month will exceed any previous like period.

IMPERIAL—is in better favor, improving from \$135 to \$142 50, and closing at \$143. Receipts of bullion from the 1st to the 19th inst., aggregate \$35,262 73. OPHIR shows a slight improvement, a few feet selling at \$71@80. The new shaft has attained a depth of 79 feet.

YELLOW JACKET—exhibits a marked advance, improving from \$380 to \$530, then selling at \$440, and closing at \$450. It is said that a fair body of ore has been developed in the west drift of the fourth mine. The shaft is being carried to a further depth of 200 feet.

OVERMAN—declined from \$62 to \$37, rallied to \$57 50, and closed at \$55. Both the 300 and 400 feet levels are yielding ore, but the quantity is not stated. On the 16th inst. bullion to the value of \$3,000 was forwarded to the office in this city. It is thought that this month will show an increased yield. During the month of August 1,232 tons of ore were extracted and 834 tons reduced. This company has \$43,000 on hand at this date.

ALPHA—realized \$450@475 per foot. GOULD & CURRY sold at \$320@300, then at \$305. GOLD HILL QUARTZ at \$75@80. BELCHER opened at \$95@73, then sold at \$92 50@82 50. BULLION at \$18@29 50, closing at \$23. JUSTIA AND INDEPENDENT advanced from \$12 to \$16, and closed at \$11. SIERRA NEVADA sold at \$8@5, and closed at \$7 seller 3.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last amounted to \$1,373,004.

New Mining Laws of California and Nevada.

We have just issued, in cheap edition, the new laws relating to mining and corporations in California and Nevada, passed in 1855-6. Some of these laws are of the highest importance to parties interested in the matter of locating and holding claims, and prospecting mines, in these States. Copies sent by mail. Price, 25 cents. Address, DEWEY & CO., Patent Agents, San Francisco, May 1st, 1866.

Electrotyping Cuts, Engravings, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

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(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY DELINQUENT, DAY OF SALE. Lists various mining companies and their details.

\*Those marked with an asterisk (\*) are advertised in this column.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table with columns: MISCELLANEOUS STOCKS, GAS COMPANIES, RAILROADS, BANKING INSTITUTIONS, INSURANCE COMPANIES, MINING STOCKS—WASHOE DISTRICT. Lists various stock prices.

San Francisco Market Rates.

Table with columns: Flour, Extra, 4 bbl., Do, Superfine, etc. Lists various market rates and prices.

Table with columns: Cheese, California, 1 lb., Eggs, 1 dozen, etc. Lists various retail prices.

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table with columns: Iron, Duty; Pig, 50 per ton; Railroad, 60 per 100 lbs; Bar, etc. Lists various metal market prices.

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THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises sixteen pages (64 columns), and furnishes most valuable reading matter than any other weekly journal in California. To the practical mechanic, metallurgist, prospector, millman, mine holder or worker, it is worth many times its subscription price. It files contain a record of the improvement in mining machinery, the progress and development of the mines, and all new methods and processes for working and.

SAVING PRECIOUS METALS.

All progressive information, in fact, transpiring with the times—which cannot be obtained from books. THE MINING AND SCIENTIFIC PRESS is now in its FIFTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Mining State Convention, held at Sacramento, January 17th, 1866: 'RESOLVED, That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the Mining and Scientific Press, San Francisco, to the consideration and support of the miners of the Pacific coast.'

Terms of Subscription.—One year, \$5; six months, \$3—in advance. Send for sample copies. Remittances may be made by mail at our risk, if parties sending will register their letters, or send money order. AS AN ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the Press is unsurpassed. Rates moderate.

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ENLARGEMENT OF THE

American Journal of Mining

Volume III, Commencing March 3.

In consequence of the remarkable success that has attended this Journal, the proprietors feel warranted in increasing its size to Twenty Pages. This makes it the LARGEST and most COMPREHENSIVE Mining Journal on this continent, representing the Gold, Silver, Copper, Iron, Lead, Coal, Slate, Oil, and in fact all the Mineral interests of America, containing beautiful engravings, illustrating the latest improvements in mining, mining and metallurgical machinery. The Journal has won the encomiums of the press of the entire country and Europe, and numbers among its contributors more eminent scientific men than any other weekly publication in America. The reports of the markets in stocks, metals, minerals and ores, carefully corrected weekly, are an important feature of the Journal.

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MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—Frost's Treatise.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Sept. 14th: The Alpine tunnel is running to open the ground adjoining the Tarshish, known as the Alert claim.

One day this week the workmen in the Morning Star north drift struck into an ore substance which is thought by some to contain gold, while others maintain that it is only the approach to another ledge.

We hear rumors of something good in the Mountain this week, but can find out nothing definite about it. It is expected any day to strike the lode.

*Calaveras Chronicle*, Sept. 17th: The Tarshish Co. have struck another heavy deposit of rich ore in their north drift about 75 feet from the main tunnel. Mr. Graf, the superintendent, has about 40 men employed on the claim. The kiln now in course of erection at Davidson's mill, near this city, for the purpose of drying the Tarshish ore preparatory to working it, will be completed within ten days, when the mill will again start up.

## Calaveras County.

*Chronicle*, Sept. 14th: Lamphear & Co. are meeting with the most flattering success in the prospecting of their quartz lead. At the depth of 120 feet the ledge is six feet wide, well defined and the rock will pay handsomely. The machinery with which the claim is at present being worked is defective and scarcely powerful enough to keep the water out and perform the other necessary operations. A steam mill will be erected this fall. Their claim is one of the best in the county.

T. S. Bever, Esq., proprietor of the "old Shields" claim, at Rich Gulch, has leased it to a company of capitalists who will immediately commence operations. They have rented the French Company's mill—ten stamps—and will put a large number of hands at work on the lead in a short time. Our quartz interests in this vicinity never looked so favorable as at present.

*San Andreas Register*, Aug. 14th: Dr. Southwell has erected a first-class quartz mill at Carson's of 29 stamps capacity, which is expected to be set running on the 1st prox. The most flattering results are confidently anticipated in the working of this mill, as the machinery is all good and the rock excellent. If expectations are realized there, it will give a fresh impetus to mining in that vicinity.

Work will be commenced again at once on the Calaveras mine at Copperopolis. It has been lying idle for about two years.

## Inyo County.

*Virginia Tresspass*, Sept. 16th: We have received a letter from Charles F. Duval, at Independence, Inyo county, Lone Pine Mining District. The furnaces are being erected wherewith to smelt the rich ore, and will be completed soon. The Virginians are delighted with their ledges and prospects.

*Dutch Flat Enquirer*, Sept. 11th: Dr. Dozier has just returned from Owens River country. He finds a splendid opening and the company have decided to erect monster works at once. The Dr. feels confident that he can get double the amount of silver from all classes of ore obtained in that region. First-class ore that now yields \$700 per ton can be made to pay \$1,500 by the new process, and second and third-class ore will also pay well to work. The whole cost of reducing will not exceed \$100 per ton. When the new works are erected from five to ten tons per day can be reduced.

*Visalia Delta*, Sept. 11th: The Owens River country is going ahead rapidly; new discoveries and rare developments occurring almost daily.

## Mendocino County.

*Marysville Appeal*, Sept. 18th: Mr. Geo. W. Squires, who resides on the south side of the Buttes in Sutter county, exhibited to us yesterday some specimens of the richest copper ore we have ever seen in California. While hunting in the Coast Range, Mendocino county, he came across a ledge of copper ore which, if the specimens we have seen are a fair criterion, is certainly the richest ever found in the State. He represents the ledge as being from 30 to 35 ft. in width and of great length. The croppings from whence the specimens were taken is from 20 to 25 ft. above ground. Good judges here pronounce it the richest copper ore ever exhibited in this city. The ledge discovered by Mr. Squires is about 90 miles from Marysville.

## Nevada County.

*Transcript*, Sept. 12th: The Grizzly ledge, located on Devil's Cañon, near the Magenta

Flume, was purchased some two years ago by J. M. Pattee, of the Eagle Company of Connecticut, and has since been worked steadily. A five stamp mill was erected and several openings made on the ledge. The last run of twelve days in this mill gave a yield of \$1,200, or \$100 per day. The ledge is so large and the rock so easily obtained that at this rate it can be most profitably worked. It is the design of the company to add five more stamps to the mill, and should the new level continue as good as where they are now working, a steam engine will be put up and the mill kept in operation all winter.

Sept. 15th: The shaft in the Scandinavian ledge is now 45 ft. deep, and a drift has been run upon the ledge 30 ft. The lead is two feet wide with a rich pay seam of six inches running through it, in which gold can be seen in abundance, without the aid of a glass. Some 40 or 50 tons of rock are already out, ten of which are of a very high grade. No mill test has yet been made, but miners declare that the rock will yield first-rate pay.

In the Oceola claim, at Rough & Ready, the ledge has been struck 60 feet below the surface. The lead is 15 inches thick, and sufficient rock will be taken out next week for a test by crushing.

Sept. 17th: The storm which commenced on Saturday morning and continued until early Sunday morning, did considerable damage on Deer creek, in washing away dams and filling up diggings.

*Gazette*, Sept. 13th: One hundred tons of rock from the Fidelity ledge was recently crushed at the Tecumseh mill, yielding about \$1,400. The claim is on the Yuba river, about five miles above Omega. The ledge is large, well defined, and has a favorable reputation.

Some fine specimens of gold-bearing quartz from the Cunningham mine has been exhibited by John Pattison, the superintendent. The specimens were taken from the bottom of the incline now being sunk, and contain much free gold and sulphurets. The incline is now down to a depth of 250 feet on the slope of the ledge, and will be sunk 50 feet deeper when another level will be run. The ledge at the bottom of the incline is about 18 inches wide, and the rock looks better than any ever before taken from the mine.

Sept. 16th: The editor, in speaking of the different companies now at work at Relief Hill, says: The Independent mine is one of the best mines in that vicinity. The tunnel is in 100 ft., and two wing tunnels of 100 ft. each are completed. During the past year the mine has been worked with good success, paying considerable more than working expenses, which are heavy. If this company can work off 100 feet front on their mine every year, which is a liberal estimate, it would require 100 years to exhaust their claims.

The Eagle Co. have just commenced washing through their new tunnel and shaft. They employ 400 inches of water, 12 men and three pipes. The latter have a pressure of 225 feet. The mine is owned by eight different parties. Before they run their last tunnel this mine paid its owners well, and its present prospects are better than ever before.

The North Star Co. and Aaron Davis & Co. employ 12 men and 300 inches of water each. They do most of their work by blasting, and loosen their ground so thoroughly by this agent that they require a less amount of water to wash it away.

Three or four other companies, also, are successfully at work at Relief Hill, on a smaller scale, however, than those we have above noticed.

Altogether, about 80 men are employed in these mines. They take out more gold and wash away more gravel than two thousand men could without the aid of powder and hydraulic pressure.

*Gazette*, Sept. 16th: Dr. Farnham, of San Francisco, has recently purchased an interest in the Downer claim at Chalk Bluff. The ground was located last February by A. J. Downer. The Doctor has sunk a prospecting shaft on the claim to the depth of 30 feet, and the gravel prospects about three cents to the pan.

*Marysville Appeal*, Sept. 15th: Gen. O. Evans & Co., at the last clean up of their mining claim, at Buckeye mill, Nevada co., took out, after a four weeks' run, something over \$22,000 of gold dust. These are the best hydraulic mining claims in Nevada county.

*Excelsior*—Meadow Lake *Sun*, Sept. 10th: The Green Emigrant Co. cleaned up the batteries of the California mill, where they have been crushing their ore. From 84 tons of rock crushed, nearly \$3,000 in gold was obtained. The company have nearly six tons of sulphurets, which they saved from the rock crushed, which, when

worked, will pay not less than \$100 per ton. The Green Emigrant boys have lots of ore fully as good as that which they have just crushed.

The Mohawk & Montreal Co. sent the bullion which we mentioned a short time since as having been cleaned up from their mill, to Virginia. The ore crushed was of a sulphuret character, and the amount of bullion returned was \$789. They have a large quantity of very rich sulphurets saved from this run, which will increase the yield to nearly if not quite three times the amount of the yield in free gold. They will make another clean up about the first of the coming week.

The Gold Run Co. is now getting out some fine ore, which they will have crushed at the Mohawk & Montreal Co.'s mill. They expect that it will pay handsomely. The company are in hopes to make their ore pay the expenses of developing their mine, henceforth.

## Placer County.

*Herald*, Sept. 14th: On the Green Emigrant, McCarty & Lowry, about two weeks ago, sunk a hole about 500 ft. northwest from where the lead was first discovered and prospected. They found the rock exceedingly rich, and the rock we saw was literally covered with gold. The vein proves to be a regular fissure vein, lying between the slate and granite. The slate being the foot wall, which is 100 ft. wide, and will itself average \$15 to the ton.

The vein in the Montezuma claim varies from 10 in. to 2½ ft. in width, and is rich in gold. The rock is blue, as well as the casing. The quartz assays \$100 to the ton. There is 600 ft. in the claim.

Mr. Walls, formerly of Butte county, has recently discovered a rich ledge about a mile northeast of E. N. O'Brien's house, and about three miles from Auburn. It bids fair to be a good paying vein.

There are several recent locations made on the famous Black ledge. The first was made by McGonigle & Co., who are getting excellent prospects, and still running on the main lead.

Lawlor & Co. have the first extension north. They have struck the ledge 3¼ ft. thick.

Adjoining them is the Buckeye Co., who have struck the ledge 3¼ ft. thick. The working test of the rock is \$40 per ton.

The next claim belongs to Curry & Co. They have struck the main ledge which is well defined, and taken out some very fine specimens.

The ledge is six or seven ft. thick. The rock shows plenty of sulphurets and free gold.

## San Bernardino County.

*Guardian*, Sept. 14th: The placer mines in Holcomb Valley are doing very well now. The rains and storms have all passed away, and the men continue their work without interruption.

The claims on Lytle Creek are yielding well just now, many of the boys turning out from \$5 to \$15 per day. The red dirt is paying well, and there is no doubt but the project of bringing in the water to work all the gold bearing land, will be one of the most important for that section of the country, as well as remunerative to the enterprising projector.

## Sierra County.

*Downville Messenger*, Sept. 14th: Some parties prospecting near Excelsior, have obtained splendid prospects in an abandoned tunnel, and believe they have found a continuation of a very rich lead.

The Messrs. Kime are putting up a new quartz mill on the rich ledge discovered sometime since, near the Buttes. The rock which is being taken out is very rich, and the prospects for a paying mine are excellent.

It is reported that the Fir Cap mine, situated about six miles from Downville, is paying enormously—about \$4,000 a week.

Messrs. Smith & Gray, of Gold Valley, have at last succeeded in reducing the heavy sulphureted ores of their ledge, and making them pay. They say they can save \$40, where they did not save one by the old method of working.

## Shasta County.

*Courier*, Sept. 14th: The Bamboo Co., at Marion Flat, have resumed work in their diggings, and are taking out excellent pay. The claims on Dutch Hill and Barker Hill are all paying good wages.

## Tuolumne County.

*Visalia Delta*, Sept. 15th: The Bull Run mine is worked by three different companies First, Ellsworth and Deland, are down over 300 ft., with a 5-ft. ledge; next claim on the west, Hutton & Co., who are also working at a depth of over 300 ft., with a large lode and rich ore; yet further west the Staples Co. are commencing operations, and intend putting up a 4-stamp mill. This mine now supplies 32 stamps; a new 16-

stamp mill just completed by Ellsworth & Deland, and two 8-stamp mills worked by Hutton & Co. We learn that Hutton & Co. are going to build a new 15-stamp mill this fall. These mines have been worked since 1863, and have paid on an average, \$30 per ton.

## Tuolumne County.

The Sonora *Democrat* says that Messrs. Jacks and Colburn, after two months' prospecting in the "Ruffletail" quartz claim, have struck rock that pays \$200 per ton. The claim is situated near Whitman's Pass.

## ARIZONA.

*Miner*, Aug. 31st: A. O. Noyes is sinking a shaft on the Senator lode; also one upon the Montgomery.

Messrs. Bowers, Rush and others, who have secured \$00 ft. on the southwest end of the Dividend lode, will begin work next week. The ore will be worked at the Ticonderoga mill.

Sagebrush Johnson has quit work on the Accidental, and gone to Wickenburg—or California. R. Wining and others, are running his water arastra, on Lynx Creek.

Col. Tyson is at work on the Sterling.

*Tucson Arizonian*, Aug. 31st: Mr. Rnsh and others interested in the Dividend mine, Big Bug Dist., are about commencing to work on it, and have leased the Ticonderoga mill. A shaft has been sunk 60 ft., and 60 tons of rock have been run through the Big Bug mill, yielding \$20 per ton in free gold, and the concentrations containing an average of 17½ per cent of rock, according to the assay of Mr. Berger.

The Arizona correspondent of the *Marysville Appeal* of Sept. 14th, writes: The mines here, instead of paying, are doing just the opposite.

## COLORADO.

*Miner*, Aug. 29th: A fine chunk of silver hullion, weighing 339 ozs., was on exhibition. It is from ore from the Equator lode.

Mr. Miner, by a sort of cheap process, is taking out some very nice little buttons of silver. His apparatus consists of a sheet iron pan, in which the pulverized ore is boiled with salt. It is then amalgamated by washing in a common gold-pan.

An assay of ore from the Watertown lode last week, gave \$6,000 per ton.

The New Boston lode, as work progresses, is proving itself one of the most valuable in the Territory. Immense masses of pure argentiferous galeua, weighing a half ton or more are constantly being broken up by the miners engaged in working it.

The Equator lode has been sold to Messrs. Carpenter & Simpson for \$3,000.

From 20 pounds of ore from the North American lode, 2 pounds and 13 ounces of fine amalgam was produced yesterday.

*Denver News*, Sept. 4th: Mr. Birdsall showed us a very fine specimen of silver ore lately, from the Great Bear lode, situated in East Argentine. It had been warmed in a fire and showed large globules of silver.

Mr. Richardson, of Georgetown, exhibited in our office a fino bar of metal, taken from ore from the Argentine lode. It weighed 35 pounds, and was taken out by his new process.

There is on exhibition at the First National Bank, three bars of silver from Garrett, Martine & Co.'s works at Georgetown. The smallest one was from Bethany ore, weight 119 85-100 ounces, fineness .924, and valued at \$142.62. The second weighed 166½ ounces, fineness .921, and was valued at \$197.83, also from Bethany ore. These bars were worked in their chloridizing furnace. The third and largest, was from Nickolls ore, fineness .996, valued at \$541.50, and was smelted out.

From 1,600 pounds of ore from the Equator lode, Dr. Johnson lately took out a silver button weighing 599 ozs. 4 pwts., valued at \$1,151. In addition to this, there is a small brick of metal not yet cupelled.

A bar of gold was to be seen at the Colorado National Bank this morning. It weighed 150½ ozs., fineness .825½ gold; 169 silver, and was valued at \$2,601.10.

*Times*, Sept. 3d: This week 15 tons of second-class ore was run from the Smith & Parmalee claim on the Gregory, and the bar as stamped gives the following result: 47 and 28-100 ozs. gold, .864 fine; silver, 110 fine; specie value—gold, \$844.54; silver, \$6.62—total, \$851.16, or nearly \$57 per ton. The assay was \$69 per ton, so that the precious metals saved were to the value of 83 per cent. of the contents of the ore as shown by assay. Messrs. Reese, Krause & Bruckner are now running on first-class ore from the same claim, and will clean up early next week.

Outside of Clark & Co's bank may be seen a large piece of ore from the Sensenderfer claim, on the Bohtail. It is said to weigh 1,800 pounds. It is a splendid sample of pyrites, entirely free from flaw or mixture, and is a good evidence of the strength of the vein. It is valued at \$300.



*Transcript*, Sept. 4th: Mr. John Turck and his associates have just had 1,872 pounds of ore from the Crator lode reduced by Messrs. Garrott, Martine & Co. It yielded 831 ozs. of silver, worth in currency \$1,122.

The gold product of the Black Hawk Co's works were as follows: First week, 301 ozs.; second week, 314 ozs.; third week, 318; fourth week, 357. Total, 1,012 ounces.

It is rumored that the W. H. White lode was sold last week for \$25,000, to parties in Philadelphia.

Both of the reduction works at Georgetown are running night and day to their full capacity, which is only 13 tons in 24 hours. There is probably now less than 150 tons of ore being raised daily in the district.

Four men sluicing at the foot of Spanish Bar, cleaned up on Friday evening last \$840, the result of one day's run.

Garrott, Martine & Co. run last Saturday 3,600 pounds of Nuckolls ore, from which they obtained 150 pounds of silver amalgam.

#### IDAHO.

Owyhee *Avalanche*, Sept. 7th: Adam Assall and Wm. Pierson last week discovered a ledge on Florida Mountain, within sight of town. They call it the New Castle. It is 18 in. wide on top, yielding some very rich pay ore. They have gone down some six or seven feet, and have taken out some five tons of ore.

The Cosmos mill started up on Thursday morning under a contract with Messrs. Learned, McMahon & Herd to crush 60 tons of ore from the south extension of the Silver Cord mine.

Salmon City *News*, Aug. 23d: Douglass & Nichols, whose claim is on Nappies creek, at the mouth of Smith's Gulch, had cleaned up \$2,400.

Judge E. T. Beatty took a nugget weighing \$24 from his claims on Smith's Gulch, Aug. 17th.

#### NEVADA.

##### Black Rock.

Virginia *Enterprise*, Sept. 11th: A 5-stamp mill has been ordered in San Francisco for the Black Rock mines. It will cost upon the ground about \$3,000 per stamp, and will be running by the 1st of January next. The result of the various experiments at Dall's mill, Washoe, upon several varieties of ore was most satisfactory, the yield being from \$170 to as high as \$350 per ton. Mr. Isenbeck, the gentleman who conducted the experiments, is said to be the only man in the State who understands working the peculiarly intractable ores of Black Rock. About 30 tons more of the rock will shortly be brought in from the mines to be worked at the same mill.

Marysville *Appeal*, Sept. 15th: Black Rock ore, from the Emerald lode, has been worked to the astonishing figure of \$300 per ton. Isenbeck is also working ores from the Louisiana and Black Prince lodes, which promise a yield equal to that from the Emerald.

The Downieville *Messenger* of Sept. 17th, says that R. A. Cochrane, formerly of that place, has returned from a long tramp to the Black Rock mines in Nevada. He entertains, however, a very high opinion of the mineral richness of that country, and says its development is only a question of time; expresses the opinion that there is a fortune there for every man who will go after it in the proper manner. The minerals are found in an altogether different formation from anything ever heretofore known to mineralogists, and the ordinary processes of treating ores has no effect on it. He says that the gold is held in the form of a mineral salt, and claims that there is a method by which it can be extracted.

The editor of the *Reveille* of the 14th inst., speaking of the character and extent of the Black Rock mines, says: The ores do not require roasting, but may be worked by the common pan process. Some of the leads tested are nearly 200 ft. in width, and can be traced for miles. A width of eight feet is considered narrow for a lead in that country. The range abounds in crystals of all kinds, desirable as specimens for cabinets; common opals, agates and curious petrifications also abound.

##### Esmeralda.

*Trespass*, Sept. 16th: Wm. W. Bourne, of Pine Grove, Wilson Dist., arrived in Virginia Saturday evening, bringing with him 385 40-100 ozs. of bullion, principally gold, which being assayed by Ruhling & Co., weighed 383.60 ozs., is .344 fine, and worth in gold \$6,696.62. This bullion is the proceeds of 77 tons of ore extracted 50 ft. beneath the surface, from the claim of the Midas Co. The Midas and Wilson joint tunnel has been run 550 ft. At a distance of 300 ft. from its mouth a clay wall was cut, 2½ ft. thick, and similar to the east clay of the Comstock lode. Back of this clay, 200 ft., a vein of gold sulphuret-bearing ore, eight ft. wide, was cut, less broken than the ledge overhead, and returning assays of \$68

per ton. The ore from which the bullion was obtained was mined from a tunnel and incline, near the droppings, the vein being about two feet in thickness at that point. The ore was worked at the Pioneer mill, and it is the opinion of Mr. Bourne that the Pioneer works mineral-bearing quartz (gold) as closely as any mill on the coast.

The Wilson mine is yielding six tons of ore daily. H. C. Toombs, of Dayton, has a contract for ore from the east end of the mine, he paying to Wilson \$12 per ton for all mineral extracted. He is working several men, and the ore he has found will average \$75 per ton. From the mine proper a crushing of 100 tons will be made at the Pioneer mill, early next month. Mr. Wilson has made a contract with Palmer, Knox & Co., of the Golden State Iron Works, to deliver a 10-stamp quartz mill at Shingle Springs on the 20th of this month, and it is anticipated that the mill will all be in running condition by Dec. 1st.

Goodrich & Clark are taking out ore from the Wheeler mine on contract, receiving one-fifth net proceeds for their labor. They are working a soft, decomposed vein, and with four men are mining daily six to eight tons of ore which will work \$30.

The Burlesque Co's claim is yielding some ore which is being reduced in arrastras.

The Deposit Co. is working that claim, and crushing in the same mill as the first named company.

*Enterprise*, Sept. 17th: The Midas Co. will this month declare a dividend of \$4 per foot, and after the payment of the same will have left in the Treasury \$850. The ore reduced is being taken out at a depth of 50 ft. below the surface. The Midas and Wilson Cos. are running a tunnel to tap the vein upon which their claims are located, at a great depth. The tunnel is now in 550 ft. and has cut a vein of ore eight ft. in width, which assays \$68 per ton.

The Wilson Co., adjoining the Midas, are taking out ore that will average \$75 per ton, and have contracted for a mill which they will have running in December; meantime they have made arrangements for having 100 tons of ore crushed at the Pioneer mill. The Wheeler Co. are taking out six to eight tons of ore per day that will go about \$30 per ton. The Imperial Co. are at work upon a tunnel, the water having driven them out of their shaft. Their prospects are excellent. A lot of 1,900 lbs. of ore from the bottom of their shaft, worked by Mr. Delhi, yielded five ozs. of gold worth about \$90, or at the rate of \$100 per ton. The Ophir and Mountain View Cos., adjoining the Midas on the east, have excellent prospects. The lead crops out finely on their ground. In Washington Dist., Mr. Brooks is making rapid progress in the erection of his mill and will have it running in about a month.

##### Humboldt.

Unionville *Register*, Sept. 14th: Torrey's furnaces are being remodeled, and in a few days he will make a decided improvement in their working capacity, and will resume work upon a larger scale. His mines are turning out better than he himself anticipated. As his developments attain depth, the lead ores diminish accordingly. He is now taking out a large quantity of fine milling ore, as well as smelting ore.

Work has been resumed on the Alpha mine, in Echo Dist. They now have a vein of fine ore from three to five ft. in width, and have about 150 tons on their dump. Fifty tons of this ore was worked in Holt's mill, some time ago, averaging about \$75 per ton. One of the company has gone to San Francisco to secure a mill.

The Oreana furnaces are in full blast, and turning out bullion daily, with the most satisfactory results.

The Monroe mine, in Sierra Dist., is looking exceedingly well. A large lot of very rich gold ore can be seen in the ore house. The vein is growing larger daily. The Essex mine continues in the even tenor of its richness. G. W. Holt, the Supt., has a large force at work in the mine as well as at the mill. His machinery and lumber are now mostly upon the ground.

##### Reese River.

*Reveille*, Sept. 10th: Some 2,200 ozs. of crude bullion were brought into town yesterday from Coover's mill at Bunker Hill. The bullion was obtained from Victorine ore.

Sept. 11th: Mr. H. L. Hawes arrived in town this morning with about 1,000 ozs. of crude bullion from the Reveille Dist. The bullion was produced from eight to nine tons of ore from the Scorpion ledge, which were reduced without roasting.

The California mill has been leased by J. R. Murphy, who is preparing to set it in motion as speedily as possible.

This morning a part of the heavy engine and machinery from the Sherman shaft arrived in town, and was delivered on the ground of the company.

Yesterday Rnsell Scott showed us a fine lot of samples of ore obtained from a claim called the Brown and Spiker in Wisconsin Cañon, in the North Twiu River Dist. It is believed by many to be a continuation of the famous Murphy ledge, both from its course, general appearance, and the fact that the ore obtained from the surface of both locations is nearly identical. The owners have sunk upon the ledge to the depth of 16 ft., at which point it is large and contains several strata of rich ore.

Sept. 12th: Last evening Rnsell's stage from Cortez brought in 5,200 ozs. of crude bullion. The bullion was produced from ore obtained from the St. Louis mine, which was reduced at the mill of the Mt. Tenaho Co. A considerable lot of St. Louis ore of a high grade will be worked at the mill of the company.

The large engine of 100-horse power, for the Sherman shaft of the New York and Austin Co., was delivered on the ground yesterday, and will be placed immediately.

In Reveille Dist., the Desert Queen, which is situated on the east side of South Mountain, continues to yield very rich mineral, which the owners are reserving for reduction at the mill of the Old Dominion Co. at Hot Creek. Another ledge, named the Mountain Queen, in the same mountain below the Desert Queen, is also producing a good quality of fine ore. Brobant & Co. have several locations on South Mountain, which they are developing with good prospects. Work was about to be resumed on the Adriatic. Several of the ledges belonging to the Reveille Co. looked well and were yielding excellent milling ore.

The Rutland mill, of five stamps, is being negotiated for, and, if sold, will be rebuilt and supplied with roasting furnaces.

Sept. 13th: The Metacom mill is again under way, and is reducing ore from the company's mine of that name, as well as from the Diana.

*Enterprise*, Sept. 13th: Mr. J. W. Bowers late in from Nye county, brings the following news: The Pioneer mill, erected in the latter place some two years ago, has been lying idle for several months past. Mr. Cormack, one of the lucky discoverers of the Silver Peak Dist., has recently made arrangements to run the mill, and is now busy placing the mill in condition for business. Large quantities of ore being ready for crushing and the mill in successful operation. Mr. Carmichael, who recently arrived there, representing a company in New York with a large working capital, has commenced operations on the company's mine.

Silver Bend *Reporter*, Sept. 4th: The following is the amount of ore shipped from the Fisherman ledge, during the last quarter: 1½ tons at the Faulkner mill, producing \$412 per ton; 4½ tons—another lot—at same mill, per ton, \$280; 5½ tons at Parrott mill, \$390 per ton; 1½ tons at the Manhattan mill yielded \$700 per ton.

At Reveille there are now some eight or ten companies at work taking out ore for shipment to the new mill. The Bullion Co. has out 10 tons of first class ore from the Fisherman ledge which will be worked at this mill, having already contracted for its delivery from the mine to the mill at \$30 per ton. The value of the ore is placed at \$450 per ton. Eighty-five tons of second class ore is also piled up at the dump which is estimated will yield an average of \$150 per ton. Upon the Fisherman a depth has been reached of 75 ft., about 60 ft. perpendicular. This incline has reached the limit of the limestone crust and penetrated a black slate, which shows strong indications of water, and in which the vein occurs regular and unbroken. Should there be no mistake about this, and the lime rock indeed prove but a thin crust, while the veins of rich ore continue in the underlying rock, many claim owners there who have hitherto become discouraged in their explorations in this crust upon what appeared to be only lumps of mineral, will again take hold with new heart and continue the work of development. From the Desert Queen finer ore is now taken than ever before—valued at about \$800 per ton. The Pearl—worked by H. Martiu Smith—has produced a number of tons of rich ore which will be worked in an arrastra, now building for the purpose.

##### Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

*Enterprise*, Sept. 14th: The Chollar-Potosi Co. are now daily taking out 400 tons of ore per day, supplying 12 mills.

A fine new boiler, 54 in. in diameter, and 16 ft. long, with 36 4-in. tubes, is being manufactured at the Nevada Boiler Works for the Empire State mill.

The total shipment of bullion from this city and Gold Hill for the past week was but 5,767 lbs., worth \$131,863.47.

*Trespass*, Sept. 11th: The Sapphire mill in Gold Hill stopped crushing ore on the 1st inst., for the purpose of giving the machinery a thorough overhauling. It will start up the first of next week on Chollar-Potosi ore.

Gold Hill *News*, Sept. 13th: The great hoisting horse of the Empire Imperial Co. is being closed in rapidly. The immense sign is being lettered in brilliant colors. The cupola is finished. The ponderous machinery will be leveled on the grand granite foundations next week.

The Nevada Boiler works, in Lower Silver City, are turning out a mammoth boiler and a steam drum for the Empire State mill. The boiler will be 54 in. in diameter, and 16 ft. long. It will 36 4-in. tubes, with 1½ in. in space between the tubes—a greater space than ever allowed in a boiler of this description. The heads will be seven-sixteenths of an inch thick. The steam drum will be 36 in. in diameter, and seven feet long.

#### OREGON.

Jacksonville *Sentinel*, Sept. 7th: D. C. Cohn has arrived from San Francisco, and is going to start the Enterprise quartz mill, and push work forward with renewed energy. He intends to work the rock by a new process, and thinks he can make it pay \$250 to the ton.

Beach, Anderson & Co. are running a tunnel through the ridge between Althouse and the valley. The lower part of the creek is known to be rich in auriferous gravel.

Prospectors in the neighborhood of Diamond Peak, in the Cascade Mountains, have discovered several quartz ledges in what seems to be a parallel range, at least they found three leads near together, and running parallel to each other. The rock is rich, with some kind of metal, and it is thought to be silver, as it stands all the tests to which the prospectors were able to submit it. The specimen which we have, shows metal, though what it is we cannot say.

Idaho *World*, Aug. 28th: Some very rich gold quartz has been recently found in the mountains near Blue river, Oregon, 50 miles from Eugene City. The yield of the specimen brought in, by hand mortar process, was at the rate of \$2,260 per ton. The discovery causes great excitement in that section.

Sept. 14th: Col. Butterfield is sinking shafts in the cement beds, about a half a mile this side of Waldo. The Colonel's intention is to go down until he strikes the bedrock, hoping that he will find a layer of pay gravel between the cement bed and the bedrock. Some years since, Mr. Samuel Scott sunk through the cement, lower down on the flat, and got good pay; but whether like results will be realized in the gulch, remains to be demonstrated.

Salem *Herald*, Sept. 6th: The Ruckle quartz mill on Powder river, running on the Rockfellow ledge ore, has lately yielded \$7,000 at a clean up, after working 110 tons of ore.

#### UTAH.

Salt Lake *Vedette*, Sept. 7th: Reports are in circulation about town, brought in by parties who have recently arrived from the mines, which state that the prospects of that place are good. No placer diggings have, as yet, been struck, and no prospecting done outside of the quartz ledges. The weather was good, the miners in good spirits, but not a great many in there yet. Several were met en route well provided with tools, provisions and arms from Idaho and Montana, who design to do some prospecting on the Wind River side of the ridge.

**DRAWBRIDGE ACCIDENTS.**—The carelessness of those in charge of railway drawbridges has caused the loss of many lives. The following is a brief description of an invention about to be tried on the New York and New Haven railroad, which, it is believed, will effectually prevent the ill consequences of such carelessness in future:

It consists of a signal attachment to the bridges, so arranged that no draw can be opened without turning a crank at each end, which crank moves a rod connecting with a signal board placed about two thousand feet from the bridge. By means of the rod, this board is dropped across the track; so that in case the engineer should neglect to observe the signal, he would be sure to hear his engine strike the signal-board. He would then have plenty of time to stop before reaching the bridge. At night a lamp is placed on the signal-board. When the bridge is all right, the board is drawn into a covering out of sight.

THE Emperor Napoleon has ordered the purchase of three of McCormick's reapers for his private farms.



## Mining and Scientific Press.

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Witnesses should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. G. Knox is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1867.

Dr. J. G. Yates is our duly authorized travelling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized travelling agent for this paper. July 15, 1867.

Mr. W. T. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Sept. 21 1867.

## Notices to Correspondents.

TALPA, Cisco.—Tungsten, respecting the properties of which metal you are at present inquiring, has already engaged the attention of no inconsiderable number of persons, who, like yourself, feel a deep interest in obtaining, if possible, some indurated substance which will be capable, practically, of supplanting so expensive a mineral as the diamond, as a material for drilling purposes. Tungsten has hitherto only been obtained in a separate form in small grains, in which state it is barely fusible, in a blast furnace, requiring a higher temperature than manganese. It is not magnetic, has a high specific gravity, or about 17.50; is of a steel-gray color, with a strong metallic luster, if reduced by means of carbon. When procured by passing hydrogen over ignited tungstic acid, the metal so obtained is tin white. It is most probable that the real utility of tungsten will be found rather as an alloy, or one of a complex alloy of steel, tungsten, titanium, and possibly manganese. Tungsten is a tolerably abundant material in the tin districts of Cornwall, where it is generally known under the name of wolfram. Indications exist, from the appearance of specimens, that it may be found in the Sierra Nevada, to some extent, as tungstate of lime, and may, for the purpose above indicated, become of considerable economic value.

MEDICUS, Sierra Co.—Lithium is the metallic base of the various compounds employed in medicine known as lithia and carbonate of lithia. It is obtained from the mineral kingdom only, hence its derivation from the Greek word signifying "a stone." The following are the chief minerals from which it is procured: Petalite, containing on an average about 5 per cent. oxidolithium; lithia-spodumene, 8 per cent.; ambligonite, 11 per cent.; Triphylite, 3.4 per cent.; lepedolite, 3-6 per cent. Lithianite, apyrite, and the tourmaline of Utah also contain it. Some of the micaceous varieties are sufficiently rich to remunerate the searcher for extracting the lithia therefrom. At present the supply is chiefly obtained from the Austrian dominions. It is found to be a most valuable remedy for such as are afflicted with gouty and rheumatic affections. It could, perhaps, be found in California.

S. V.—Cannon, as a word applied to ordnance or artillery, is originally derived from the Latin *canna*, a pipe or large tube, in consequence of the celebrated Greek fire having been, whilst employed in warfare, projected from tubes or pipes open at each end, which protruded from the vessels or galleys which used them. The word *cane* has a similar derivation, which, strictly speaking, ought to be confined to such varieties of the graminaceae as possess hollow stems only, not such as are aroid.

X. Z.—The binoxide of tin (tin, stone or ore) has been crystallized by Daubrée. The crystals so obtained were colorless, possessing the luster of the diamond, would scratch glass, and had a specific gravity of 6.72.

## Perpetual Motion.

As an apology for the above heading, and for the following remarks upon this exploded error, we would state that we have just seen a paragraph in a Nevada City paper, to the effect that a gentleman of that place has recently left for Washington to secure a patent for "a new mechanical power, or a new application of motion and power, which is destined to revolutionize the motion now used in machinery." The gentleman's experiments had been carried on for five or six years with the utmost secrecy. A few of his friends were allowed to see the model of his invention before he left. The expressious reported as having been made use of by them, imply that they consider him to have succeeded in discovering the long-sought impossibility—"perpetual motion."

Nothing is more definitively settled among scientific men than the utter absurdity of the notion that a machine is possible which, constantly renewing its own power, would forever continue in motion without aid from any external force. But there has always existed, and always will exist, a class of enthusiastic untrained minds, which cling to the delusion with the earnestness which characterized the old searchers after the "elixir of life,"—which should insure to its fortunate possessors perpetual youth.

It was not, perhaps, so strange that the notion prevailed as long as the doctrine of the *annihilability of force* obtained. If, for example, in the case of a blow struck with a hammer upon an unyielding anvil, it could be said that its power was *destroyed*, or *annihilated*—that is, that its *effect* was *nothing*—it could be urged that *power* also was possible without a *cause*—that is, from *nothing*. But this was actually the doctrine maintained. Philosophers could only say that resisted force was *destroyed*. This was the condition of science, even after the great stride had been made, by which the *indestructibility of matter* had been demonstrated. Before that time, when a chemist failed to account for a portion, by weight, of the substance under analysis, he could only say it was *destroyed*. Under such a cloud, progress was necessarily slow. But the point once established that matter was not to be annihilated, he worked upon a different basis; for he knew that the missing matter must be charged to his own imperfect work. An amazing advance in chemical science was the result.

Just what Lavoisier did for chemistry, Mayer and Joule have done for mechanics; and not for mechanics only, but for all physical science. They have demonstrated the *indestructibility of force*. They have shown that force, like matter, can neither be *annihilated*, nor *created*; but is simply changed in its form or mode of exhibition.

The doctrine thus established, that of "Conservation of Force,"—or, as it has been also termed, the "Persistence of Force,"—opens up, not only to the physicist, but, we may say, to the psychologist, a most magnificent field; a field inconceivable in its vastness. It has been declared "the most far-reaching principle that adventuring reason has discovered in the universe." Faraday speaks of it as "the highest law in physical science which our faculties permit us to perceive." Mr. Herbert Spencer says it is "the fundamental truth of all philosophy," and goes on to observe that it extends beyond the bounds of experimental science; that it is "deeper than demonstration"—deep as the very nature of mind.

To the thinker who properly regards the subject, these expressions will not appear extravagant. Let him consider, for instance, the case adduced—of the blow of the hammer upon the anvil. What is the effect produced? *Heat is generated*. The amount of this heat is susceptible of calculation. By experiments it has been proved that if the hammer weighs ten pounds, and

*falls by its own weight only*, from a height of one foot, thirteen thousand five hundred times, sufficient heat is produced to melt a pound of ice, *and boil it*. How much greater the effect, then, if the muscular strength of the man who wields the hammer is so exercised as to give it many times the force derived from the *fall only*! Resisted force, then, is not wasted—is not annihilated; for the heat produced can be again converted into precisely the same amount of force. The water thus made to boil, and converted into steam, will lift the hammer to the same height, and exactly as many times, as would be necessary to produce the first effect. This has been proved by experiment.

But whence comes the force exerted by the man? From the *food*, which has furnished the material for his muscle, and also for the combustible matter, which, like the fuel with which we feed our fires, combines with the oxygen of the atmosphere, producing that heat, which, whether in the fire or in the man, is merely converted power, and which can again, in its turn, be reconverted into power. But whence comes that food? From the vegetable kingdom; for, though a portion of his diet may be animal, that is itself nourished solely by plants. But whence do plants derive their life? Their substance is earthy; but their breath of life is the sun's heat and light.

This brief summing-up will be enough for the reasoner. *The sun, then, is, physically speaking, the sole source of force upon our earth*. Can anything be grander than this generalization? The steam engine derives its force from the same source, either from the combustion of wood, the vegetable growth of the present age, or from that of coal—the vegetable growth of a former age—the stored-up result of what was equally the sun's action upon the materials brought under its influence. It is not necessary for us to go farther back. We have nothing to do here with the question of the source of the *sun's* power. Whether it is an eternal, individual, personal Omnipotence, is not a question for us to discuss in this place. To all intents and purposes, our sun is for us *infinite*—both in its duration, and its power to send forth its life-giving rays eternally, without diminution of substance. Neither have we anything to say of an hypothetical "Vital Principle," or *innate energy* in man; for whatever that may be, it is certain that for the kind of force with which we have at present to do, it is "nil," without the food for the body which keeps up the chemical action aforesaid. The doctrine once held, that this force—this "*vis viva*"—existed in the *germ*, a microscopic particle too minute to be appreciated, is now considered absurd. In that case the germ of the first ancestor would really contain the force of a hundred generations. The truth is, the force comes *from without*; the germ merely determines the form in which the force shall exhibit itself.

Heat, light, electricity, magnetism and gravitation, are but forms or modes of the same thing—of motion or force. Each is convertible into the others. The total amount of force in the universe is always the same, as is the total quantity of *matter* the same. It follows, of course, that *no force can be originated*, and that all force must be derived from the conversion of some of these other forms of motion into it. The same amount of force exerted by a clock-weight which reaches the floor after eight days' constant action, is exerted in another form, by the hand which winds up that weight in a few seconds. The clock-work merely directs the *manner* in which that force shall expend itself; it answers to the *germ* in that respect—it is not the force itself. So of any other machine. It *originates* nothing. A perpetual motion machine is, therefore, in the nature of the case, a chimera. A man may perhaps enlist in his service for a time, and by that means obtain motion through properly arranged mechanism; but can he so store up those rays

that they will furnish a supply of force to be drawn upon during their daily absence? When that has been done, and in such a way as to require no outside interference until the apparatus falls to pieces from actual wear, we may perhaps modify our assertion.

PHOTO-CHEMISTRY.—M. Carey Lea, in his "Contributions toward a theory of Photo-Chemistry," coins the word *actinescence* to express a property which the *chemical* rays of light possess, analogous to that belonging to the luminous rays or phosphorescence. He says that perfectly pure iodide of silver, if exposed to light, undergoes no chemical change. Nevertheless it changes slightly in color, and has, moreover, acquired a new property, viz., that of attracting a metallic vapor; is, in fact, prepared for a chemical change, which, however, cannot occur *until some substance which is capable of combining with iodine*, is brought in contact with it. A film of this pure iodide, may be exposed for hours to a bright sun without undergoing any further change than the slight darkening in color which a single second will equally produce. If, moreover, it be afterwards laid away in the dark for a time, it recovers completely its sensitiveness, and after being again exposed to light for a single second—to prepare it as before—it is as ready for the reception of an image as ever. The change which *does* take place, indicated by the slight change in color, is a *physical*, not a *chemical* one. The particles of the surface of iodide of silver—a compound substance—are made to vibrate, to a *certain extent and no more*, by the chemical or actinic rays of light. This vibration is analogous to that of the particles of a thin glass surface, if a certain musical note is sounded in its immediate neighborhood. If this note is sounded with too great force, the vibration is excessive, and the glass, as we know, is shattered. The violence of motion is greater than it can bear; and it is disintegrated. Similarly, or rather we should say, analogously, if a surface of pure chloride of silver be exposed to these actinic rays, the motion of its particles is excessive, and chemical decomposition takes place. But not so with the *iodide*. If *pure*, it will not yield to such agency; *it is not decomposable by light alone*. This fact, together with the fact that *it is sensitive to light*, is the corner stone of photo-chemistry.

Phosphorescence is the gradual radiation of stored light. If a body is heated, it parts with its heat by radiation in a comparatively brief space of time. Yet the analogy is evident, and in *actinescence* we have a hint at the explanation of phosphorescence. In Mr. Lea's words, "*The 'physical' impression of light is a persistence of the invisible (or 'chemical') rays, exactly parallel to the persistence of the visible or luminous rays, in phosphorescence.*" The effect passes off after a time—*radiation* is complete—and the "photo-equilibrium" is gradually restored. Twenty-four hours is usually sufficient to restore this equilibrium in the case of the iodide of silver. During this time, its particles are vibrating at a certain rate. Although no decomposition takes place, it is, during this twenty-four hours of actinescence, *open to decomposition* by contact with any substance capable of combining with iodine; after this time, it requires another exposure to light, to again prepare it for such decomposition.

A GOOD YIELD.—We have learned from Messrs. Hall & Harnden, No. 409½ California street, that the eighty tons of Green Emigrant ore, mentioned in the Mining Summary under the head of Excelsior, yielded a net profit of \$2,052, and the sulphurets assayed \$3,800 per ton, gold, .904½ fine. The eighty tons of ore contained six tons of sulphurets.

OIL.—During the past six years, 7,920 wells have been sunk in the United States, and eleven and a half millions of barrels of crude oil produced.



Editorial Correspondence.

P. M. S. S. SACRAMENTO, }  
August 31st, 1867. }

This is an easy-going steamship, and, after passing through a brief but severe test, has been declared by those aboard to be the best behaved steamer of the line. We left San Francisco August 19th, and will be at Panama to-morrow, on the thirteenth day out. The ship is now running at low speed, that we may not arrive ahead of schedule time and before the railroad is ready for our transit.

Our passenger list is small, the steamer large, and our accommodations commodious. We have had, for the most part, a smooth and delightful trip. Any one who has not lately traveled on this line, who now takes first-class passage, will hail with favor the noticeable improvements which have taken place in both ships and regulations. The delight to "speak of men as we find them," prompts a special mention of our officers. Capt. J. M. Cavarly, comparatively a new officer on the route, is an "old salt." His qualities as a commander are exemplary. He admirably enforces strict discipline throughout the entire ship, and has the perfect confidence and good will of his passengers. Capt. Cavarly is well supported by his assistants—D. C. Wood, First Officer; John Graham, Chief Engineer; Fayette M. Ringgold, Surgeon; R. M. Bevell, Purser, and Thomas Harris, Steward. Strict in his duties, we found the Purser equally apt in his courtesies. Mr. Harris fills his position amply, as well as the mouths of the passengers. In fact, so universally satisfactory are the officers and ship, that the passengers have united in addressing the following letter to Captain Cavarly, which we are permitted to copy in this communication:

ON BOARD STEAMSHIP SACRAMENTO, }  
August 30th, 1867. }

To CAPT. J. M. CAVARLY:

Dear Sir: The undersigned passengers, about completing a very pleasant voyage on the ship under your command, desire to express to yourself and the officers associated with you, their appreciation of the thorough discipline observed on board your ship, of the uniform courtesy extended to them, and of the excellent attention paid to the safety, comfort and convenience of the passengers.

We can heartily congratulate all travelers who may hereafter be entrusted to your care, in having the satisfaction of sailing with one who so fully unites the qualities of the gentleman and mariner.

Wishing you and all your officers health and prosperity, we are,  
Truly, your friends,

- |                     |                       |
|---------------------|-----------------------|
| Capt. N. C. Brooks, | Wm. H. King, U.S.N.,  |
| R. A. Swain,        | Richard Eccleston,    |
| D. N. Hawley,       | B. Mish,              |
| B. Weill,           | Robert H. Wiles,      |
| B. Sarle,           | Jas. W. Faulkner,     |
| Hon. D. C. McRuer,  | L. R. Martin,         |
| Alvan Flanders,     | T. T. Bradshaw,       |
| D. K. Ford,         | Julius A. Bidwell,    |
| R. J. Tiffany,      | Maj. E. Yard, U.S.N., |
| H. Arey, U.S.N.,    | H. Ogilby, U.S.N.,    |
| Adolph A. Sou,      | Th. F. Tobey, U.S.N., |
| W. W. Hemsley,      | Dr. J. E. Warner,     |
| Alh. Arents,        | A. T. Dewey,          |
| Chas. J. Willey,    |                       |

In behalf of the passengers.

The above furnishes the names of several gentlemen connected with prominent mining interests on the Pacific coast, of which we shall make future mention. D.

PERSONAL.—During the past week we received a visit from his Excellency Geo. L. Woods, present Governor of the State of Oregon. The Governor is in rather feeble health, owing to his arduous labors during the late political campaign. He returned to Oregon on the steamer of the 18th inst. The Governor has established a reputation as an eloquent and popular speaker, and we suppose he will be content to rest on the assurance that his labors were appreciated, although not crowned with success. We hope that his health will resume its usual tone in the dewy land of Webfoot.

TOLL-GATES are unknown in Switzerland. Travel is thereby encouraged. The Government pays one-half the cost of keeping the roads in order.

New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

67,842.—AMALGAMATING PRECIOUS METALS. John B. Beers, San Francisco, Cal.

I claim the use of amalgamated woven wire gauze or amalgamated perforated sheet metal.

I also claim, in combination with amalgamated wire gauze or perforated sheet metal, the canvas or cloth arranged under the wire gauze or perforated metal.

I also claim, in combination with the amalgamated wire gauze or perforated metal, the use of corrugated amalgamated sheet metal plates, either with or without the canvas or cloth.

I also claim, in combination with amalgamated plates, the use of wire gauze or screens, arranged on or above the plates, substantially as described for the purpose set forth.

This amalgamator will so constructed that the particles of gold will be prevented from being carried away before the mercury has taken it up and amalgamated it, and consists in the employment of a wire-gauze screen, wire cloth, raised or corrugated copper plates, either amalgamated with mercury or otherwise. Any of these devices may be used for sluices in placer, cement, and quartz mining, and will be efficient in rifle-boxes, shaking-tables, long-toms, rockers, concentrators, the batteries of quartz and auriferous cement mills, and the covering of the aprons or platforms in front of the batteries, either as a substitute for the copper amalgamating plates now used, or in connection with them.

67,858.—CLOTHES-WASHER.—F. Erust, San Francisco, Cal.

I claim placing the fabrics to be washed between perforated plates or sieves, C and D, in a closed vessel of any suitable construction, so that a vacuum, F, may be created beneath the lower plate, substantially as described.

67,935.—STEAM GENERATOR.—Charles O. Winegar, Drytown, Cal.

I claim connecting each series of tubes to separate and independent chests at both ends, so that each series of tubes can expand and contract without straining the others or being strained themselves.

I also claim arranging the tubes in each tier so as to form a connection between all the tubes used, substantially as described.

THE ALASKA SURVEYING PARTY HEARD FROM.—The *Alta* of the 18th, says that a private dispatch dated Sitka, August 20th, via Victoria, has been received from Prof. George Davidson, who has charge of the scientific party on board the revenue cutter Lincoln, about to make surveys on the coast of our new northern possessions. The dispatch says that the party had had continual rain, fog and southeast storms during the whole of the month of August, and work was rather discouraging. They expected to start for Unalaska, one of the Aleutian islands, on the 23d of August, and hoped to get some lines of soundings over the fishing banks, and would then return to Sitka to make some special examinations, and thence work to the southward. The expedition had been well received by the Russians, and the Governor, Prince Maksontoff, had afforded them all the information in his power.

HAYES-HIGGINS COLLECTION.—The amount realized in cash by this performance, was \$3,600, after paying \$100 for band, carriages, etc. This sum has been equally divided, as was intended, between the two Orphan Asylums. The managers of both institutions have duly acknowledged the receipt of the same by letters to the committee, which letters have appeared in the city journals.

FLIGHT OF BIRDS.—A hawk can fly 150 miles an hour; an eider-duck, 90 miles; a crow, 25 miles. A falcon, belonging to Henry IV. of France, flew from Fontainebleau to Malta in less than 24 hours, the distance being 1,350 miles; and it is probable that his flight was about 95 miles an hour, as such birds fly in the day-time only.

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SECRETARSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v151f

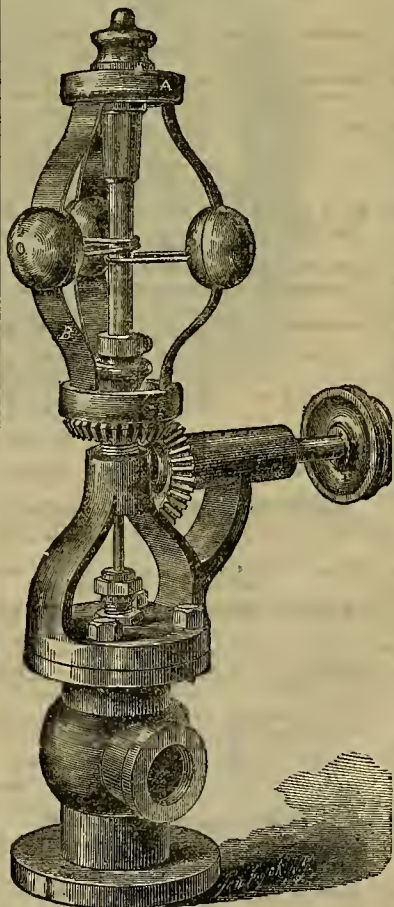
Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of fitting the fangs of dead Teeth, and building up broken crowns with *POUR* GOLD—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v141f

Gold Bars, of whatever size, if well cast, assayed for two dollars, at A. P. MOLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v143m

Brown's Filtering Heater.—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler-repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v141v AUSTIN A. WELLS, Agent.

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OFFICE IN THE BUILDING OF THE  
CALIFORNIA SAVING BANK, California  
street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 10v1419pqr

BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

FOR OMBRET PHOTOGRAPHS, or Enamelled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street. Every picture warranted to give perfect satisfaction. 5v15qr B. F. HOWLAND, Artist.

Perry Davis' Vegetable Pain Killer.

We clip the following from the Providence (Mass.) General Advertiser:

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Sold by all Druggists, Grocers and Medicine Dealers everywhere. 10v151m

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Adapted for Smelting, Foundry, Mining and Steamships.

Requires 50 per cent. less power than any blower now in use. For further particulars, address KEEF, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15119p

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13v143m9p San Francisco.

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Every Variety of Shafting

Embracing ALL SIZES of  
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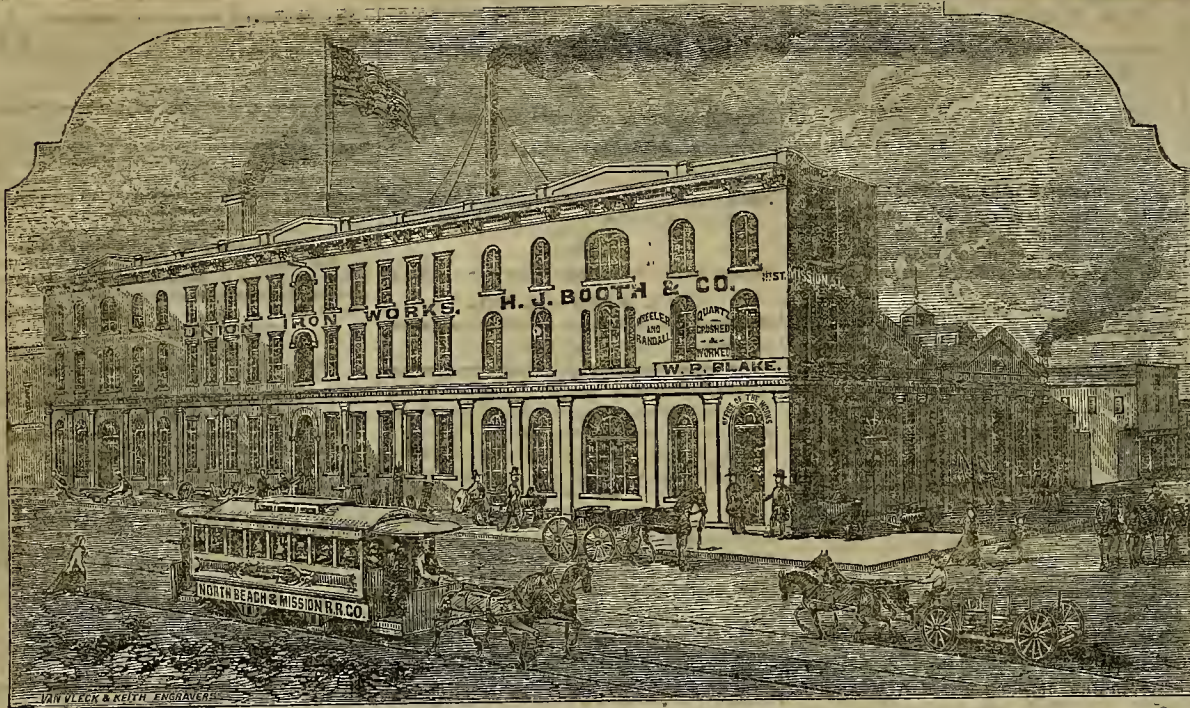
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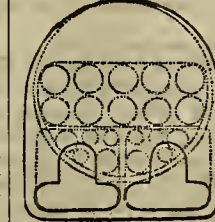
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WOOD PAPER PATENT.—An application for the renewal of this patent, which expired in August, has been made. Printers and publishers oppose it, on the ground that it will keep up the price of paper. They insist that Watt & Burgess, the parties holding the patent, have had a fair profit from it.

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**THE DARWINIAN THEORY.**—Dr. Bischoff, Professor of Anatomy and Physiology in Munich, has published a work in which the anatomy of the gorilla, chimpanzee, etc., is compared with that of man. In a note upon the Darwinian Theory, some of the points brought forward are thus stated in the *American Journal of Science*: The assertion that man is directly descended from the ape, is contrary to the Darwinian theory itself, if rightly understood; for the extinction of the parent form is the direct consequence of the development of an improved form. The great problem of organic nature is twofold: 1. The origin of the simplest original forms; 2. The causes and mode of their operation, by which more perfect forms were developed. A great defect of Darwin's theory is that he leaves the first question unanswered. Admitting that certain organisms must have been created, what right has he to say that other organisms may not have been created at intervals, even to the present time? Another defect of the Darwinian theory is, that no cause is assigned for the commencement of variation. To say that organisms have at once the power of transmitting peculiarities by inheritance, and of spontaneously originating variations, is a contradiction in terms. Darwin's treatment of the second half of the second question is more successful. Natural selection and the struggle for life must henceforth be fundamental principles in any theory of development. Since no general cause is assigned either for the origin of life or the commencement of variation, all that can be considered as proved is that certain forms have been produced by variation from certain other forms. The facts warrant no general induction. We must be very cautious in accepting plausible theories without sufficient proof. The vagaries of the "naturphilosophie" furnish an instructive example. The physical difference between man and brute is not merely quantitative, but qualitative. The distinctive peculiarity of man may be designated as *self-consciousness* (selbstbewusstsein), or the faculty of making one's self and one's mental condition a distinct subject of thought. On this faculty depend other important peculiarities of man, viz., the capability of indefinite progress, the idea of morality, the notion of a future state, and the power of language.

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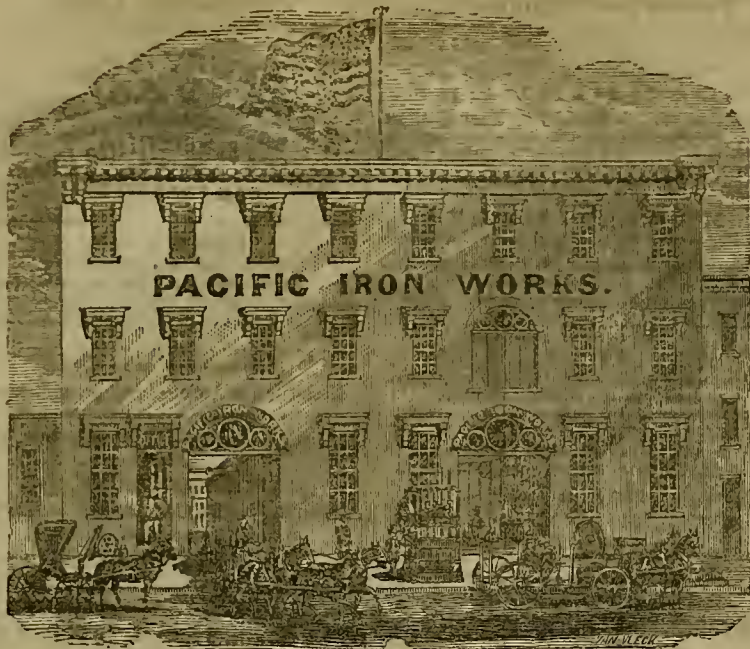
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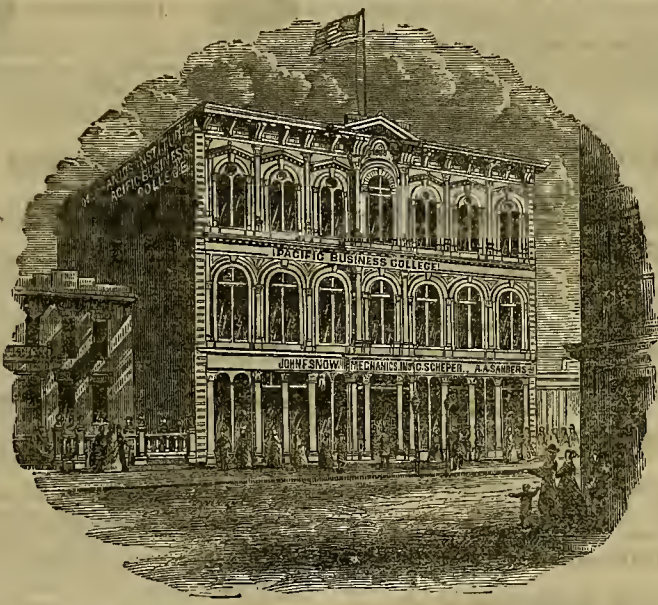
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Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. E. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, —AND— CENTRAL CITY, COLORADO. 19v12-1y

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware Photographic Stock, Etc 513 and 514 Washington Street, SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, and from Franco and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORY, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUNDRIES, ACIDS and CHEMICALS, cost ready on hand. San Francisco March 6, 1865. 11v10-1f

T. R. CHURCH, FASHIONABLE CLOTHING EMPORIUM No. 223 Montgomery st., Ross Block.

WHOLESALE AND RETAIL DEALER IN FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices. 9v15-qr

MEUSSDORFFER, Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867.

An Entirely New Style of Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dresy Hat ever introduced on the Pacific Coast. Call and see them. 8v14

Acids! Acids! Nitric, Muriatic, Sulphuric, Chemically Pure, Manufactured by the Pacific Chemical Works, FALKENAU & HANKS, 8v16alt 623 Montgomery street, San Francisco.

International Hotel, JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS. SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1 50 to \$2 per day for Board and Room. FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city (for 60 cents) 21v12 F. E. WEYGANT, Proprietor.

SACRAMENTO SEMINARY, Boarding School for Young Ladies, I street, between Tenth and Eleventh streets, Sacramento. The present Session commenced July 29th, and will close December 20th. A full course of instruction is given. Six Teachers are employed. For further particulars, Address HERION FERRY, Sacramento, Cal. 11v15-4m



Blanks, Blank Mining Books, Constitution and By-Laws - Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press. Orders from the Interior faithfully attended to. New Mining Advertisements.

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, room No. 10, second floor of No. 402 California street, San Francisco.

Gold Hill Tunneling Gold and Silver Mining Company, Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment (No. 9) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, in San Francisco, Cal.

George Washington Gold and Silver Mining Company, Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 19) of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, in San Francisco, Cal.

La Blanca Gold and Silver Mining Company, Location of Works: District of Ures, State of Sonora, Mexico.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Lady Franklin Gold and Silver Mining Company, Silver Mountain Mining District, Alpine County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Champion Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of September, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Lady Bell Copper Mining Company, Low Divide Mining District, Dal Norte County, California.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Ancient River Channel Blue Gravel Company, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, in San Francisco, Cal.

Ancient River Channel Blue Gravel Company, Nevada County, California.

Notice—All persons are cautioned against purchasing the following Certificates of Stock in the Ancient River Channel Blue Gravel Company, as the transfer has been stopped on the same: One Certificate, No. 32, for 125 shares; one Certificate, No. 6, for 19 shares; one Certificate, No. 27, for 15 shares.

Chalk Mountain Blue Gravel Company, Location of Works: Nevada County, California.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Engle & Corcoran Silver Mining Company, Location of Works: Storey County, State of Nevada.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor of No. 402 Montgomery street, San Francisco.

Camargo Gold and Silver Mining Company, Lander County, Nevada.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Hancom Copper Mining Company, Location: Low Divide District, Del Norte County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twentieth day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Kelley Gold and Silver Mining Company, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1867, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, in San Francisco, Cal.

La Blanca Gold and Silver Mining Company, District of Ures, Sonora, Mexico.

Notice is hereby given, that the Annual Meeting of the stockholders of the above Company, will be held at No. 163 California street, corner of Davis, in San Francisco, on THURSDAY, the tenth day of October, 1867, at 7 1/2 o'clock, P. M.

Mount Teabo Silver Mining Company, Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of September, 1867, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Engle & Corcoran Silver Mining Company, Location of Works: Storey County, State of Nevada.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor of No. 402 Montgomery street, San Francisco.

Engle & Corcoran Silver Mining Company, Location: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company 408 California street, San Francisco.

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 2) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

Potrero Company, Location of Works: San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of two dollars and a half (\$2 1/2) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 533 Kearny, corner of Sacramento street.

Silver Spring Mining Company, Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Santa Cruz Petroleum Oil Works Company, Location: County of Santa Cruz, State of California.

Notice—The fifth Annual Meeting of the stockholders of the above named Company will be held at their office, 415 Montgomery street, San Francisco, California, on Tuesday, the twenty-fourth day of September, 1867, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and transacting such other business as may properly come before it.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor of No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor of No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-first day of June, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor of No. 402 Montgomery street, San Francisco.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the greatest number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

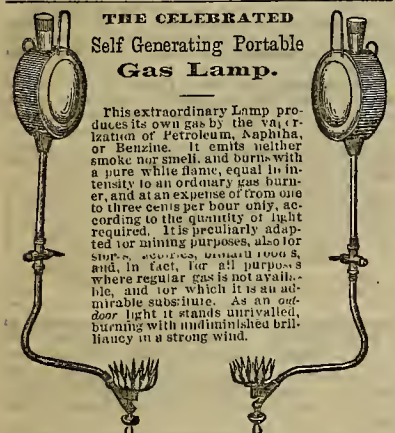
They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pen being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and sellers for themselves, at the PACIFIC FOUNDRY, San Francisco.



THE CELEBRATED Self Generating Portable Gas Lamp.

This extraordinary lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits no smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for mining purposes, also for shops, residences, and hotels, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cap, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.

When necessary to renew the cotton which is placed in the burner pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vice and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 13414-31-3

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, hearing date January 9th, 1855.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, 14141st Agents for the Pacific Coast.

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

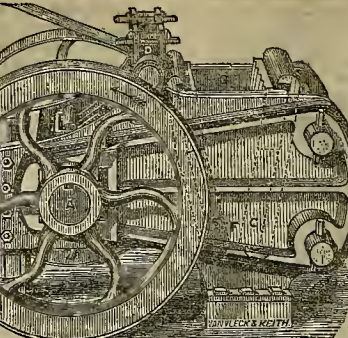
HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping it at any angle to the wind. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, single and Double-Acting. Frames and Gearing for running them, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Second St., and 105 and 110 Deshler St. 2v13qy San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13z SAN FRANCISCO.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine, for Breaking or Spalling Quartz, or other Rock, possessing as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1.—0 or 1 inch Crusher, capable of reducing from one to four tons of quartz per hour, no piece being larger than a walnut—Price, \$600

No. 2.—0 or 1 1/2 inch Crusher, capable of similarly putting through five to six tons per hour. 850

No. 3.—0 or 1 1/2 inch Crusher, will in a similar manner crush from seven to eight tons per hour. 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to crush to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, G, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Vulcan Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1856.

JAMES BRODIE, Esq., San Francisco: My Dear Sir: I receive your measure to which you that I have for the last three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED OERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1854. Further particulars will be afforded on application to the subscribers.

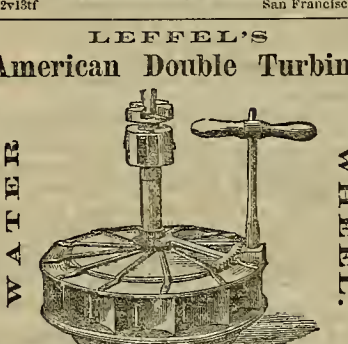
Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1856, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1856.

BRODIE'S PATENT WIND BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press, of Nov. 25th, 1856. BRODIE & RADCLIFF, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine WATER WHEEL.



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE UNITED STATES, have never been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc.

Callifornia Waterworks, San Francisco; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coyne, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County. Send for Circular, to KNAFF & GRANT, Agents for California, 26v131yq 310 Washington street, San Francisco

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a first class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, San Francisco, Aug. 29, 1857. 9v13tt

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draftsmen, by applying to this office.

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-gy THOMAS PATTINSON.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, For Wells, Fargo & Co's Express. 11v15 6m

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel Files, Etc., Shear, Spring, Oerman, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine street, Between Montgomery and Sansome, San Francisco. 11v14j

Quartz Mill Construction and Superintendence

THE UNDERSTONED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz mill. Has had five years steady and successful experience in working ores in Washoe and I. practiced in saving sulphuric and treatment of rebellious ores. I prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address J. SHAW, San Francisco, care Mining and Scientific Press. 26v143m

Notice to Miners, Well-Borers and Water Companies,

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for the branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi stoves, the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done.

M. PRAG, 8v13 1y Stove Store, No. 123 Clay street, below Davis.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT. PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 2v12 3m

Pacific Mail Steamship Co's STEAMSHIPS FOR

NEW YORK, JAPAN AND CHINA. LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK: On the 10th, 18th and 30th of each month that has 30 days.

On the 10th, 18th and 30th of each month that has 31 days. When the 10th, 18th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on the following day.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 14th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Departure of 10th connects with English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America.

The following steamships will be dispatched on dates as given below: September 10th—GOLDEN CITY, Capt. W. F. Landge, Connecting with HENRY CHAUNCEY, Capt. Gray

September 18th—CONSTITUTION, Capt. Parker, Connecting with the RISING STAR, Capt. Conner

September 30th—GOLDEN AGE, Capt. J. M. Cavarly, Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attend-ance free.

These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, and vice versa.

For Merchandise and Freight, apply to the Agents at the above offices. Holders of orders will be required to identify themselves to the Agents in England.

For the Steamship CHINA, Capt. E. W. Smith, will be dispatched October 14th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting with Yokohama with the steamer COSTA RICA for SHANGHAI.

For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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Our Patent Agency.

THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of Letters Patent from the United States and foreign Governments cannot be overestimated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

[Written for the Mining and Scientific Press.] Letter from Placer County.

DUTCH FLAT, Sept. 16th, 1867. SCIENTIFIC MINING.

EDITORS MINING AND SCIENTIFIC PRESS:

Hydraulic mining is more or less remunerative in proportion to the amount of dirt washed. Where the pay is only fairly remunerative, the appliances must be good, and greater skill is required. An illustration of practical scientific mining has recently been furnished in the Gold Run district.

Mr. W. L. Hawkins commenced fitting up his claim late last summer. He did not, however, complete his appointments—which were most thorough—until in February. These consist of 700 feet of alternate flume and ground sluice, a fall at pressure of 208 feet. He opened out, or commenced washing through a shaft at the depth of 27 feet, using three pipes and 350 inches of water. He turned on water on the 14th of February. He has extended the main flume over ground washed away between 700 and 800 feet, with a branch flume on either side. He has a front depth of bank of 180 feet. A cave now carries down an immense amount of dirt, and requires several days to wash it away. He is now running night and day, and getting a good reward for his unrelaxing energy.

HYDRAULIC POWER.

The King Brothers, of this place, have a mill for crushing cement, driven by a centrifugal wheel. The buckets are of a novel pattern, and the wheel is, we are informed, with one exception, the only one in use. They are pieces of boiler iron in form about five inches in width by eight in length, bent so as to form a concave, resembling in shape the mold-board of a plow. The rim is in two sections, placed sufficiently far apart to receive the buckets to which they are attached. The angle at which the water strikes the buckets, causes it to deflect or pass a little to one side of the plane of motion of the wheel, thus keeping it clear of water. But its chief utility consists in always presenting a clean surface, against which the stream of water strikes, thus obviating any loss of power from the reaction of water, which, in other forms of buckets, does not entirely escape.

In this mill, from 30 to 35 inches of water, under a pressure of 144 feet, striking against a wheel eight feet in diameter, drives eight 500 pound stamps.

By experiment this is shown to require about 20 inches less water than other forms of buckets which have been tried.

METALLURGIC.

Dr. A. T. Dozier, of the "Dozier Metallurgical Company," leaves here to-day for Benton, Mono county, to superintend the construction of works for the reduction of ores. They will be located at Benton near the Camanche, owned by the Harkness Bros., one of an exceedingly rich group of veins, the ores of which have hitherto baffled all attempts to reduce them at the mine. M. F.

MINING PATENTS—ADVERSE CLAIMANTS.

Commissioner Wilson has ruled that in case of adverse claims, it will be necessary for the contestant to file with the Register and Receiver a statement showing the correct description of the mine, the title to which is in dispute, also the extent of the premises in conflict; and should the statement be sustained by satisfactory proof, these officers are authorized to stay further proceedings until final adjustment shall have been had in the Courts of law. Adverse claimants are not required by law or instructions from the General Land Office to make applications for patents, nor to incur the expense of surveying and advertising in order to warrant a stay of proceedings. These applications, supported by proper testimony, showing interest in the conflicting claims, are deemed sufficient authority to the Registers and Receivers for a stay of further proceedings, yet the adverse showing must be filed before the expiration of the ninety days' notice. When thus filed, the Surveyor General will refrain from ordering a survey of the claim in controversy until the contest is finally adjudicated by the judicial tribunals. In case the adjudication is favorable to the original claimant, then the survey is to be made on application by him to the Surveyor General; but if the adverse claimant is sustained by the Court and desires a patent, in that event he must file in the local Land Office regular application for a survey and patent to the extent of his claim; or, if he so desire, he need take no steps in that direction, should there exist no adverse interests to the premises.



RANSOME'S ARTIFICIAL STONE.—The following is the mode of manufacture, as we find it in the London Mining Journal:

A quantity of sharp, clean sand, fine or coarse, according to the description of work needed, is mixed in a pug-mill with a solution of silicate of soda, until of about the consistency of half-made mortar. This material is forced into molds, or made into balls, into roofing tiles, ornamental boxes, balustrades, or any other useful or ornamental articles such as are to be seen in cut stone. When in this state it is soft, and will readily yield to a slight pressure. When the molding is taken from the mold it is at once saturated with a solution of chloride of calcium. The two solutions thus coming into contact, chemical action sets in. The hydrochloric acid leaves the calcium and seizes on the soda, forming a solution of common salt, while the silicic acid, leaving the soda, seizes upon the calcium, and forms silicate of lime—the most enduring stone with which we are acquainted. As the block is porous, the salt is readily washed out, and leaves a quantity of sand cemented together by silicate of lime. The only matter of doubt concerning the material seemed to be its durability; and as to that point, though a longer experience than fifteen or twenty years cannot as yet be appealed to, science tells us that the material is what may be called indestructible. As to the strength of the material, some experiments were tried, and a block of about five or six inches cube was broken by a pressure of forty-five tons in the hydraulic press, while a block of Portland stone, of the same size, was crushed by a weight of four tons. A small block surface, two and one-quarter square inches, gave way under a tension of eight hundred and seventy pounds—these blocks not having been made longer than a week previously.

GAS AND WATER.—An English civil engineer, named Ormsby, gives an opinion that where water pipes and gas pipes are laid near each other it is highly injurious to the quality of the water. He gives an instance in proof of his assertion, where, in applying a light to some water pipes that had laid a long time in juxtaposition with gas pipes, ignition was caused, the same as if they had contained gas instead of water.

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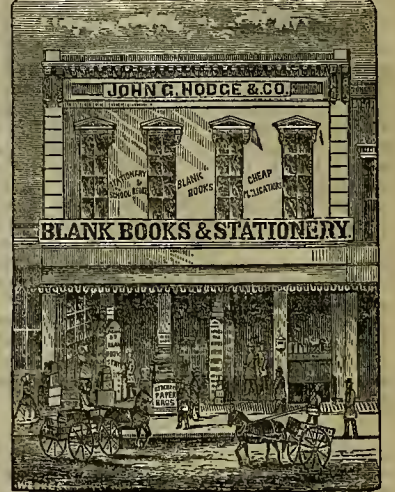
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SAN FRANCISCO, SATURDAY, SEPTEMBER 28, 1867.

VOLUME XV.  
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### Hunt's Double Action Pump.

We give, annexed, a view of Hunt's new double action pump, designed for use when it is desired to raise large quantities of water. These pumps are mounted as shown in the engraving, and also on frames fitted with gearing to be run by horse power. The valves are a new device, of superior design, and pronounced by those who have used the pump, equal in efficiency, simplicity and durability, to any in use. They can be removed and replaced in five min-

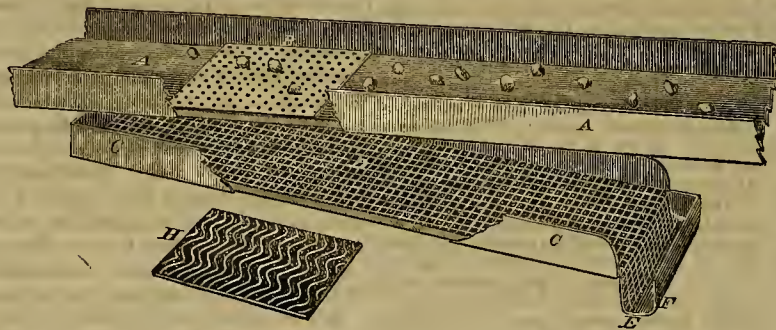


utes, by simply taking off the cap that is held in place by two bolts, as shown in front of the chest in the engraving. It is claimed for these pumps that they are capable of doing great service—that they are cheap, durable, strong and but little liable to get out of order. They are manufactured by E. O. Hunt, at his well known shop on Jessie street in this city.

CALIFORNIA MACHINERY GOING EAST.—The Panama steamer of Monday, will take out a complete set of quartz machinery, intended for a gold mining company in South Carolina! This machinery was made at the Union Foundry in this city.

### Dr. Beers' Patent Wire Gauze Amalgamator.

We give herewith an illustration of Dr. Beor's recently invented wire gauge amalgamator, for which a patent has just been issued. It is well known to all persons engaged in quartz or placer mining that great loss constantly occurs, not only from the escape of fine gold, but from the waste of small particles of amalgam and impure mercury, all of which are charged, to a greater or less degree, with gold. The object of the present invention is to secure the miner against such loss, by furnishing a cheap and more perfect amalgamator and one that can be easily applied to all gold mining, requiring but little attention and no motive power. We understand that the practical working of the invention goes far



DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

to prove that the inventor has done much in improving the ordinary processes of amalgamation.

The nature of this improvement consists not only in furnishing a lodgment for particles of free gold, that would naturally be retained by its own specific gravity, but at the same time bringing and retaining the minutest particles in close contact with an amalgamated surface, charged with sodium amalgam or its equivalent. To establish these conditions and accomplish these results, two, somewhat different, devices are employed, viz.: For placer or hydraulic mining, a copper wire gauze mesh, of from one-eighth to one-fourth inch, is used, amalgamated and laid upon canvas on the bottom of sluices, riffle boxes, etc. If used in hydraulic mining it should be protected from boulders by placing a short length, thus prepared, beneath a grizzly, in the bottom of the main sluice, thus forming a riffle box, and which, if placed at a proper angle, will catch and retain all the gold that has been set at liberty above it, and enable the miner at the close of the day, in fifteen minutes, to clean up and collect the result of his labor.

For quartz mining another device is employed. In the present almost universal use of amalgamated copper plates, it is found that much of the gold, as it leaves the batteries, glides over the plates, not being retained long enough to become

amalgamated, especially when the surfaces are rendered too fluid by the use of mercury in the batteries. In such places the plates with iron gauze or corrugated copper plates, as shown at H, are intended to retain the gold until amalgamation takes place; and if, following this, there is employed a short sluice, lined with the amalgamated copper wire gauze, the lower end being allowed to dip into a small reservoir, where any drippings may be caught, very little if any mercury will be lost, which item alone, in most mining operations, would more than pay for the improvement every month. Cyanide of potassium or sodium amalgam is especially beneficial, in connection with this amalgamator. Referring to the illustration; A represents a section of the common sluice; B, screen or grating to admit only the gold and fine sand; C,

THE NEW ASYLUM FOR THE DEAF, DUMB AND BLIND.—The corner stone of this institution was laid on the 26th inst. The site is in Alameda county, six miles from Oakland, at the foot of the Coast Range of hills; and commands an excellent view of our noble harbor, and of the adjacent country. The property includes one hundred and thirty acres. The main building will have a frontage of 192 feet, with a height from the ground line to the top of the spire of 145 feet. It will be in the Gothic style, and constructed of sand-stone from the neighborhood, except the front facing. It is so arranged as to accommodate separately, not only deaf and dumb, from the blind, but the two sexes of both classes from each other. The lighting will be done by the Ensley patent gas, and the heating by hot water pipes. Especial attention has been paid to ventilation. As a whole, the design for the building has been especially praised, as promising elegance and solidity.

The exercises commenced at noon. Ira P. Rankin, President of the Board of Commissioners, who will superintend the work, stated the object of the meeting, and made a few general remarks. Rev. Dr. Stone offered prayer, which was *silently echoed*, so to speak, by Prof. Wilkinson, the Principal of the school, who, in the eloquent sign language, which alone is intelligible to those unfortunates, interpreted it as spoken, to the deaf and dumb who were present.

Prof. Wilkinson followed with an address. He gave a complete history of the institution from its inception to the present moment; and also a general summing up with dates, of the various steps of progress in the instruction of deaf mutes, and of the blind.

The peculiarly isolated position of the latter, and the scarcely less unfortunate condition of the former, were eloquently touched upon; and the address was, in scholarly style and aptness of illustration, a production which will be read with an interest equal to that with which it was listened to by an appreciative audience.

A poem, written for the occasion by Frank Bret Harte, was then read. Rev. J. A. Benton next produced a document in which were given the names of those concerned in the management of the institution; of the State, County and City officers present; of the President of the United States, the Governor of California, and the Mayor of Oakland. This document, together with divers others, and copies of the San Francisco and Oakland newspapers, pieces of coin etc., etc., was then and there sealed up in a glass jar, which was placed within a cavity cut in one of the outer stones, at the north-west angle of the building. The corner stone was then lowered upon it. Gov. Low, having gone through the appropriate masonic ceremonies, addressed a few remarks to the audience. He was followed by several others; and the regular exercises being concluded, the day closed with a general partaking of refreshments, under the supervision of Prof. Wilkinson.

rifle boxes; D, lining of copper wire gauze or canvas; E F, reservoir to catch any drippings of mercury, the end of which is shown open at E in the cut. H, section of corrugated copper plate for quartz mills.

OPENING OF THE COLORADO RIVER.—Especially attention is called to the advertisement of the Lower California Exploring and Prospecting Company, which appears in our advertising columns to-day. The subject of opening steam communication with Arizona and the Salt Lake settlements, by way of the Colorado river, is constantly attracting more and more the attention of the mercantile community. It is a subject which has been frequently discussed in the columns of the Press, and we are pleased to see the earnest effort which is now being made to open up this important highway to the inland commerce of the central-western portion of this continent.

The company already alluded to will forthwith proceed to explore the Colorado river, with a good steamer and also to prospect the territory of Arizona with a force of 250 men. We understand that they have procured the services of parties who are well acquainted with the country. Each shareholder is entitled to a lot in the new town of San Diego gratis, and all families of stockholders are transported thither in the vessels of the company, which sail Nov. 1st, free of charge. Further information can be obtained at the company's office, No. 20 Montgomery street.



## Communications.

In this Department we invite the free discussion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.]

## Formation, Distribution and Age of Igneous Rocks.

(Continued from Page 162.)

We will now, as gold is probably the earliest erupted of the nobler metals, consider some facts that have bearing upon the age, distribution and position of the more auriferous gravel deposits. J. A. Jennings, in the *MINING AND SCIENTIFIC PRESS* of May 19th, 1866, is impressed with the belief that "the once fluid mass of Table Mountain, Tnolumne county, which is now an immense wall of hard black lava two or three hundred feet higher than the country upon either side, was walled in by the banks of a river, and is the product of a volcano, now extinct, situated a few miles above Columbia. The lava followed the course of an ancient river some twenty or thirty miles, in a tortuous southerly direction, whose banks must have been a hundred, and in some places several hundred feet higher than the stream. Here and there may be found the junction of an ancient gulch, into which the lava flushed back; yet the old hills are gone that once covered this section of Tnolumne county—at least three hundred feet above the present level—and even the bed of the river, which has been worked by means of tunnels with the usual success of river mining, overlooks the surrounding country. The old hills are gone, and the method of their disappearance conveys some idea of the length of geological periods. Each winter's rain brings down a little sand, dissolves a little of the soluble particles of the rock and soil, and here we see the accumulated result. Rocks, soil and sand have all gone down the water course to the sea."

The fact that those ancient auriferous deposits are, some of them, miles in breadth and many miles in length and hundreds of feet in thickness, and composed entirely of quartz, gravel and boulders, is presumptive evidence that the material of which they are composed must be of volcanic origin. Some of them are situated near the summit of the Sierra Nevada, on their western flank; and I have been credibly informed by miners that in some localities large areas are covered with disintegrated quartz, which show no signs of having been subjected to the action of water other than that to which the summits of mountains are usually exposed. These deposits are, in many localities, thousands of feet above the body of the present water courses.

"Some idea of the immense changes which the face of the country has undergone since those ancient rivers found their way along what is now the flank of the Sierra, may be inferred from the fact that these beds have been covered by a detritus, a large portion of which is volcanic, to a depth of nearly or quite 1,000 feet. Since that deposit was made, the present system of rivers has had its origin, passing at a quarter or less angle across this ancient deposit, and in some localities, as at Forest Hill, in Placer county, they have cut their way down through this 1,000 feet of gravel and continued on from 2,000 to 3,000 feet in the hard slate rock below."—*Mining and Scientific Press*, May 12th, 1866.

"In some instances the beds of these underground streams appear to have been changed more than once. Some volcanic eruption has poured down its molten covering over the golden sands, gravel beds, and whatever else within the channel. The river, then, for a time, flows over the lava or other volcanic debris, until another alluvial deposit is made. Another layer of lava from a second eruption follows; and thus alternately until the river is turned from its banks to seek another channel, sometimes parallel, at others with its direction changed entirely."—*Prospectus in Mining and Scientific Press*.

I wish particularly to call the attention of the reader to the fact that the more ancient gravel deposits are, some of them, covered and protected from denuding agencies by an indestructible non-metallic rock, and in some instances that those ancient deposits

thousands of feet above the beds of the present veins are interstratified with lava. It is the concurrent testimony of geologists that unchanged igneous rock is first found interstratified with the formations of the carboniferous era.

A few miles, in a northerly direction, from Oroville, situated at the western base of the Sierra Nevada, are two table mountains, from three to six hundred feet above the bed of the present water courses. An extensive auriferous gravel deposit, known to be seven or eight miles in length, passes directly under these table mountains, in a northerly and southerly direction. The gravel from a few feet on the westerly flank to as much as six hundred in thickness under Sugar Loaf Mountain, which seems to be composed of quartz gravel, and is situated to the east of the table mountains, the deposit being thinnest upon the western flank. Under the westerly end of the northerly table mountain there is a bed of coal six feet in thickness. The quartz gravel both under and overlies this coal bed, which shows that the coal formation was deposited upon the flank of this ancient mountain of quartz gravel, and was afterwards covered by the detritus from it, brought down by the action of water. Underlying this vast deposit of quartz gravel is a stratum of the famous blue gravel or cement. As far as my observation goes, where the blue cement exists, it invariably underlies all other auriferous deposits—a fact which sufficiently indicates the character of the earliest erupted gold-bearing rock—viz: magnesian rocks.

When the hard black lava which caps this table land was erupted, the surrounding country in its immediate vicinity must have been nearly or quite level with the present summits of the mountains. The table mountains, which are now divided by Morris ravine, appear to have been originally connected, and to have had a much greater breadth than now. But the soil and rocks which originally composed the surrounding surface has been carried away by denuding agencies slowly undermining the lava, which toppled outwards, until it now presents a perpendicular face from twenty to perhaps one hundred feet in height and thickness. Further north, along this volcanic axis, is a large area covered with lava, a few miles in breadth, and extending northerly some seventy miles to the Sacramento river. Underlying this deposit of lava is a bed of auriferous quartz gravel, which, in some places, is known to be of great thickness, and it probably exists in varying quantities all along the line of the lava deposit. South of Oroville, in Butte county, at Bangor, there is another gravel deposit, which appears to be the bed of an ancient river, running in a northwesterly direction, and underlying the beds of the present water courses, in some places at least 100 feet.

Still further south along this volcanic axis there has recently been discovered another remarkable quartz deposit. I am indebted to Mr. P. J. Hopper, of the *Folsom Telegraph*, for the following description of it: "This newly-discovered deposit rests on the granite, and it contains no kind of stone except quartz, in pieces varying in size from the smallest particle to the size of a man's head, and is said to contain fine gold. The miners are working upon the granite, and find it sloping downward underneath the hills, and the cement upon it increasing, both in thickness and richness, until, in some claims, it is twelve feet thick. The gold taken out is of a rusty color, coarse and irregular in shape, like gold found in quartz rock. It is not smooth or water-worn, and the miners insist that it is an original deposit. The deposit is much lower than the bed of the American river. This quartz gravel deposit lies upon the hard gray granite, and underneath a marine formation containing shells, which, in some places, is twenty feet thick. Overlying the marine deposit is a rock the miners call lava, which has hitherto been considered the bed rock, and all mining operations have hitherto been confined to strata which rest upon the 'lava' and marine formation."

Granite was intruded along the anticlinal lines formed by the upheavals of the silurian period immediately preceding the eruptive era of metalliferous quartz. Here in this newly-discovered mine we have decomposed quartz, which carries no indication of attrition, resting upon a cone of granite, forming an ancient anticlinal axis, which was evidently above the level of the sea, as there is no deposit of any kind between the stratum of disintegrated quartz and granite. This auriferous deposit was never carried to its present position by water, and its presence upon the summit of this ancient anticlinal axis can only be accounted for on the supposition that the quartz was erupted from a long extinct volcano.

(To be continued.)

[Written for the Mining and Scientific Press.]

## A Visit to the Royal Saxon Mining Academy at Freiberg, Saxony.

By W. P. BLAKE, Commissioner from the State of California.

EDITORS PRESS:—I had nearly completed a third letter to you from the Paris Exposition, giving you an account of the iron and steel, when I learned from some of my young mining friends that the Freiberg Academy was about to close for the summer vacation. I therefore left the Exposition for a few days, and took the railway train, which carried me through the north of France, by Compeigne and Liege to the Rhine at Cologne; thence through Belgium, Northern Germany and Prussia, by Dusseldorf, Hanover, Magdeburg and Leipzig to Dresden, in thirty hours from Paris. The country everywhere presented a most charming appearance, being nearly all under high cultivation, and checkered with fields of grain, potatoes and clover. Harvesting had just commenced, and women were at work in the fields with the men, gathering and binding the wheat. Comfortable-looking farm-houses and whole villages, with quaint high-peaked roofs covered with red tiles, were passed in rapid succession, while an iron furnace here and there, and cities at intervals, with forests of tall smoking chimneys and long lines of furnace fires, showed that mining and manufacturing were hand in hand with agriculture in the enrichment of the country.

Freiberg is but two hours distant by rail from Dresden. The road ascends the valley of the Mulde river by steep grades, and on nearing Freiberg circles around a deep basin-like bend of the valley in which the great smelting establishments are placed.

The ores are brought here from the mines for reduction, and silver, gold, lead, copper, zinc, cobalt, arsenic and sulphuric acid are produced. A hundred furnaces and chimneys are belching out sulphurous smoke and gases, and clouds of white zinc and arsenic fill the air. It seemed like looking down into a great solfatara, or the smoking crater of a smouldering volcano. There certainly was no resemblance in those groups of furnaces to any of our amalgamation works, and I have since found that the Freiberg ores are beaten by fire alone, amalgamation in barrels having been abandoned long ago.

In a few moments more I was in Freiberg, and driving to the Hotel de Saxe, received a hearty welcome from the California and other students from the United States. There are at present about forty students from the United States, or about half of the whole number of students in the Academy. Six or seven of these students are from California, and they are general favorites. Most of the others are from New York and Massachusetts, and there are some from Virginia and South Carolina. There are students also from South America, Mexico, Java, and Russia.

The lectures for the season had just closed, and great preparations were making by the students to celebrate the one hundredth anniversary of the foundation of the Academy. The centennial in fact came last year, but the presence of the Prussian soldiers rendered any great display by processions or otherwise, inconvenient, and the ceremonies were postponed until this year. The programme devoted three days to the festivities; to concerts, processions, speeches, a dinner, a ball, and a final convivial meeting of all the students, the old graduates, the professors, and the guests. This took place last evening, and the celebration is now ended.

From the time of the first proposition, the greatest enthusiasm has prevailed among the students and among the people. Nearly every house in the place was decorated with garlands and wreaths of oak leaves, and were illuminated in the evening. The only exception of note was the house of the chief government Director of the Mines, who has gained the ill-will of almost every one by refusing to allow the miners to take part in the procession. This procession was a grand display. The students appeared in their full mining costume, with their marshals, national flags and bands of music, and were

joined by the different civic societies and trades organizations of the place. The route of the procession was crowded with spectators, and was strewn with flowers and bouquets thrown from the windows above by Saxon beauties, and a large share of these favors fell to the American students. The procession paused in front of the Academy, under the tablet to the memory of Leopold von Buch, at Werner's monument, at the tablet of Theodor Koerner, and again at the house formerly occupied by Alexander von Humboldt, and at all of these places short addresses were made, honoring the memory of these illustrious savans, graduates of the Academy, or identified with its history.

A grand dinner in the Town Hall succeeded the procession. In this the professors of the Academy and the guests took a part. Amongst them were the venerable Breithaupt, the distinguished mineralogist; Botta, the geologist; Weisbach, the author of the work upon mechanics; Weisbach, Jr., now the professor of mineralogy; Scheerer, the chemist; Gaetschman, the lecturer on the mechanical preparation of ores; and Ziervogel, the author of the celebrated silver extraction process, which bears his name.

We were interrupted in the midst of the dinner by the arrival, in the street outside, of a procession of 1,000 miners from the Himmelfahrt mine. They had assembled in spite of a prohibition, and were determined to have a part in the celebration. It was interesting to look down from the windows of the hall upon the upturned faces of these men, all begrimed with the smoke of gunpowder and the dust of the ore. One of their number mounted a barrel and made a speech, thanking the students for honoring the day, and expressing the regret of the miners that they had not been allowed to take part in the grand procession of the morning. Free beer and cigars were liberally dealt out, and under their influence the miners' enthusiasm culminated in an attempt to smash the windows of the odious Director-General. The King's soldiers were called out, and the honest miners were driven home at the point of the bayonet.

At the hall in the evening, the guests were much interested in the model of a mine, from which two little boys, dressed in the quaint mining costume, kept bringing out supplies of bon-hons, put up in little cardboard boxes, shaped like crystals.

The celebration ended the next evening, at a grand *commers* of all the students. After singing several humorous songs, and drinking moderately of beer, they join hands across the table and swear to be brave, loyal and honorable men, and in token impale their caps upon the swords of their leaders.

During the progress of the celebration, I visited the collections, the smelting establishments, and several points of interest, among them the tomb of the great Werner. His last resting-place is marked by a modest slab in the yard of the great church nearly opposite the "golden door" of wonderful sculpturing. It is inscribed simply with his name—ABRAHAM GOTTLIEB WERNER—and the date of his birth and death, with two flaming torches sculptured, one erect and the other turned down. Masses of quartz crystals and of glittering ores are piled around, and are now nearly covered by ivy.

The students have now commenced their summer course of practical instruction at the furnaces. They rise at six in the morning and walk two miles out of town to the Mulde works. There an assistant professor describes all the furnaces and processes in detail, and permits the students to take drawings and notes in full. This is a very important part of the instruction at Freiberg, and it appears to be appreciated by the students. I have seen many note-books intelligently filled, and feel satisfied that the young men who are here from the United States are improving their precious opportunities. At any rate, the Americans are great favorites with the professors, who consider them, in general, as the best students.

One of the greatest disadvantages to a student who comes here from the United States, anxious to progress rapidly in mining studies, is the ignorance of the language. A residence of one year is necessary before he can thoroughly comprehend the instruction which is given. Again, those young men who have not had a previous theoretical or practical training in American mines, find themselves at the close of their course quite ignorant of English and American mining terms. It has actually been gravely suggested that, as the majority of the students here are American and English, the lectures should be given in the same language.

In my next I hope to give you some facts of interest about the mines and products of this place.



## Mechanical.

## Beam and Oscillating Engines.

THEIR COMPARATIVE ADAPTABILITY FOR MARINE SIDE-WHEEL STEAMSHIPS.

A friend has placed in our hands a small pamphlet, evidently issued by the Pacific Mail Steamship Company, from their office in New York, and intended for circulation among the agents, commanders and engineers of that company, wherever they may be. The pamphlet contains a brief, succinct statement of facts and considerations in reference to the relative advantages of beam and oscillating engines for marine steamships, prepared by Horatio Allen, Esq., President of the Novelty Iron Works, of New York. Mr. Allen is well known to the mechanical world as one of the foremost engineers in the country, thoroughly skilled, and of great experience in his profession, both practically and theoretically. As a builder of marine engines, he has no superior in this or any other country. The object of the pamphlet is to bring this statement of facts to the knowledge of the skilled employes of the company, so that it may be attentively studied and freely criticised by them, in order that the company may have the full benefit of their practical experience in reaching a correct conclusion on so important a subject, as a radical change in the construction of marine engines.

We owe no apology to our readers for placing before them a brief abstract of the evidently carefully considered paper before us. Mr. Allen tells us, in his preliminary remarks, that his object is simply to call attention to facts and considerations, such as, in themselves, constitute the grounds of preference, and not to leave the settlement of such important questions to the influence of general declarations of superiority. In order to make the comparison as practical as possible, he confines himself to engines of a particular size—85-inch cylinder with eight feet stroke—which have been built by the Novelty Company and actually run.

He begins with the statement that the power developed in the two engines, of same dimensions, revolutions, pressure, and quantity of steam and degree of expansion, will be the same, if the friction is equal; and then proceeds to give, in a clear and concise manner, the essential particulars in which the beam engine differs from the oscillating. These statements we reproduce in a somewhat condensed form, as follows:

1st. The room occupied by the oscillating engine is 8,500 cubic feet—by the beam engine, 14,750; being as 1 to 1.73 in favor of the former.

2d. Weight of the oscillator, 138 tons—of the beam engine, 152; an advantage of the former as 1 to 1.11.

3d. The number of parts through which the power is transmitted, from piston to crank, in the oscillator is 3—piston, piston-rod and pair of trunnions; in the beam engine the number is 9. Difference, 1 to 2.25.

4th. Number of parts to be constructed in true line and relation to each other are, in the oscillator 4—beam engine 6.

It should here be borne in mind that in all combinations of machinery, by which power is transmitted, the greater the number of intervening parts, the greater the skill and care required to have the parts all in their relative and proper adjustment, and the greater the chances for unsatisfactory performance.

5th. The number of bearings and their brasses to be kept properly adjusted and lubricated in oscillator is 5—in beam engine 13. Difference, 1 to 2.6.

6th. Friction—no difference; as has been proven by actual measurement.

7th. Power delivered on the crank pin, equal—a necessary consequence of equal power on the pistons and equal friction.

8th. The structure through which the power is transmitted from the cylinder to the crank.

In beam engines the pillow block or top of a gallow's frame of wood, is the fulcrum through which, by means of the beam, the

power is transmitted to the crank. On this pillow block double the power of the engine acts; at one time to force it down, at another to force it up. The down strain is met by the legs of the frame, supported by the keelson, and the up strain by the holding down bolts, which pass through the keelson, and are held by nuts and washers. This combination of the gallow's frame is found very difficult of construction, and often after great pains has been taken to properly secure it, a short time only elapses before the holding down bolts require screwing up—hence great difficulty arises, requiring constant care and attention. The strain of the engine is also thrown, to a great extent, on the vessel's bottom, to its serious detriment, to say nothing of the liability of the wood to decay, thereby entailing great expense and delay.

In striking contrast with these particulars, are found the conditions of the oscillating engine, particularly with regard to the manner in which the strains are met. The pillow blocks of the wheel shaft are directly over the pillow blocks of the trunnions of the engine, and the two are connected with four large wrought iron columns, capable of sustaining the entire force of the engine—either in separating or crushing; while all the power of the revolution is developed without any transmission of up and down strains on the bottom of the vessel.

11th. The relative advantage of being used as a single engine is much in favor of the oscillator, from the fact that all the working parts of the beam engine come to a state of rest while it is passing its center, over which it is carried by the momentum of its wheels; while in the oscillator the weight coming to a state of rest, is much smaller, and the oscillation of the cylinder, being at that moment at their highest motion, greatly aid the wheels in enabling the engine to pass its centre.

In the beam engine, the weight coming to a stand still, is 20 tons—in the oscillating engine the same weight is 6½ tons. The weight in motion to aid in passing the center in the oscillator is 30 tons more than in the beam engine.

12th. As to the valve gear and working by hand, it is claimed that the advantage, though small, is in favor of the oscillator. The oscillator requires more parts by which to operate the valves; but it involves no more mechanical combinations, by which their working is effective.

13th. The means of working the air pump are equal.

14th. As to accessibility of journals on the cylinder, any journal carried by the oscillating cylinder is as accessible as in the cylinder of a beam engine.

MANIPULATION OF METALS.—Very few persons except workers in metals, are aware to what extent the shaping of cold metals is practiced in the mechanical arts. Metals usually denominated solids, have been found to have a flow similar to that of the same metals fused; for cold rolling, stamping, pressing, tube drawing, are all examples of the flow of metals—the movement of particles one upon another without destroying their cohesion. Every housewife now knows that she obtains metal cups, basins, pans, and kettles, without seam or solder, in forms and sizes that formerly were considered impossible except by using separate plates. Pencil tubes are now all drawn out of a flat piece of silver or gold, and a pile of lead plates has been forced into a series of concentric tubes, one within another, while a plate of tin and lead have been drawn into tubes so as to form a tin pipe perfectly encased in lead. It is but a few years since such processes would have been deemed impossible, and they show the rapid progress made in the mechanical arts.

NEW PROCESS FOR MAKING STEEL AND WROUGHT IRON.—Mr. Siemens of England has patented a process for making steel and iron directly from the ore, which differs from that introduced by Mr. Rogers in New Jersey, several years ago, only in the substitution of rich hydrocarbonous for pulverized charcoal. The iron ore, in a finely divided state, is heated in a closed vessel, and brought in contact with hydrocarbon currents, which percolate through the mass of ore and unite with the oxygen of the ore, thus reducing the metal.

TO REMOVE RUST FROM IRON.—Pound glass to a fine powder, having nailed some strong woolen cloth upon a board, lay upon it a strong coat of gum water, and sift thereon some of the powdered glass; let it dry; repeat this operation three times, and when the last covering of powdered glass is dry, you may easily rub off the rust from the iron with the cloth thus prepared.

## Scientific Miscellany.

## Light and Heat of the Sun.

Calculations based on the light and heat radiated from the sun, show that the temperature which exists at its surface must be so great that, until recently, we have been scarcely able to form any adequate idea of its intensity. Modern chemistry, however, has finally come to our relief, and developed some curious facts with regard to the chemical relations of intensely heated matter, which throw much light on what has heretofore been considered almost inexplicable, with regard to the supposed heat and luminosity of the sun's surface. Chemical science has shown that a comparatively moderate temperature is favorable to chemical combination; while a high temperature evers the same affinities and decomposes. Thus certain metals, at a low temperature, unite with oxygen and other elements, while these same compounds, when exposed to a higher degree of heat, separate into their original elements or form new compounds, and leave the metals in a pure state. A similar action and reaction takes place with water, whose elements—oxygen and hydrogen—when mingled in the presence of carbon and subjected to a moderate degree of heat, as in the burning of a kerosene lamp, unite and form water. But let that water be then subjected to a still higher temperature, and it is at once resolved again to its original elements. Recent researches have shown that this breaking up of compounds or distribution of elements by intense heat, is a principle of universal application; so that we may suppose that all the elements which make up a world would, when so intensely heated as to be in a gaseous condition, exist in an uncombined state. It is in just such a condition that we suppose the sun to be at the present time.

Reasoning from these facts and suppositions, Mr. Faye has recently promulgated the following hypothesis with regard to the nature of the sun, and of the hitherto inexplicable luminous process going on upon its surface:

The sun is to be conceived as an immense mass of intensely heated gaseous and dissociated matter, so condensed, however, that, notwithstanding its excessive temperature, it has a specific gravity not much below that of water, probably offering a condition analogous to that which Cagniard de la Tour observed for volatile bodies when submitted to great pressure at temperatures much above their boiling point. The radiation of heat going on from the surface of such an intensely heated mass of uncombined gases, will produce a superficial cooling, which will permit the combination of certain elements and the production of solid or liquid particles, which, suspended in the still dissociated vapors, become intensely luminous and form the solar photosphere. The condensed particles, carried down into the intensely heated mass, again meet with a heat of dissociation, so that the process of combination at the surface is incessantly renewed, while the heat of the sun may be supposed to be maintained by the slow condensation of its mass; a diminution by 1-1000th of its present diameter being sufficient, according to Helmholtz, to maintain the present supply of heat for 21,000 years.

A REMARKABLE VEGETABLE PHENOMENA was recently communicated to the Paris Academy of Sciences by M. Lecoq, the result of some observations on a curious plant called Colocasia. This plant often exhibits a trembling or vibratory motion, without any apparent cause, and as many as 100 to 120 vibrations have been observed in a single minute. They are strong enough to affect the neighboring plants, and they have even caused a similar motion in the flower pots, one of which weighed 25 pounds. If true, this would appear to be a remarkable instance of the direct transmutation of solar heat and light into motion.

CHLOROFORM.—Experiments have proved that to preserve pure chloroform of specific gravity 1.49, it must be totally excluded from the light. To keep it in daylight, it must have its specific gravity reduced by the addition of two drachms of 95 per cent. alcohol to every avoirdupois pound.

THE PURIFICATION OF WATER—AN IMPORTANT SCIENTIFIC DISCOVERY.—The London Builder says that Mr. Thomas Spencer, the discoverer of electrotype, has made another important discovery. He has ascertained that the magnetic oxide of iron which abounds in rocky strata and in sands, etc., attracts oxygen, whether it exists in water or in air, and polarizes it—that this polarized oxygen is the salubrious ozone—that this ozone, so formed, destroys all discoloring and polluting organic solutions in water, and converts them into the sparkling and refreshing carbonic acid of the healthful spring. It is claimed that even sewerage water can be thus almost instantaneously purified. Moreover, Mr. Spencer has discovered that the apparently mechanical process of filtration is itself magetical, and it is now known that all substances are constitutionally more or less subject to magetical influence; thus all extraneous matters suspended in water may be rapidly attracted in filtration, and so separated; and this may be done whether on a great scale or a small, either by the magnetic oxide or black sand of iron, by a mixture of this with ordinary sand, or by various other means; and Mr. Spencer has discovered a solid porous combination of carbon with magnetic oxide, prepared from Cumberland hematite, which is said to have very great filtering power.

Mr. Booth, of Birmingham, England, has also recently promulgated a process for purifying water, for which meritorious claims are also put forth, and which may be very properly introduced in this connection. He places in the water a neutral solution of sulphate of alumina, in the proportion of one ounce to 435 gallons. The sulphuric acid of the sulphate decomposes the bicarbonate of lime in the water and forms an insoluble sulphate of lime instead. The hydrate of alumina being set free, forms with the organic matter in the water another insoluble compound. Both these fall to the bottom, and the remaining freed element, carbonic acid, lends an agreeable quality to the water.

CADMIUM IN THE ASSAY OFFICE.—According to M. Classen, silver is wholly precipitated by cadmium; when dealing with a nitric solution of silver, evaporate to dryness in the presence of sulphuric acid, dissolve the sulphate of silver in boiling water, plunge into it a plate of cadmium, and the reduction of silver takes place at once. The silver is deposited in a compact mass, easily washed with water; as it may contain a little cadmium, boil it in the acid liquid until no hydrogen escapes, wash it until the water contains no sulphuric acid, then dry and calcine. The silver at first a black grey, takes the metallic luster. It may then be weighed, the results are very exact.

NEW USE FOR ALUMINIUM BRONZE.—Mr. Hulot, director of the workshops where postage stamps are manufactured, at the Imperial Mint of France, having found that steel was rapidly deteriorated by gummed paper, substituted aluminium bronze with entire success. The 300 steel perforators used in piercing postage stamps became blunted after a few weeks of use, yet the new tool, containing perforators made of aluminium bronze at 30 per cent, has been striking 126,000 blows per day for several months past, and yet shows no sign of deterioration.

CLEANING GLASS.—A method of cleaning glass, which may answer when other methods fail, is to dilute the ordinary hydrofluoric acid, sold in gutta-percha bottles, with four or five parts of water; with this, wet a cotton rubber, and apply the rubber to the glass pretty thoroughly; afterward wash the glass until all traces of the acid are removed. The effect of this operation is to dissolve off a very thin portion of the glass, thus leaving a new and bright surface.

THE curvature of the earth amounts to seven inches per mile. A man six feet high cannot be seen from a distance of ten miles.

PUBLIC SCHOOLS TO BE INTRODUCED INTO RUSSIA.—The Emperor of Russia has taken an enlightened step. A system of instruction is to be organized over the length and breadth of the land. School houses are to be provided and teachers appointed at the expense of the government. The secular education will be taken entirely out of the hands of the priests.

BERRIES IN NEW YORK.—The herry train of New Jersey is an important element of wealth. One day, recently, more than a thousand bushels of whortleberries were forwarded to the New York market.



**NATURAL SOAP**, or soap clay, has been dug from Manpiu's mine, on the Burbois, in Franklin county, Missouri, some sixty miles from St. Louis. This soap, or clay, was found at a depth of seventy-five feet below the surface, which gives evidence of the presence of saponiferous qualities, and is equal in its effects to many of the soaps of the manufacturers.

We find the above in several of our exchanges. What has really been found is probably "fuller's earth," a variety of clay which, from its unctuous touch might easily be mistaken for "soap." The same kind of clay has been found on this coast, and heralded abroad as a "soap mine." "Fuller's earth" presents various shades of colors—yellowish, greenish, bluish, brown, and gray; its luster is dull, and it feels very soapy, when rubbed. The quality most preferred by those who use it, is that which, when put in water readily falls to pieces, with a slight cracking sound. Its composition is usually about as follows: Silica, 53; alumina, 10; peroxide of iron, 9.25; magnesia, 1.25; lime, 0.5; water, 24, with a trace of potash. It was formerly esteemed of much value, particularly by fullers; it is now, however, little esteemed or used, soap having taken its place by reason of its superiority, and recent great reduction in price. Soap, for many centuries after its discovery, was held at so high a price as to almost totally exclude it from common use, and from employment in large manufacturing establishments. Various vegetable and mineral substances, and alkaline and ammoniacal waters were used instead; the chief among these substances was fuller's earth, or "mineral soap," as above described.

Before modern chemistry, by reducing its cost, placed the useful article of soap within the reach of every one, fuller's earth was an article of almost indispensable necessity to a manufacturing community. It was considered of such great importance in England that its exportation was prohibited. It was found in large quantities in the counties of Surry and Buckingham, England, and transported from thence to all parts of the kingdom. When used, it was first dried in the sun or by fire, and then thrown into cold water, where it soon fell into a powder, which was sorted by washing into coarse and fine qualities, the former of which was used for inferior cloths, and the latter for fine goods. The article has no commercial value at this time.

**A STIMULANT TO INVENTORS.**—At the last meeting of the Mechanics' Institute in this city, a motion was made by Mr. J. H. Culver, that the society offer as a premium to inventors, \$500, suitably divided among the best three inventions that shall be perfected or patented in time to be placed on exhibition at the coming Fair of 1868. The above motion is to be acted upon at the next regular meeting of the society; and we trust the members of the Institute, after a careful consideration, will adopt it, as it cannot fail to become one of the most attractive features of the proposed exhibition. Every attempt that is made to bring out and develop the industry and genius of a country or section of country to enrich and elevate the people, not only benefits and ennobles the present generation, but all future generations will greatly profit by the example. If the ancient commonwealths had lent their aid and countenance to artisans and inventors, instead of making it a disgrace to become a worker of metals or a hewer of wood, the civilized world would not to-day be groping upon their hands and knees in the dust and ashes of buried cities, seeking in vain among the crumbling ruins or upon some time-stained utensil for some faint trace of secrets which have forever perished, and which all the skill and cunning of man, at this stage of enlightenment, has failed to discover. Suppose, for instance, that no aid or countenance had been lent to genius on this coast, and that inventors had languished for want of encouragement, and we had depended merely upon the East for our devices and machinery for extracting the precious metals, instead of the ring of the hammer upon the anvil, and the smoke and busv hum of a city as it is to-day, we should have been *Verba Buena* still.

### New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, new and important inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

#### PATENTS RECENTLY ISSUED.

The following patents have recently been issued to inventors on the Pacific coast through the MINING AND SCIENTIFIC PRESS PATENT AGENCY, the claims of which have already appeared in our regular reports. We now subjoin brief descriptions:

66,546.—**IMPROVED METHOD OF REEFING TOPSAILS.**—Fridolf Höök, of San Francisco, Cal.

This invention, which consists of an improved method of reefing topsails from the decks of vessels, appears to be destined to work a revolution in the management of sailing vessels, and is the same, in substance, as the one mentioned some time since by the New York correspondent of the *Bulletin* of this city, and described as the invention of a poor California sailor. Mr. Höök is a Russian by birth, and sprung from a line of European inventors, his father having distinguished himself in Russia as an engineer and a man of great talent. Mr. Klinkofstrom, the Russian Consul of this city, is the agent for Mr. Höök.

67,427.—**MODE OF PRESERVING EGGS.**—P. Gaughran and L. Sweeney, San Francisco, Cal.

The idea upon which this invention is founded, is to exclude the air from the shell of the egg by a compound or preparation which forms a complete coating, and renders the shell impervious to air. By this means they claim that eggs may be kept an indefinite period, and still remain perfectly fresh and sweet.

67,581.—**IMPROVED GANG PLOW.**—Allen T. Covel, San Francisco, Cal.

This improved gang plow readily adapts itself to the inequalities of the ground to be plowed, with devices for raising, lowering and turning to and from the land. As it is said to possess many points of superiority, our farmers would do well to inquire into its merits.

67,935.—**STEAM GENERATOR.**—Charles O. Winegar, Drytown, Cal.

This invention consists of an improved steam generator, to take the place of the ordinary boiler, which consists of a series of longitudinal tubes or pipes, both ends of which are inserted in oblong water chests, placed transversely with the tubes, each series of tubes having independent chests, placed one above the other. The lower tier of tubes is composed of but one-half the number, and one-half the length of chest at the end, where the water is supplied to the generator, and terminates at the top in the same manner, giving an inclination to one half of the tubes alternately. A steam drum is placed upon the top of the uppermost tier, connected to the upper or short chest from which the steam is conducted to the engine. The chests are all pierced for plugs opposite the ends of each tube for the purpose of cleansing, which is accomplished by blowing the steam through them.

67,953.—**CLOTHES-WASHER.**—F. Ernst, San Francisco, Cal.

The nature of this invention consists in providing an apparatus by which clothes may be washed with very little handling or rubbing. The machine is composed of a copper cylinder, having a cover. Standing inside and upon the bottom of this cylinder, is a sieve or screen having legs. The clothes to be washed are placed upon this screen, having been previously well rubbed with soap, or other dirt dissolving substance, and covered with water, which is allowed to boil the usual time, when another movable screen or sieve is placed upon the top of the clothes, which serves to press the clothes down. After boiling, the water is drawn off by a cock at the bottom of the cylinder, below the lower sieve. The cock is large enough to discharge the water quite freely, which produces a water or air vacuum, and the water is forced through the fabric, carrying the dirt with it. Mr. A. P. Molitor, 611 Commercial street, is the agent for this invention.

66,012.—**IMPROVEMENT IN SIDE HILL PLOWS.**—Peter H. Flansburgh, Eden Township, California.

This invention relates to that class of plows, known as side hill plows; and has for its object an improvement in the mech-

anism, by which the plows are alternately engaged and disengaged as the plow goes across the field and back, raising one plow when the other is disengaged, and thus turning the furrows all in one direction. This is accomplished by constructing two plows, one right and the other left hand, both attached to the beam, and so placed that the land-sides may be parallel and close together, when both plows are on the ground in working order. The vertical racks or standards are fastened, one to each side of the beam. A segmental pinion works each of these racks or standards, each being operated by a lever independent of the other, so that both plows may be raised or lowered at the same time, or one raised and the other lowered. A hinge may be employed in place of the racks and pinions, to raise and lower the plows, and the same end be thereby attained.

66,046.—**IMPROVEMENT IN CUT-OFF VALVES.**—Irving M. Scott and Wm. R. Eckert, of San Francisco, Cal.

This invention is designed to provide an improved "Self-adjusting Cut-off," for stationary engines, so constructed as to admit of a side valve for admitting steam to and from the cylinder of a steam engine. This end is accomplished by constructing an engine in the ordinary manner, with a main valve, to admit the steam and discharge it from the cylinder. Upon the back of this valve, are two cut-off plates, having one opening in each. Through these plates, and parallel with the valve-face passes a rod, having cut upon it one right and one left-handed screw, working in corresponding nuts, which are fast to the cut-off plates or movable portions. This rod, if turned in one direction, moves the plates nearer together, and when turned in the opposite direction separates them. This screw receives its motion from the governor. The cut-off valves work on the back of the cut-off plates. This valve has a constant travel or throne. The motion of this valve is opposite or nearly opposite to that of the piston of the engine. The cutting off of the steam takes place by the cut-off valve coming in contact and passing over the outer edge of the cut-off plates. If the cut-off plates are moved close together, steam will be cut off sooner; if separated, it will be cut off later. The friction of the cut-off plate is entirely regulated by the engine.

68,257.—**IMPROVED APPARATUS FOR DISTILLING AND RECTIFYING PETROLEUM.**—Chas. Scott, San Francisco, Cal.

The object of this invention is to provide an improved apparatus for distilling and rectifying crude petroleum; the whole being accomplished at one operation, while the oil is much purer and has less smell than that rectified in the ordinary manner, by great heat and the use of acids. To effect this, a still or retort is provided in this invention, into which the crude oil is introduced; heat is then applied until the temperature is somewhat raised, but not to the boiling point. Steam is then let in through juts from a pipe, situated near the bottom of the still or retort, and the oil is thoroughly permeated by it, and is carried, in the form of a vapor, into a rectifier, where it is again subject to juts of steam from the tube near the bottom. This has the effect to thoroughly comminute the vapor, which rises till it strikes a refrigerating coil of pipe. This condenses and throws down the heavier portion, which passes off through the bottom of the rectifier into a worm, where it is still further condensed, and then runs back through a pipe into the retort or still, to be again subjected to the steam until all the most valuable portions have been extracted. The vapor which is not condensed by striking the first refrigerating oil, rises still farther when the next heaviest portion passes through a pipe into another refrigerating coil, from which the illuminating oil is drawn off. The lightest portion and the gases rise to the highest part, from which they are conducted by a pipe through a coil, and thus any considerable parts are saved.

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You have brought the results of a profound analysis, and made them available, in a practical form.—*J. H. Brayton.*

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—*John Curry.*

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Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, September 23, 1867.

Mining Share Market.

The mining share market has acquired a little more tone since our last reference, and most stocks show an advance over closing sales of last week.

HALE AND NORCROSS—has met with less favor, declining from \$1,025, seller 30, to \$800, seller 30, then selling at \$825, and \$900, seller 60.

SAVAGE—has been largely dealt in during the period under review at improved prices, opening at \$142.50, receding to \$134, rapidly advancing to \$168 in the open session on the 25th, then selling at \$150, and closing yesterday at \$154.

CHOLLAR-POROSS—is in better favor under considerable sales, selling at \$345@350 early in the week, declining to \$327.50, rapidly improving to \$355@370, and closing at \$379.

CROWN POINT—was in considerable request at greatly variable rates receding from \$770 to \$700, rising to \$780, falling to \$690, then selling at \$700@750, and closing at \$765.

receipts from the 1st to the 26th instant have been upwards of \$30,000.

KENTUCK—advanced from \$200 to \$213, receded to \$195, steadily improved to \$225, and closed yesterday at \$245.

IMPERIAL—changed hands at \$147.50@ \$144, then at \$151, and closed at \$147. The report of the Superintendent, of date the 21st, says that the Alta and Holmes mines are at present looking better than for some months past.

GOULD & CURRY—is in slight request at an advance, improving from \$310 to \$350 per foot, and at the close \$350 is bid.

YELLOW JACKET—has been less firm, advancing from \$475 to \$550, falling to \$440, then selling at \$475@450, and closing at \$500.

OVERMAN—has been inactive, selling at \$55@55, and closing at \$58. The bullion returns during the week amount to \$5,000. They extract about thirty tons of ore per day of all grades.

BELCHER—improved from \$92.50 to \$132, then sold at \$140. An assessment of \$15 per share was levied on the 21st inst. JUSTICE and INDEPENDENT receded from \$12 to \$6.50, rallied to \$11, and closed at \$9.

EMPIRE—sold at \$170@175. OPHIR declined from \$82 to \$79, and at the close sold at \$76. SIERRA NEVADA changed hands quite freely at \$6@5.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows: EL REFUGIO PETROLEUM Co.—San Francisco. Sept. 23d. Capital stock, \$1,250,000; 12,500 shares, \$100 each.

BELCHER MILL and MINING Co.—Calaveras county, Cal. Sept. 24th. Capital stock, \$25,000; 5,000 shares, \$5 each.

KONG CHOW BENEFICIAL SOCIETY and ASYLUM.—San Francisco. Sept. 25th. Officers: Wong Free Chi Good Chow, President; Eee Ah Kee, Secretary; and Chau Ah Luck, Teller, who are also Trustees.

An order was made in the County Court on the 25th inst., disincorporating the Empire Mining and Tunneling Co., according to the petition of the company.

THE EXPLORING EXPEDITION, under the conduct of Clarence King, was, at last accounts, at Unionville, Nevada. The expedition was progressing favorably.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location, Amount and Date of Assessment, Date of Meeting, Day of Delinquent Sale, and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DELINQUENT, OF SALE, DAY, DAY. Lists various mining companies like Ancient River, Cherokee Flat, Casala, etc.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table with columns: MISCELLANEOUS STOCKS, Bid, Asked. Lists various bonds and stocks like United States 7-30th Bonds, Legal Tender Notes, etc.

GAS COMPANIES.

Table with columns: San Francisco Gas Co., Sacramento Gas Co., Bid, Asked.

RAILROADS.

Table with columns: Sacramento Valley Railroad, Salt Lake and San Jose Railroad, etc.

BANKING INSTITUTIONS.

Table with columns: California Loan and Savings Society, Bank of Pacific Accumulation Loan Society, etc.

INSURANCE COMPANIES.

Table with columns: Fireman's Fund Insurance Co., Pacific Insurance Co., etc.

MINING STOCKS—WASHOE DISTRICT.

Table with columns: Alpha, Belcher, Bullion, etc., Bid, Asked.

San Francisco Market Rates.

Table with columns: Flour, Extra, Superfine, Corn Meal, etc., Bid, Asked.

Table with columns: Hawaiian Rice, China Rice, Coal Oil, etc., Bid, Asked.

Retail Prices.

Table with columns: Butter, California, fresh, Eggs, etc., Bid, Asked.

San Francisco Metal Market.

PRICES FOR INVOICES. Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table with columns: Iron, Sheet, Pig, etc., Bid, Asked.

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Sept. 28, 1867. We give the following as an approximate price at which copper ores can now be sold in this city.

Table with columns: 12 per cent, 13, 14, etc., Bid, Asked.

These prices, we believe, will be found substantially correct, and can be realized at this date.

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF AT 11 o'clock A. M. of the following dates, for PANAMA connecting with PANAMA Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK.

The following Steamships will be dispatched on dates as given below: September 10th—OLDEN CITY, Capt. W. F. Laidge.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines can be obtained at the office of the M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas.

OLIVER ELDRIDGE, Agent.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Sept. 21st: The I. X. L. mine is looking better at this time than at any previous period of its history. In the lower tunnel they have a vein of pay ore four feet thick, half of which is said to be first class.

The Tarshish lode is not measured yet, for though penetrated nearly at right angles over 85 ft., the west wall is not found. At the extreme point penetrated, they are finding ore of good quality both in pockets and in the quartz. The croppings indicate the presence of a larger body of ore ahead than that found near the east wall. Whether the main tunnel is now near it or not, a few weeks application of the development theory will determine.

Good progress is being made in Merrimac. The tunnel is completed, and they are running along side of the ledge.

The Rippon Co. owning the old Mammoth ground on the Mountain lode, at Silver Mountain, struck their ledge recently and are now breaking quartz. We have nothing definite as to the quality of the rock, and suppose they have not penetrated far enough to ascertain its character as an ore vein.

Two men working the Alpine tunnel are making a fine show this week, though the rock works not the best. They are still too close to the surface to expect good ore, though the real Tarshish sulphurets now and then show themselves so unmistakably that the owners work on with a will, convinced that the goal is near at hand.

## Amador County.

*Ledger*, Sept. 21st: The owners of the Union mine have contracted for sinking the old shaft 60 ft. deeper—making nearly 300 ft. in all. The ore is appearing favorable. The mill is undergoing repairs, and will start up in a few days.

The old Tullock mill has been leased and repaired by the Occidental Co., and is now at work on rock of their own and from the Anaconda mine.

## Calaveras County.

*Chronicle*, Sept. 21st: Messrs. Bowman & Priddle, who purchased the Depew mill and moved it from Spring Gulch, to their mill in Chili Gulch, are now nearly ready to commence operations. Their claim embraces a large extent of ground which has been prospected sufficiently to warrant them in going to the expense they have in opening it. When they commence taking out gravel and crushing, they will furnish employment to 30 men.

Mr. Shaw is "piping" away in his claim with good success, at least so far as tearing down the hill is concerned. He has not cleaned up yet, but when he does there is no doubt but the old Guy claim will give a first-rate account of itself.

Paul & Co., Brackett & Co., Allen & Co., Diacre & Co., and in fact all the boys engaged in mining throughout the entire length of the gulch are doing remarkable well.

## El Dorado County.

*Placerville Democrat*, Sept. 5th: One hundred feet of the U. S. Grant quartz lead No. 2, situated about seven miles east of this place on Brush Cañon, was sold recently for \$750. Earle & Co. have struck good prospects on the first extension south.

## Inyo County.

*Virginia Tresspass*, Sept. 21st: Henry Bush, Jr., writing from the Cerro Gordo mines, says he believes them to be very rich in mineral, and has refused a large sum of money for a fifth interest. Himself and company are building a house 20 by 30 ft., the timbers for which they are compelled to pack on their shoulders a distance of three miles; also, several furnaces, which will be in operation this month. In conclusion, Bush says all the mines on the mountain are rich—the richest he ever saw; plethoric with sulphurets, chloride, and native silver. He has seen at least 1,000 lbs. of bullion in the camp, most of which is worth \$1 per ounce.

*Virginia Enterprise*, Sept. 22d: Late accounts from Cerro Gordo Dist., Inyo county, California, are of a very flattering character. Some of our Virginians are engaged in building furnaces and we shall doubtless see some specimen bricks from their mines ere long.

## Kern County.

*Visalia Delta*, Sept. 18th: The Havilab correspondent writes that out of the eight or ten quartz mills within a mile of that town, with a crushing capacity of 250 tons per day, but three or four are running. Mr. McKidney has a fine 8-stamp mill, with two Wheeler pans for working silver ore, and two of the Betb grinders for gold rock; two

large roasting furnaces, and several sulphuret machines. He intends working in a short time by chlorination. He is raising from the Delphi mine, some of the richest ore we have seen for many months, and have a large body of equally good rock in sight.

Marsh & Kennedy have one of the best 8-stamp mills in the country. It contains some decided improvements, which, we believe, have been patented by him. The greatest improvement is in the cam, there being two cam-cast upon each hub, allowing the lift to come between one and two, and three and four, reversing the motion of the stamps, causing the pulp to distribute more evenly in the mortar, besides the additional advantage of giving more room to work round the cam shaft, should anything get out of order; the other consists of an extra and peculiarly shaped recess being cast in the back of the mortar for the reception of copper plate, thereby saving from one to two hours time in cleaning up, besides being in a much better position for gathering the gold than on the front in the old style.

In the second or bottom level of the Joe Walker mine, there is a vein of ore from 10 to 12 ft. thick, all pay ore, yielding on an average, with a plain battery, \$35 per ton.

In the El Dorado Dist. the ledges are large and well defined, ranging from two to five feet, and are exceedingly rich, so far as have been tested. If we may judge from the small batches of ore worked from 10 or 12 different mines in this new district, we can safely predict that it will be the richest mining locality on the coast.

## Los Angeles County.

*News*, Sept. 17th: Last week, some parties who were prospecting in San Francisco Cañon, about 40 miles north of this city, struck a rich streak of pay dirt about half a mile or so above Seales & Yates' store. The dirt prospected from six cents to \$1 to the pan near the bedrock. On each side of this cañon are extensive placer mines—Casteca and San Feliciano—which are worked every winter as long as there is water to wash the dirt, and the miners make fair wages. The Seales Brothers intend this winter to put in a bedrock flume in the center of the cañon, and from prospects obtained they are confident of success.

The Los Angeles correspondent to the *Atta* of Sept. 23d, says: There have been some most flattering discoveries of silver ore made within the past few days on the San Gabriel river, on the Zapato vein. The owners of the Zapato mine have expended much labor and considerable capital for some years past in their efforts to open their mine. To the present time they have failed to strike a paying lode or vein. From the statements made to me the prospect is encouraging that the true lode has been struck. I have not seen any of the ore, but it is described to me as being very rich and abundant.

## Mono County.

*Sonora Herald*, Sept. 14th: The Empire Co. at Brodie, expect to resume operations soon. Also, the Lady Alice Co. Mooney & Walker, Kernohan & Co. and others are working their claims successfully, the rock averaging from \$15 to \$25 per ton, and is crushed by water mills on Rough Creek, about two miles from the mines. At the Blind Springs and Montgomery Dists., a great quantity of fine ore is being taken out for shipment to San Francisco. Williams & Co. are working the Diana successfully by means of a 4-stamp mill, with pans. A lode has been discovered between Big Towu and Mouoville, near Castle Peak, Mono county, which proves to be very rich. Snyder & Co. are the fortunate discoverers.

## Nevada County.

*Transcript*, Sept. 20th: The claims located on the old Yuha river channel, in the vicinity of Washington, are paying first-rate. Recently, Battis & Co. struck a splendid bed of gravel, which is 3 ft. deep, and prospects splendidly from top to bed-rock. The incline is down about 40 ft., and the main tunnel is opened some 20 ft. It is said to be one of the richest claims yet opened upon the river bed. At Rocky Bar, all the companies are making lots of money. On Tuesday last, the lower company, Root & Co., took out gravel which paid over 9 ozs. to the pan.

Sept. 22d: A number of Chinese have put up sluice boxes, and are engaged in mining out the tailings at the mouth of Lost Ravine.

The Grizzly mine, after a run of 12 days, yielded \$1,200. The mill has only 5 stamps, but it is the purpose of the company to put up 5 more before winter. The machinery is already upon the ground. The ledge is large, and sufficient rock can be taken out to keep 10 stamps in operation day and night.

The Birchville C. M. Co., at Eureka,

after the last run, cleaned up \$40 to the ton. For several crushings this mine has yielded an average of from \$30 to \$40 to the ton.

The Commercial is an excellent 10-stamp mill recently erected near Eureka by San Francisco parties, for the purpose of crushing rock from their mine. The Commercial is said to be a first-rate mill. It commenced work last week.

Some parties are engaged in saving the tailings which come from Stiles' mill. The sand coming from the mill is caught in vats, and then run through sluices, over blankets, upon shaking troughs, where the sand is washed off and the sulphurets retained to be worked by the chlorine process.

*Gazette*, Sept. 19th: J. J. Collins, of You Bet, has just struck pay ground in his cement diggings. He has a 10-stamp mill. Heydliff's mill, Mallory's mill, and the Neece & West mill, are all running on cement, and said to be paying their owners dividends.

Sept. 24th: A quartz ledge was discovered at Selby Flat, on Friday last, 2½ in. wide. One pan full of the rock, crushed in a mortar, yielded \$6. At the depth of eight ft., the ledge maintains the same width and the same appearance of richness as at the surface.

Sept. 25th: Mr. Skookam and a colored man called "Jake," discovered a large quartz ledge some time last week about one-fourth of a mile from Eureka. The vein is twelve feet wide at the surface and shows considerable free gold. The discovery is considered to be one of the most valuable in the district. Sam. Hartley has recently struck the extension to the Birchville ledge, two miles from Eureka, on the North Fork of Poorman's creek.

*Excelsior*—Meadow Lake *Sun*, Sept. 21st: The Mohawk and Montreal mine never looked better than at present. The editor lately visited the mill of the company, and found the plates literally covered with splendid looking amalgam.

The Gold Run mine is being rapidly developed. The tunnel has been driven 260 ft. along the line of the ledge, and the ore of the mine is looking well. In a month or two the company owning this claim can make as good a showing as far as a well developed and well defined quartz lode is concerned as any one in the district. We were shown a day or two ago some splendid looking rock from this mine which assays very well.

A few days since a beautiful specimen of ore from the Eclipse Co's claim, was laid on our table. In appearance it resembles very much the celebrated Black Rock ore, of which so much has been said. Fine gold is discernible in all parts of the specimens shown us, and they have a body of ore two feet in width, equal in richness to the specimens. They have taken out about 30 tons of excellent ore.

The owners of the Comet and Camp Co's claims, are working away developing their mines which promise well for the future. A few days ago a fine body of ore was struck in the Comet.

The Kentucky Co. have a force of men engaged in selecting and sacking ore preparatory to sending it to the Ossaville mill for reduction.

## Placer County.

*Auburn Stars and Stripes*, Sept. 18th: The Green Emigrant Co. have made another rich strike on their claim, at a distance of several hundred feet from any previous strike. Seams of auriferous talcose slate, apparently alive with gold, have been found, with every indication of being continuous, in the hard quartz that forms the hump on top of the hill.

*Herald*, Sept. 21st: McGonigle & Co. have struck rich prospects in their claim, on the Black ledge. The ledge is seven ft. wide, yielding as high as 50 cts. to the pan.

*Dutch Flat Enquirer*, Sept. 21st: The American Eagle Mining Co. are digging a tunnel 1,144 feet long, for Hall & Allen's ditch.

The *Atta* says it is reported that the Paragon cement mine, at Bath, Placer county, has been sold to a San Francisco company for \$150,000.

*Marysville Appeal*, Sept. 25th: The Green Emigrant claim, near Auburn, has been opened in a new place all alive with gold. This is hundreds of feet from the former openings.

The Lincoln correspondent of the *S. F. Bulletin*, writes Sept. 23d: The Valley View Quartz is regarded by all as very valuable. A mill of 40 stamps has been paying dividends on it right along. It is now sold to an English company in London. Crosby & Manter have a mill adjoining the large one which works five stamps and two arastras. It is surmised by those that know, that the rock of the small mill is by odds the richest. Nickerson, Cadwalader & Hub-

hard have nearly completed a third mill in the same locality, of 24 stamps.

## Plumas County.

The Nelson Point correspondent of the *Marysville Appeal* of Sept. 24th writes: Lee & Co., in Nelson creek, have been "stripping" for the last three weeks. They expect to find solid dirt. Jolly & Co. have finished cleaning up, having made a good run. They are now putting in new gold-flumes, expecting to make even better pay this next spring. Hardy is sweeping off surface by the acre; can't tell exactly what he is making, but guess wages.

*Quincy National*, Sept. 21st: All the quartz mills near Taylorville are running except the Crescent Mills, and it is said they will start in a short time.

## Shasta County.

*Courier*, Sept. 21st: The editor states that stockholders in the South Fork ledge have received information that persons who have heretofore pretended to aid in securing the sale of or development of those ledges have been "throwing off," and in reality doing all they could to injure the reputation of the mines.

A few days ago we were shown a splendid specimen from the Washington mine at French Gulch, taken from a lode 20 in. thick and 300 ft. from the surface. The prospects of this mine were never better than at present.

## Sierra County.

*Downieville Messenger*, Sept. 12th: One of the large hydraulics of the American Co. at Morristown blew down last Tuesday night, breaking the pipe and throwing it to the ground.

The New York Co., of Sawpit Flat, suffered, on the night of the 11th, the loss of their dump house and other outbuildings by fire.

## COLORADO.

*Georgetown Miner*, Sept. 5th: Reduction works on an extensive scale will be erected here during the coming fall and winter.

A small quantity of ore from the Malahar lode, Peru Dist., has been brought over to the smelting works for reduction.

Work on the Wentworth lode, Columbia Mountain, is progressing finely. A large body of sulphurets has been disclosed by recent operations.

On Monday last a hock of pure silver bearing galena, the weight of which is estimated at 1,500 lbs., was raised from the New Boston lode.

The Muscovite Co. have recently sold to the Georgetown Silver Smelting Co., a large amount of galena ore, delivered at the mouth of the shaft.

The New Philadelphia lode, on Douglas Mountain, is now turning out some very fine ore. The work upon this valuable property is being actively prosecuted.

Ore from the Belmont lode, at Argentine, is now being delivered at Garrott, Martine & Co's works for reduction. A large yield is expected from the ore.

A beautiful piece of silver bullion weighing 24 ozs., was taken from six pounds of ore from the Wm. B. Astor lode lately. The coin value of the bullion is \$32.40. The ore was selected first class, and shows \$10,800 per ton.

The California Reduction Works, from 15 tons second quality ore from the Smith & Parmelee mine, obtained 47½ ozs. of bullion, valued at \$851.16, which is upwards of \$77 per ton.

On Monday last we saw a beautiful bar of silver bullion, weighing 7 ozs. 17 dwt. .998 fine, taken from 20 lbs. of ore from the North American lode. The coin value of the bar is \$10.20 at the rate of \$1,020 per ton.

The *Denver News* says that during the past month (Aug.) Warren, Hussey & Co. have shipped over 1,500 ozs. of gold, over \$30,000.

*Register*, Sept. 13th: Capt. S. N. Hoyt is mining very successfully in Granite district, Lake Co. He is running two Mexican arastras by mule power, which pay about \$100 per day. The ore is from six different lodes, and is not sorted. The yield from selected ores in the arastras would of course be much larger. These arastras are the first reduction works ever run in Lake county. The crevices arcaise from one and a half to six feet in width. Some pyrites is found near the surface, but on going down it entirely disappears, the crevices widen and the material in them becomes softer and richer.

## IDAHO.

The Walla Walla *Statesman* says that the discovery of the new mines about 340 miles from that place, have created an intense excitement, and says: The party of 12 men who went out early in the season to prospect the Big Bend of the Kootenai, has struck it rich, and report the whole strip of country from Kootenai river to the Pen d'Oreille abounding in gold. They were



endeavoring to keep the discovery as quiet as possible, until such time as they would be able to notify their friends and secure them in possession of the best claims. The news, however, has leaked out, and already parties are on their way to the new diggings. The claims on Finloy Creek have paid well this season, and miners who desired to leave for the new discovery have sold their claims as high as \$1,800.

Lewiston Journal, Sept. 5th: Sanderson & Co. at Warren's diggings, have made important improvements in their quartz mill, and at the second trial it proved a complete success. Some ladies broke a bottle of champagne over the wheel, and christened the mill the "Alpha."

Williams & Maxwell already have their mill building raised.

Some ladies washed a single pan of rock from the "Alpha" mill, which yielded \$7.60.

Owyhee Advertiser, Sept. 14th: New placer diggings have been discovered on the headwaters of the Payotte river, and there is quite a rush to that locality.

There is now a great excitement on the Oro Fino Mountain, caused by the discovery of a rich ledge, claimed by three different parties under as many different names. The ledge bears evidence of being immensely rich—from \$5 to \$20 to the pan being frequently obtained from dirt and decomposed quartz in the immediate vicinity of the ledge. We saw ore that was taken from the vein near the surface where Fogus is sinking a shaft with fine gold visible to the naked eye all over it. The mine is now engaged in crushing the ore from the Ida Elmore.

The Owyhee Co. is making extensive improvements. Their smelting and retorting works have recently been improved and enlarged—six new pans have been added to the mill.

The ledge in the Oro Fino becomes wider and better as it increases in depth, and at present richer ore than was ever before known in the mine is being taken out, some of it having the appearance of having come in contact with a shower of molten gold, that had spattered over and penetrated it throughout. Preparations are being made to run the mine and mill all winter.

J. C. Ainsworth, one of the principal owners in the Surplus Oro Fino ledge, has bonded the Surplus for one year to Messrs. Walbridge, Colo and Crane. Laborers have already been engaged, and from inquiry we learn that there is an excellent prospect with a little more labor of finding a body of ore equal to the present rich stuff coming from the Oro Fino. The last ore obtained from the shaft was worth \$25 per ton.

**MONTANA.**

Montana Post, Sept. 14th: The Montana Flaming Co., below Junction City, have 10 men employed. They have 1,600 ft. of flume constructed, 3 ft. high and 3 ft. wide. They will strike bed-rock in 400 ft. more, when they expect to take out about \$300 a day.

The Mapleton quartz mill on Granite gulch is now idle, awaiting the construction of machinery for the saving of silver, the lead, at a depth of 65 ft., becoming rich in that metal.

Ben. Williams & Co. have in successful operation a neat flume, about 1,000 ft. long, which brings them within 2 ft. of bed-rock. It is understood they are doing very well. The next is a flume beginning on German Bar, and extending up the gulch a distance of 5,200 ft., reaching Nugget Bar. Most of the flume is laid through ground at a depth of 18 ft.

The California Co. have a good flume about 1,200 ft. long, leading to their ground on the famous Word's Bar. When water becomes plenty, they will be enabled to sluice off a large amount of ground, from which they will reap a rich reward for their energy and perseverance. Blake & Co. are progressing rapidly with their flume, and have made several good clean ups.

The last clean up of the Union City mill produced 177½ ozs. of bullion; currency value, \$4,312.50, making two very nice bricks. The mill has been principally employed on custom work for the past few weeks. The workmen are busily employed on the Grant tunnel, and it is expected daily to tap the lead.

**NEVADA.**

Enterprise, Sept. 20th: Upon the strength of the late results, many of our prospectors are turning their faces toward Black Rock. A lot of five tons of ore from the same region is now being worked in Gold Hill. The amalgamation in one pan will be superintended by Mr. Isenbeck, who so successfully worked on the ore at Dall's mill, while in the second it will be done according to the process common in the mill in which it is worked. Should the mines prove as rich as is supposed, it is said that the known

leads of the district would furnish sufficient ore to run all the mills in the State for a thousand years without digging in any one place to a depth exceeding 1,000 ft. Mr. Isenbeck and other mineralogists confidently assert that when the leads of the district have been followed down until the water level is attained, the present chlorides, bromides and iodides will be found to have changed to black sulphuret ore.

Trespass, Sept. 24th: This morning Mr. Charles Isenbeck laid upon our table for inspection 13 bars of bullion, the proceeds of 13 different quantities of ore from 13 mines in the Black Rock country, the yields from which were—the lowest \$128, the highest \$370 per ton, gold predominating. The ore was worked at Dall's mill, by mill and pan process, and in Varney pans, and establishes the fact almost beyond cavil, that there is no difficulty in obtaining rich returns from Black Rock ore. Another quantity of ore from the Snow Storm and Silver Star ledges is now in process of reduction at Stephenson's mill in Gold Hill, where all who are skeptical in the premises can go and be assured by seeing the working.

**REESE RIVER.**

Reveille, Sept. 16th: The Ophir mine in Manhattan Dist. shows considerable mineral, as far as explored, and several strata occur in the body of the vein, which carry very fine ore.

Towards the foothills which jut into Smoky Valley is a huge ledge, called the McMurray, which crops out holdly. The ore procured from the surface, as well as from the deepest excavations, assays largely both in gold and silver. Besides these ledges there are several others which appear to be highly metalliferous.

Some 4,200 ozs. of crude bullion were brought in from Cortez by Russell's stage on Saturday evening, and delivered at the assay office of the Keystone mill for melting and assay. It was produced from ore obtained from the St. Louis mine.

Sept. 17th: The mill of the Old Dominion Co. has been completed and set in motion, with a good supply of ore on hand. The company expect, before long, to supply sufficient ore from its own mines to run the mill. The prospects of Hot Creek are of the most encouraging character.

The Long Island mill, of 5 stamps, is being put in order for the reduction of ore by the Supt. of the Timoke property. The work is to be done and the mill set in motion as speedily as possible.

The 5-stamp mill, known as the Ware mill, is to be taken down and removed to New Pass, where it will be put up for the reduction of gold quartz.

Sept. 20th: Last evening there arrived in Russell's stage from Cortez 5,838 ozs. of crude bullion from the mill of the Mount Tenaho Co. It is the product of ore from the St. Louis mine.

It is doubtful whether the mill of the Centenary Co., in Newark Dist., will do much this season, owing to delay in fitting it for crushing.

Some 3,000 ozs. of crude bullion arrived this morning on the stage. It came from the mill of the Social and Steptoe Co. at Egan Cañon.

By the Austin stage, yesterday, two bars of bullion were brought from the mill of the Belmont Co.

Sept. 21st: The Old Dominion mine in the district of Hot Creek is producing ore of the finest quality. Perhaps the best samples of horn silver which have yet been procured in any of the districts southeast of Austin are now produced by that mine. We were shown yesterday a massive piece of the beautiful ore, which one could indent easily with the finger nail. A person who saw the mine a few days ago says that great quantities of this pure chloride were being developed and extracted, and it was estimated that lots of it would yield in the mill from \$1,000 to \$3,000 per ton.

Of the ores sent to the Paris Exposition from Reese River, and assayed at the School of Mines in Paris, the greatest yield was from ore from the Timoke mine on Lander Hill. The assay exceeded \$6,000 per ton.

The Rigby mill will soon be repaired and running. The mill will be supplied from the Liberty mine, where there is at present a good lot of excellent ore ready for use.

The editor has visited the property of the Vedder Silver Mining Co., near Austin, and gives quite a lengthy description of their ledges. He says the Vedder was opened by an incline 120 ft., which shows a vein of ore 2 to 3 ft. thick. From the incline ore was taken which produced upwards of \$300 per ton, and some choice selections made which went over \$2,000 per ton. The mine in its first opening gave good promise, and there are certainly good grounds for expecting it to prove valuable at the point

where a few weeks, perhaps a few days, more labor will pierce it.

Trespass, Sept. 19th: The following is the returns, brought by Mr. Henry Donnell, of the working of different ledges in Washington Dist. The ore was worked by Mr. Isenbeck at Dall's mill: The ore from a series of eight ledges returned per ton \$107, of which \$90 was in gold and \$17 in silver. The Highbridge, \$65; in gold, \$40; silver, \$25. The Poughkeepsie, \$40 in gold. These returns are actual, and very flattering, when it is remembered that several assayers have pronounced them void of either gold or silver. Mr. Donnell and his associates will at once proceed to the district and commence active prospecting on the various ledges. In a few months it is proposed to erect a mill, at which the ores will be treated by Mr. Isenbeck's process, which, it is believed, is the only process yet discovered by workers of minerals.

Silver Bend Reporter, Sept. 21st: For the past week the mill of the Belmont Co. has been running with its new machinery, and turning out lots of bullion. The new improvements are: a new hoiler, three of Belding's pans, two Belding settlers, new cam shaft, tappets, etc. The battery has also been overhauled thoroughly, and everything now moves like clock-work. At present the mill is crushing and amalgamating about 10 tons of ore daily.

Enterprise, Sept. 24th: We yesterday saw at the office of Dr. McMeans some very fine looking ore from the Lawson & McMeans. It was taken from the vein at a depth of 25 feet. In appearance it is decidedly superior to any ore we have yet seen from the mine. Ores taken out above and much inferior in looks have assayed from \$40 to over \$100. Specimens of the rock last struck are now in the assayer's hands.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, Sept. 18th: A boiler weighing 9,000 lbs., passed through this city yesterday morning for the Empire State mill.

Sept. 20th: The Sierra Nevada Co. are steadily drifting for their lead, having cleared the old tunnels of the mud which had accumulated in them during the time the mine was flooded. The mine is kept drained by working the pump one hour per day.

Sept. 21st: Steele & Co. are still engaged in extracting ore from the Sacramento mine, Cedar Hill. They have but a small force of men at work, but are making very good wages.

Parties are now engaged in getting out ore on the old Chollar croppings. We understand that they will take out 100 tons as a test crushing.

The total amount of bullion shipped during the past week from Wells, Fargo & Co's offices in this city and Gold Hill was 6,739 lbs., valued at \$143,519.67. The total number of ounces received for assay during the week at the various offices in this city and Gold Hill was 76,219.

Sept. 22d: A force of men have commenced work on the Coryell mine, situated just north of the Overman works. The shaft, which is 185 ft. in depth, has been thoroughly timbered where timbers were required, and a drift for the old Mary Ann chimney is now being rapidly pushed ahead.

The Eclipse mill at Gold Hill has resumed crushing ore from the mine of the company. A reserve of over 1,000 tons has accumulated.

**OREGON.**

Dalles Mountaineer, Sept. 7th: We have received very flattering information from a gentleman who was an eye witness to the last clean up at the Col. Ruckel mill. After a run of nine days, crushing about 100 tons of quartz, it netted the nice little sum of \$9,000 of the finest quality of amalgam that mortal eyes ever looked upon. The lode has now widened out to five feet, and the future prospects are more flattering than ever.

Jacksonville Sentinel, Sept. 3d: Mr. Mosher, of Roseburg, was in town the other day with some rich specimens of silver-bearing quartz, taken from a ledge on Coast Fork, within a few miles of the Bohemia mine. We understand that one of the discoverers has taken a quantity of the rock to San Francisco to have it assayed.

The Portland Herald says that a fine quality of limestone has been discovered on Butte Creek, Clackamas county, so that beyond doubt Oregon lime will soon be another "home made" production.

Salem Record, Sept. 18th: Mr. Salmon and his party who have been prospecting in the Santiam mines, have carefully worked 40 tons of refuse ore that had been run through sluices to wash off the decayed portions, and sulphurets found in veins through the mine, and have saved \$4 per

ton, nearly twice the cost of reduction. This ore was deemed worthless, and the owners are sanguine that the ores will yield over \$10 per ton.

Good iron ore has been found at Knox's Butte, Linn county. It resembles the red hematite ore found at Oswego.

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## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

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WRITERS should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Sept. 28, 1867.

## Notices to Correspondents.

**VIATOR.**—The Great Geyser, in Iceland, will probably at some distant day, cease to give forth its customary boiling and intermitting jets. This opinion is based upon the fact, that the enclosing tube is slowly lengthening by the deposition of silica, and will eventually become so elongated that the pressure of the liquid column, thus growing gradually longer, will at last prevent the subterranean waters from being converted into vapor, the elasticity of which causes the existing phenomena. Many scenes observed in Iceland, indicate that a fate of this kind has befallen many previous springs of a similar character. Thus, mounds are observed perforated by shafts, evidently at one time acted upon by thermal waters, but now filled with debris, the waters and vapors having escaped through other channels, presenting a less degree of resistance.

**OPTICS.**—Color blindness, as it is somewhat inappropriately termed, is by no means uncommon. This visual defect was originally called DALTONISM, in consequence of John Dalton, the English chemist, being a victim of this imperfection of the visual organs, and to whom also is generally attributed the discovery of this singular malady, for which we are not aware that any cure or palliative has been suggested. With Dalton crimson appeared of a muddy blue by daylight, and a stick of red sealing wax appeared the color of grass. Dark green woolen cloth appeared muddy, or brick red, and a florid complexioned bacchanalian appeared to possess a dusky blue countenance. Thus a thorough Bardoian rose, in place of reminding a Falstaff of "hell fire," would present that of a thorough "Blue-rose."

**ONE INTERESTED.**—The richest silver mining district in Europe at the present day, is in the Austrian dominions, viz., at Przibram in Bohemia. Some of the ores obtained at that place are remarkable, one vein in particular being composed almost wholly of ruby silver ores; some of the zinciferous ores in this vicinity, are also remarkable as containing a very large percentage of cadmium, as compared with the blends of other parts of the world. The depth to which some of the mines at Przibram are now worked, in some instances is more than 1,300 feet, with no appearance of giving out.

**ARCHITECT.**—The three largest stone arches in the world, are as follows: The Grosvenor bridge which spans the Dee at Chester, England, with a single arch of two hundred feet in length. The next in size is a very ancient one, erected by Grenier, in the year 1454, at Vielle Briode, in France, whose span is one hundred and eighty-three feet; it crosses the river Allien. The next largest is the Central arch, of London bridge, whose span is one hundred and fifty-two feet six inches.

**CHEMISTS.**—On the authority of Berthier, Berzelius and others, we may state that gold can be combined with sulphur, and so form a sulphuret; in fact the last named chemist describes two varieties, viz.: a protosulphide, in addition to the more generally recognized tersulphide, which is represented as being composed as follows: Au 199 + 3S 48 = Au S' 247.

## A National Mining College.

Within the brief space of eighteen years, our people have opened up to settlement a larger area of territory, valuable as a source of supply for nearly all the necessities of man, than has ever before in the world's history been brought within the limits of civilization, in so short a time. Eighteen years ago California, Arizona, Colorado, Montana, Idaho, Washington Territory, Oregon, Utah, and Nevada—occupying more than one-third of the entire area of the United States—were regions chiefly known to trappers and traders; traversed and occupied for the most part by barbarous hordes of Indians. That this extraordinary advance, with all its concomitant results to the trade and commerce of the world, has been achieved by the discovery and development of our mineral resources, no reasonable man pretends to dispute. Every day's progress in our history speaks for itself, and the facts are patent to all.

It seems a little singular, considering the millions of treasure thus added to our national wealth, the vast range of industry opened to our people, the wonderful impulse given to agriculture, commerce and manufactures—that of all our great national interests, the business of mining has had the hardest struggle to enlist the favorable consideration of our government. Of late years, through the energy and ability of our Pacific delegation, and the irresistible logic of results, something has been achieved in the way of more intelligent Federal legislation.

The Mineral Land Law of August, 1866, granting titles in fee to the miners, is an advance in the right direction. The appropriation for the collection of mining statistics, is another.

There is something yet to be done quite as important, in our estimation, as either; and we are glad to know that Mr. Commissioner Browne has, after consultation with the people throughout the principal mining districts, taken the matter zealously in hand, and determined to urge upon Congress in his forthcoming report, the importance of establishing a National Mining School, similar in its general features to the great mining schools of Germany, France and England. In the preliminary consideration of the subject, it matters little about details as to the organization of the plan. There will naturally be points upon which the best judgments may differ; but we think all will concur in the opinion that such an institution, established upon a broad and liberal basis, would be of incalculable advantage to the Pacific coast, and incidentally to every State in the Union. There is more lost to the country, even now, far as we have progressed in the science of mining, than would pay the expenses of a National Mining College ten times over. Why should we be compelled to send our young men to Freiberg to study a pursuit in which we are more deeply interested than any other people? The State Agricultural and Mining School will be an institution of great utility, eminently worthy of encouragement. But we want something in addition to this; something of a more national character—an institution of the highest grade; one worthy the richest mineral region in the world, peopled by an intelligent and progressive race, and comprising at least eight of the most promising States and Territories of the Union.

We have heretofore, in noticing the yield of Australian gold mines, called attention to the fact that although the official tables show a loss of fully one-third of the total assay value of the rock, the millmen appear to be very indifferent to the subject; more so, if possible, than in California. A recent report on the St. Juan del Rey mine, in Brazil, congratulates the stockholders upon the gratifying fact that their loss is now only 30 per cent., instead of 50 or 60, as it has ranged in former years. This would

seem incredible, if we did not know that with all the improvements in the treatment of ores, adopted from time to time by our own miners, there is still lost in tailings and otherwise, from 20 to 25 per cent., if not more, on our annual product. It becomes, therefore, a matter of vital importance that every possible means should be taken to arrest this tremendous drain upon our resources. And the question arises, what better means can be adopted than the establishment of a great National School, in which all the resources of science and practical experience can be brought to bear upon the essential processes of reduction, concentration and amalgamation.

## Fourteenth Annual State Fair.

(Continued from last week.)

**American Steel.**—Wm. H. Daffis of this city, exhibited a lot of American steel from the Philadelphia Steel Works, with a turning tool which had been made from the same, and subjected to a most severe test, at the Union Foundry. This tool held run quite across the surface of a 5-foot locomotive driving wheel, with 5-inch face, including flange. It appeared fully able to do even more work still, without sharpening. This is perhaps the best test to which steel can be put. A tool, made from the best English steel, could not be able to stand half the work or (what is also a great advantage) be able to do it in anything like so short a time. A piece was cut from this steel by the Committee, and thoroughly tested in the fire. They pronounced it superior to any English imported, and recommended it to general use, as a superior article of American manufacture. A first premium was awarded to it as the best steel exhibited, and a special premium and diploma for the general display of steel, and steel tools.

**Shingle Machine.**—F. A. Huntington, of this city, exhibited a shingle sawing machine, an improvement of recent date. One of its features is that the block to be cut from stands on end instead of lying flat, thus saving in the space the saw has to travel. Its capacity is about 30,000 in twelve hours. A sample of the shingles of the French style, to make fancy roofs, was also shown. The operation of this machine drew large numbers of spectators. These machines are built by George T. Tracy, machinist, at 109 Mission street in this city. The first premium for shingle machines was awarded to it, with a recommendation for its rapidity of work and the perfection of its operations.

**Miller's Adjustable Saw Teeth.**—Joseph Stone, of this city, (sole agent) exhibited a 62-inch circular saw, with Miller's adjustable teeth. The main advantage claimed for this tooth is the peculiarity of its leverage, by which the space for the sawdust is within the rim of the saw, while in all others it is outside; a thinner plate can also be used. It is claimed by the agent, that this same saw saves five per cent of the lumber, and fifty per cent of the motive power. One tooth, it is said, will last longer than five of the ordinary teeth, and a tooth can be taken out and replaced, when desired, in half a minute. The same is easily kept in order.

**California Wood.**—Mr. John D. Boyd, the well known wood polisher of this city, made a fine exhibition of his important and exquisitely finished wood work, which attracted most marked attention. Mr. Boyd is the pioneer in this business, and has done more than all other men combined to show the value and superiority of California woods for ornamental work. It is gratifying that he is at last meeting with that success which his efforts so richly merit. He has already received two extensive orders from the East. His work at the Paris Exposition has been pronounced superior to any thing of the kind in that grand competitive exhibition of the world's skill, in this direction. The field for enterprise and industry in this business is almost unlimited, and California veneers will eventually form an important item in our annual exports, in addition to the home consumption. Mr. Boyd gave a practical exhibition of the interesting process of wood polishing at the Pavilion.

**Walt's Salad Bowl.**—One of the most attractive items in Mr. Boyd's exhibit, was a beautifully finished salad bowl, made by him, for Hon. William Walt, of Grass Valley. This bowl is 16 inches in diameter, beautifully carved and polished, resting upon four legs, each representing a Scotch thistle, while the handles are formed of lion's heads engraved in bold relief. It constitutes a really elegant specimen of polished wood and carving, and will form a most worthy and useful ornament for the generous and hospitable table for which it

is intended. Mr. Boyd was awarded for his display a special first premium.

**Furniture.**—M. P. Cole, of this city, made a very fine exhibition of superb furniture. An elegant parlor set of silver gray courtelaine attracted great attention for the beauty and uniqueness of its design and the richness of the material. A most noticeable feature connected with it was the fact that it was made of California rosewood, which was all in the log only seven weeks before it was placed on exhibition! The set was valued at \$500. Mr. Cole also exhibited a parlor set in green, with sample chairs of unique design; also, a marble-top chamber set valued at \$400. Mr. Cole received three especial premiums.

Messrs. Goodwin & Co., exhibited a parlor set of rich hrocattelle, a library and dining-room set; a leather adjustable reclining chair, also a Turkish chair, with elegant and unique upholstery, the latter made entirely in San Francisco, with the exception of the hrocattelle which was imported; the elegant gold fringe was made by Mrs. Norcross. The chair is valued at \$150, and is the most expensive chair in the State—the next most costly is occupied by Mrs. Gov. Stanford, of Sacramento, and was also made by Mr. Goodwin, at a cost of \$125. Their collection was very fine, and took six first premiums for as many different classes exhibited.

The Boston Furniture Company, of this city, exhibited a fine chamber set in black walnut, and a rosewood and gilt parlor set, covered with crimson and silk reps; also, a spring bed of superior quality, and hair mattresses.

**Pianos.**—Messrs Kohler, Chase & Co., of this city, and Mr. L. H. Hammer, of Sacramento, made a very fine exhibit of pianos. They had a large-sized Mason & Hamlin organ, with pipe front and double bank of keys, together with Chickering & Son's concert, grand square, and parlor square pianos, forming as fine a contribution as was ever made to the State Fair in that line. During the hours of exhibition these instruments were performed upon by some of the most accomplished musical professors, and were especially objects of interest to all lovers of sweet sounds, particularly as the Chickering-Stienway piano war has excited curiosity.

**Leather.**—A fine and most encouraging exhibition was made of a new and growing industry in this State, the production of leather, and leather manufactures. We have in this connection, first the Pacific Tannery and Boot and Shoe Company, of this city, an organization with a capital of \$100,000. This company exhibited sole and upper leather, kip and calf skins, manufactured at their tannery; also, miners' waterproof boots, kip screwed and nailed boots, calf-skin screwed and nailed boots, kip pegged boots, calf-skin tap-sole boots; Oxford ties, nailed and screwed; Congress gaiters, nailed, screwed and pegged, tap-soles; and brogans nailed, pegged and screwed; also, ladies' Balmorals of scarlet cloth and white and blue silk, all-foxed Balmorals, goat-skin Balmorals, ladies glove-kid Balmorals, Misses' calf Balmorals and calf and goat-skin Balmorals. From this list it will be seen that the operations of this company are quite extensive, and we are informed that they have met with great success. The make and shape of this company excels anything in that line of business. The most skeptical can be convinced of the superiority and durability of the work by calling at the stand in the Pavilion of the Pacific Tannery and Boot and Shoe Company, of San Francisco. Eustein Brothers & Co. are agents.

The Pacific Tannery was awarded a special premium, diploma, for their men's factory-made boots; a first premium, diploma, for their factory-made ladies' boots and shoes, and a special premium for their display of leather.

John Bray & Co., also of this city, made a fine exhibit of California leather—sole, calf, kip, morocco, roans (dressed sheepskins), hoot-legs and fronts, hand-made for custom work, all their own manufacture; also, all styles of California lasts, made from California laurel and oak, and especially for them at the Oakland Last Factory. The calf and kip skins appeared to attract much attention from those skilled in leather manufacture. The same firm also made a full exhibit, of shoemakers' tools. This firm was awarded a first premium, diploma, for the best display of leather, and a first premium diploma for their best display of lasts.

M. M. Cook & Son, also made a very fine display of hose and helting, fire-huckets, hose-pipes, harness, etc., all from the manufactory, corner of Battery and Broadway streets, in this city. This firm received a



first premium, diploma, for their display. Hats.—J. C. Meussdorffer, of Sacramento, a branch of Meussdorffer of this city, contributed a very fine display of gentlemen's hats of all styles and material. They also exhibited a case illustrative of the manufacture of hats, showing first the fur and other material in the raw state, and subsequently the body in various stages of progress until it assumes the neat fur and glossy appearance of a gentleman's first-class title. Everybody knows what such a piece of work is when it bears the impress of these manufacturers.

Shirts.—Few persons are aware of the magnitude and importance of the shirt manufacture. Being an article of universal consumption by all the "lords of Creation," their manufacture enters largely into the industrial pursuits of every people. Until quite recently, the people on this coast have depended largely for this article upon Eastern manufacturers. In January last, however, Mr. Martin L. Haas, of this city, organized the "Pearl Shirt Manufactory," and is now manufacturing from 400 to 500 dozen shirts per month. He occupied a prominent position on the upper floor of the Pavilion, where he exhibited shirts of eight different qualities, washed and unwashed, to show both the beauty of the finished goods, and the superiority of the material and workmanship. He also exhibited the shirts in their various stages of manufacture, having five machines at work upon his stand. He has introduced most important improvements into the make of this hitherto neglected garment. He has devised the triple-pointed yoke, named in honor of the factory, the "Pearl yoke," and also two new styles of cuffs. The finishing of these goods is excellent, and the button-holes are marvels of neatness. Their fine plaited shirt bosoms, differing from the French in not being wove, and also in their being three-ply, are claimed to be equally durable with the large plaits. The general get-up of Haas' goods for the trade, more especially in the laundry part, is superior. We shall endeavor to give some important facts and statistics with regard to this branch of business at an early date, under the head of "Our Industrial Progress."

Advertising Table.—Mr. A. N. Rood, general advertising agent for this city, had a table near the main entrance to the upper hall, from which he continually disbursed large numbers of Business Cards, Circulars, Books, etc., representing one house in each of the important branches of business, in San Francisco and Sacramento. Among the business houses thus represented, we notice the names of Locke & Montague, J. D. Arthur & Co., R. N. Van Brunt, Agent N. Y. Life Ins. Co., Homans, Agent Mutual Life Ins. Co., Bradley & Rulofson, Dr. J. B. Beers, Dentist, etc. Mr. Rood did even handed justice to each of the business houses represented upon his table.

The unexpected importance and great interest which has attached to the late State Fair, is a sufficient apology for the large amount of space which we have devoted thereto. We shall endeavor to conclude our report next week.

THE UNION WAR CHART is the name of a new and useful map or chart, containing the dates and places of all the battles and skirmishes of any account, fought during the late war, beginning with the President's Proclamation, calling for 75,000 men, April 15th, 1861, up to the battle of Boquechitto, Miss., May 12th, 1865, the last fight of the war. The events are so arranged that it requires but one glance to determine the particulars of any battle fought during the fifty-two months of war, and gives all the information that could be gained from reading an elaborate history of the war. The chart is published by Lorenzo Dow, of New York. Mr. A. J. Doolittle is agent for the Pacific coast, and may be found at the American Exchange Hotel in this city.

FIRST MAIL STEAMER FOR ALASKA.—The California, Oregon and Mexican Co's steamship John L. Stephens, left this port on Wednesday last, for Alaska. She carries the U. S. Mail, and will hereafter make regular trips to our new possessions in the north. The prompt action of the company named in this early putting a superior sea-going steamer upon this route, is a marked evidence of California enterprise and energy. Mail intercourse and regular means for supplies will do much toward the development of trade upon our northern coast. The Stephens took up about 300 United States troops, and a very good list of cabin and steerage passengers. She is expected to return in about 30 days, which event will be looked for with much interest.

"You may talk to me of Baltimore and Philadelphia and New York, and their railroads and the trade of the Atlantic—let me tell you that the Pacific Coast is already beginning to revolutionize the world."—Speech of Hon. Wm. H. Seaward to the people of Annapolis, Maryland, June, 1857.

ADDRESS

To the Permanent Citizens of the Pacific States and Territories.

Citizens.—We enjoy the finest country that the sun shines on, the most varied and fertile soil, the most extensive seaboard, and the greatest breadth of land having the richest metallic deposits possessed by any one nation of the earth, a land affording all the most varied material for manufactures, wool, hides, cotton, silk, metals, coal, fiber, gum, wood, and, above all, abundance of every kind of food.

We are only a million of people, and yet have more land and sea than Russia with sixty millions—more land than France and Germany, with their hundred millions of people. In the face of those vast resources, there are towns crumbling to decay, men seeking without finding employment. Something wrong here, or this would not be happening. Let us consider.

The instructed mind of the population is mostly devoted to political office-seeking. Their ambition is misdirected. The rising youth is trained to idleness. This mode of thinking and training must be reversed if we would hold this magnificent country against the incoming barbarian.

We must teach our youth the glories of manufactures, of commerce, of industry. We must nourish every effort, however rude, at manufacturing what we require. By devoting some of our capital and our young people to manufactures and general industries we shall soon become busy, get rich, bring more and more people into the country, create new wants, build up new factories and new villages around them; cultivate more land, build more ships, generate more commerce, and thereby create profitable employment for all who want work.

Now, fellow citizens, some money capital is required to help on this industrial movement. Where shall we get it? There is a considerable fund which we may divert from its present bed and channel, viz: the Insurance Fund.

Consider. The people of the Pacific States pay two hundred thousand dollars a month to the Insurance Companies for assuring them against losses from fire and shipwreck.

There are some fifteen of these Insurance offices in this city, each fishing for its share of this large fund. Each office pays a heavy rent, a half dozen officers and clerks, besides printing and advertising; the lowest cost is a thousand dollars a month on each office, and with some it is double that. There are too many persons employed in the business; too much dozing over newspapers; too much red tape and circumlocution; too high salaries and too little work. Think of two hundred thousand dollars a month! Two millions and a half a year! Paid to those sleepy gentlemen for what little they do. This must be reformed. Three or four Insurance offices are quite enough for the million of scattered inhabitants of the Pacific States. A dozen of them may be abolished with great benefit to the community; some one or two have already withdrawn. This change would liberate some fifty men of education, whose business capacity would be of much greater service to the community in other branches of industry, such as manufactures, agriculture, commerce, the fisheries, the forests and the mines. This change would also divert a million or two of dollars to other and more useful industries, whereby a thousand fold more of national capital and employment would be generated than by the present drowsy system.

The managers of the Builders' Insurance propose, with the co-operation of the people, that this vast monthly stream of wealth shall be arrested and diverted to the aid of home manufactures, to effect a great reform and remove from the people's shoulders the expense of supporting a small army of insurance clerks and agents. The Builders' Insurance Company has passed through its first year (the most trying) with singular success. It has gathered a hundred thousand dollars, paid promptly all its losses, and established a business income of fully twenty thousand dollars a month! This has been done while we were yet but an experiment, and enjoying the confidence of only a portion of the public. We now appeal to the entire people. We ask them to send their insurance business to us on the following conditions, and soon we shall have an income of ONE HUNDRED THOUSAND DOLLARS A MONTH, and here is what we shall do with the money.

First, we calculate, from our past experience, that we shall lose by fire and marine disasters half our monthly income (on our first year's experience our losses were but one-third of our income).

Suppose, then, that our income shall be worked up to one hundred thousand dollars a month, and suppose that we shall pay out losses to the extent of fifty thousand dollars a month, we shall still have fifty thousand dollars a month to bank up, (or half a million a year.) We propose to make two parts of this sum—one part (a quarter of a million a year) to be invested in City Bonds, to protect the assured, and one part (about a quarter of a million a year) we propose to convert into a

MANUFACTURERS' LOAN FUND,

which shall be lent exclusively to manufacturers on mortgage of their premises and machinery, at as low rate of interest and on as long time as is generally current on real estate.

By the aid of this fund the budding industries of the Pacific States may be nourished into active life; more and varied employments can be originated for the people; immigration may be welcomed and not feared; the farmer will have got a market at his own door for the produce of his land; the manufacturer will find a lively home demand from the farmer for the products of his machines.

All this, good people, can be achieved, by your own votes at your own firesides, without the aid of Congress or the Legislature—it is simply to vote that your insurance shall go to

the Builders', by which vote you shall enable us to plant factories all over the country. You shall fill the rivers and harbors with busy ships; you shall send out upon the distant waves fishing expeditions that will bring back wealth to your cities; you shall form a nursery of seamen around your own shores—the ova of a future commerce and a protective navy; you will create the hum of busy workmen in every desirable locality on the Pacific Coast; you will bring from neglected fields produce of the utmost value; all of which will most certainly multiply a thousand fold the wealth of the country in which you lot in cast, making a worthy home for yourself and a future country for your offspring.

People of the Pacific States and Territories! We pledge ourselves to you to effect, with your co-operation, some of those things. We have kept all our pledges so far, and have uttered nothing that was not true. Already we have helped to move the shuttle and the loom, which others, with more means, have passed by and neglected. Already we have helped to build and rig ships in our own dock-yards, and sent them over the wide waves in search of riches for the city. Already we have given many liberal bounties and donations to the deserving institutions of the city. Give your vote to the Builders', and we shall share its profits with every useful charity and every honest industry, and help along every enterprise that promises benefit to the people.

We call for the yeas and nays.

- THOMAS MOONEY, President,
EOWASO MACCANN,
WM. B. COOKE,
W. G. WEIR,
J. O. CONNELL,
J. W. MCCORMICK,
C. A. JENKE,
HERMAN SCHWARZE,
J. W. MCKENZIE,
H. V. HERBERT, Secretary.

Directors.

15v15-lan4t

NORTH AMERICA

Life Insurance Company.

Usual Restrictions on Occupation and Travel ABOLISHED!

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World! J. A. EATON & CO., Managers Pacific Branch, 302 Montgomery st. 2v11nr9b SAN FRANCISCO.

MARKET STREET HOMESTRAP ASSOCIATION.—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

Jacob SHAW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street), takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new 'Cabinet Photographs,' which he is taking to perfection. 10v14tr

SECRETARYSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15tr

Save Your Teeth.—On not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. OR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the gaps of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty. 6v14tr

Gold Bars, of whatever size, if well cast, assayed for two dollars, at A. P. MOLLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14-3m

Brown's Filtering Heater.—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler-repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v14-ly AUSTIN A. WELLS, Agent.

BUSINESS NOTICE.—Mr. A. T. Oewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern Friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

Perry Davis' Vegetable Pain Killer.

We sell the following from the Providence (Mass.) General Advertiser: "At this season of the year, when cholera, cholera morbus, dysentery, and other kindred complaints are sure to prevail, everybody should be liberally supplied with Perry Davis' Vegetable Pain Killer. Persons leaving home, whether it be for a day's excursion or a trip to Europe, should be in a condition to place their hands upon it at a moment's warning. Many diseases incident to the summer months, which will prove fatal if not immediately checked, can be promptly cured by one or two doses of the Pain Killer. On more than one occasion have we been relieved of intense suffering by the timely use of the above named preparation. Sold by all Druggists, Grocers and Medicine Dealers everywhere. 10v15-lm

Builders' Insurance Company—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sanson street. FIRE AND MARINE INSURANCE. 10v14tr9qr

FOR CABINET PHOTOGRAPHS, or Enamelled Cards, of the very best quality, you must go to the NEW YORK GALLERY, Nos 25 and 27 Third street. Every picture warranted to give perfect satisfaction. 5v15qr B. F. HOWLAND, Artist.

Copperas! Copperas!

75,000 LBS. IMPORTEO COPPERAS—SULPHATE of Iron—for sale in lots to suit, by BENJ. BRAOY, 104 California street. S. W. corner Davis, up stairs. 13, 15-3m

Boiler Makers Wanted.

WANTED—GOOD BOILER MAKERS, (THAT ARE NOT Society men,) to whom steady employment will be given. Apply to COFFEY & RISOON, Boiler Works, Bush and Market streets. 13v15-4w

LOWER CALIFORNIA Exploring and Prospecting COMPANY.

This Company have procured the services of parties that are well acquainted with the country. This Company will also prospect for Mineral Lands, Water Privileges, Town Sites and Harbors, etc. This Company will dispatch a vessel to explore the Coast, whilst a portion of the Company will go by land to prospect the Interior. For further particulars, inquire at the office. J. W. CAREY, Secretary, No. 20 Montgomery st., Room No. 7. Shares of above Stock, \$10 each—Unassessable. 13v15-3m

ROOT'S Patent Force Blast Blower.

Adapted for Smelting, Foundry, Mining and Steamships. Requires 50 per cent less power than any Blower now in use. For further particulars, address KEOP, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15tr10p

Oakland College School.

THE PATRONS of this Institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California. The SENIOR ENGLISH affords a complete course of instruction in the English branches, in Theoretical and Practical Business, Science and Art. The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided. Throughout all the various departments, great attention is given to the study of the Modern Languages. For further information, or Catalogues, address, L. H. BRANTON, Principal, OAKLAND, California. 5v15tr9p.

LINSEED OIL.

The Pacific Linseed Oil & Lead Works

Are now prepared to furnish dealers and consumers Pure Linseed Oil, Raw or Boiled, at the Lowest Market Rates. We call especial attention to the quality of our Oil, believing it to be superior to any imported Oil offered in this market. Also, Oil Cake Meal, the best article known for fattening stock and increasing the produce of milk. Cash paid for Castor Beans and Linseed, on delivery at the factory. Address, Pacific Linseed Oil and Lead Works, Care of L. B. BENCULEY & CO., 15v14-3m9p San Francisco.

PACIFIC

Rolling Mill and Forge Co., SAN FRANCISCO, CAL.

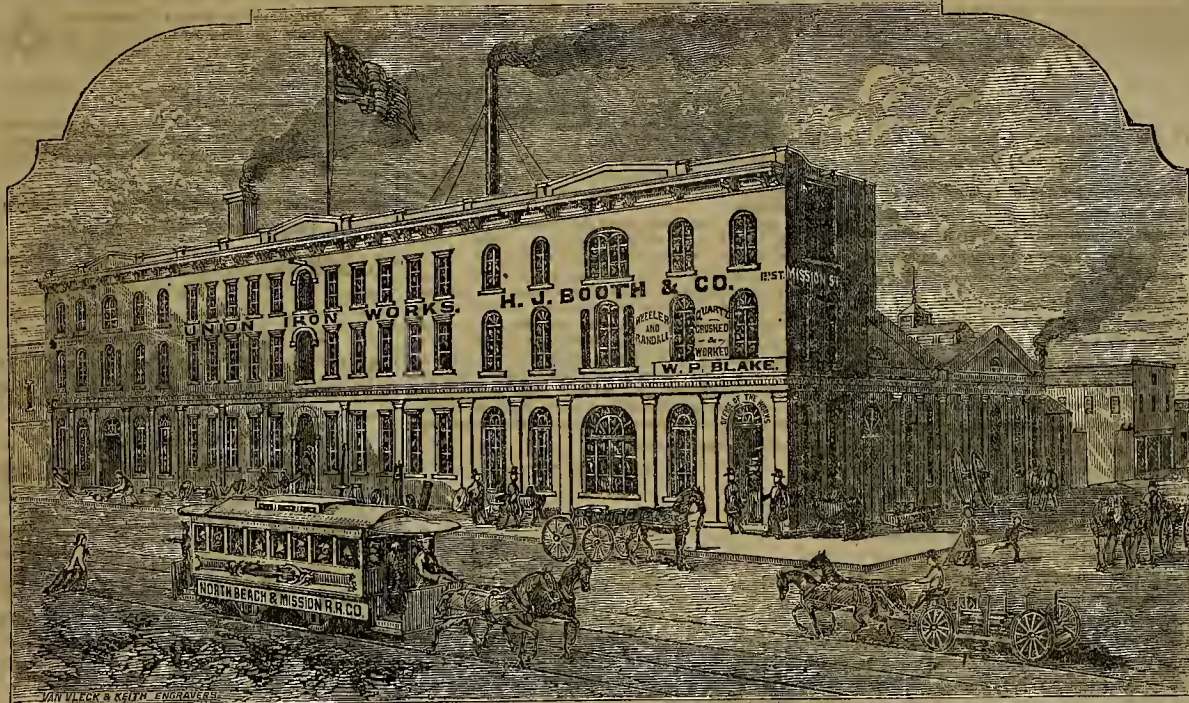
Established for the Manufacture of RAILROAD AND OTHER IRON —AND— Every Variety of Shafting Embracing ALL SIZES of Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames. —ALSO— HAMMERED IRON Of every description and size. Orders addressed to PACIFIC ROLLING MILL AND FORGE CO., Post Office, San Francisco, Cal., will receive prompt attention. The highest price paid for Scrap Iron. 9v14-3m9p

DR. FONDA'S San Francisco Eye Infirmary. Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. P. W. FONDA, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite Well, Fargo & Co's. 4v15-ly9p

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ENERGETIC MEN OR WOMEN CAN MAKE MONEY by canvassing for our NEW BOOKS and ENGRAVINGS. One Agent reports thirty-three orders for one Book in three days. Address, PACIFIC PUBLISHING COMPANY, 4v10qr9p 305 Montgomery street, San Francisco, Cal.





Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic Hay, Bag, screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Slide Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

**BOILERS.**—Locomotive, Flat, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Sottlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

**OIL BORING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.

**EFFECT OF CARBONIC ACID ON THE HUMAN BODY.**—While workmen were recently engaged in re-opening and repairing the coal mines of Bow Buveur, at Jemeppe, they came upon a gallery communicating with the lower ladders, where they discovered seven bodies of the unfortunate workmen who, three months before, were imprisoned while making their way to the surface. The bodies were completely mummified—the shriveled flesh adhering to the bones. This phenomenon is attributed to the abundant exhalations of carbonic acid gas collected in the gallery.

**A VALUABLE DISCOVERY.**—The New York *Journal of Commerce* mentions a new discovery which already promises important results. It is a species of sponge which grows among the coral formations of the Bahama Islands, and can be used to advantage for bedding or upholstery purposes. It can be furnished so cheap that the poorest artisan can indulge in it.

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Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices  
In this City,  
**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgom'y,  
Over Pacific Fruit Market.

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**PALMER, KNOX & CO.,**  
Golden State Iron Works,

Nos. 19, 21, 23 and 25 First Street,  
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MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
STEAM ENGINES AND QUARTZ MILLS  
DUNBAR'S IMPROVED

Self-Adjusting Piston Packing,  
Requires no springs of screws; is always steam tight;  
without excessive friction, and never  
gets slack or leaky.

WHEELER & RANDALL'S  
NEW GRINDER AND AMALGAMATOR  
HEPBURN & PETERSON'S

AMALGAMATOR AND SEPARATOR,  
Knox's Amalgamators,

WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and  
is the only Amalgamator that has stood the test of seven  
years' continual working. 13v13-ly

Special White Iron Stamp Shoes and Dies  
Having been engaged for the past ten years in quartz  
mining, and being conversant with all the improvements,  
either in Mining or Milling, we are prepared to furnish, at  
the shortest notice, the most perfect machinery for reduc-  
ing ores, or saving either gold or silver. 13v13-ly

**WILLAMETTE IRON WORKS,**  
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Steam Engines, Boilers,  
SAW AND CRIST MILLS,

MINING MACHINERY, WROUGHT IRON SHUTTER  
WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
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**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,

**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.  
Also, Hay and Wire Presses made and repaired  
with neatness, durability and dispatch.

Dunbar's Patent Self-Adjusting Steam Piston  
PACKING, for new and old Cylinders, manufactured  
to order.  
Front Street, between N and O streets,  
14v11 SACRAMENTO CITY

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MANUFACTORY,  
No. 53 Beale Street, between Market and Mission,  
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Files re-cut and warranted as good as new, or no charge.  
The only establishment in the State. We also man-  
ufacture Reaper and Mower Sections  
1v 11 RIBDELL & BURNINO, Prop'rs.

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Foundry and Machine Shop,  
STOCKTON, CAL.

**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF

Quartz, Saw and Crist Mill Irons, Steam  
Engines, Horse Powers,

Mining and Irrigating Pumps, Car Wheels, Derrick Irons,  
House Fronts, Iron Fencing, Balcony Railings, etc.,  
at San Francisco prices. Orders solicited  
13v13-ly and promptly executed.

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MACHINE WORKS,  
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STEAM ENGINE, FLOUR AND SAW MILL  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND  
REPAIRED.

Special attention paid to Repairing. 13v13-ly

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Foundry and Machine Works,

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Manufacturers of

Marine and Stationery Engines  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining  
Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—  
Wine, Cider, Cotton and Tobacco Presses  
of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and  
Dies warranted to be made of the best white iron.

Dunbar's Improved Self-Adjusting Piston-  
Packing, requires no springs or screws; is always steam-  
tight; without excessive friction, and never gets slack or  
leaky.

**MACHINERY, OF ALL DESCRIPTIONS**  
Bought, sold, or exchanged. Bolt Cutting and Castings at  
the lowest market rates.  
6v11-ly **DEVOS, DINSMORE & CO**

LEWIS COFFEY. J. S. HEDSON  
**LEWIS COFFEY & HEDSON,**  
Steam Boiler & Sheet Iron Works.

THE only exclusively Boiler Making establishment on the  
Pacific Coast owned and conducted by Practical Boiler  
Makers. All orders for New Work and the repairing of Old  
Work, executed as ordered. And warranted as to quality.  
Old Stand, corner of Bush and Market streets, opposite  
Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minon,  
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ALL KINDS OF Brass, Composition, Zinc, and Rabbit Metal  
Castings, Brass Ship Work of all kinds, Spikes, Sheathing  
Nails, Rudder Braces, Hinges, Ship and Steamboat Belts and  
Coungs of superior tone. All kinds of Cocks and Valves, Hy-  
draulic Pipes and Nozzles, and Hose Couplings and Connec-  
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PRICES MODERATE. 13v13-ly

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**Etna Iron Works!**  
Southeast corner Fremont and Tehama streets,  
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Practical Machinists and Iron Founders,  
MANUFACTURE  
**STEAM ENGINES,**  
QUARTZ MILL MACHINERY OF ALL KINDS,  
SAW MILLS, FLOUR MILLS,  
Dunbar's Improved Self-Adjusting  
PISTON PACKING,

Now so extensively used in the East and in this State. Re-  
quires no springs or screws, is always steam-tight; without  
excessive friction, and never gets slack or leaky.

**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or anywhere else;  
Wheeler & Randall's New Grinder and  
Amalgamator.

Which only needs examination to be appreciated.  
Tyler's Improved Water Wheel,  
Giving greater power at lower cost, than any wheel in use.  
Send for one of our circulars, giving full tables  
of the money will be refunded.

**Sole makers for this coast of the "Pendergast  
White Iron Stamp Shoes and Dies.**  
None genuine unless obtained from us. Every work-  
warranted.

Patented Machinery of all kinds will be furnished by us  
at market prices. Particular attention given to drawings  
and specifications of machinery, which will be made to  
order. The patronage of the public is respectfully solicited.  
18v12

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MANUFACTURERS OF

**STEAM ENGINES,**  
Quartz, Flour and Saw Mills,  
Moore's Grinder and Amalgamator, Brodie's  
Improved Crusher, Mining Pumps,  
Amalgamators, and all kinds  
of Machinery.

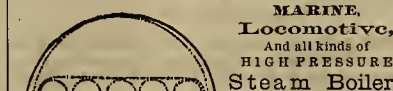
N. E. corner of Tehama and Fremont streets, above How-  
ard street, San Francisco. 3-17

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets,  
SAN FRANCISCO.

**MARINE**  
Locomotive,  
And all kinds of  
HIGH PRESSURE  
Steam Boilers  
MADE.

All Rollers guaranteed and  
tested by U. S. Boiler In-  
spector before sent out of  
the Shop, at Shop expense.

All kinds of Sheet Iron and  
Water Pipe, Coal Oil  
Stills, Wrought Iron  
Worms, etc., etc.  
Manufactured to Order.  
Old Boilers Repaired  
D. CAMERON.



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**BAURHYTE & McAFEE,**  
Steam Boiler and Sheet Iron Works.  
Owned and conducted by Practical Boiler Makers.  
High and Low-Pressure Boilers, Station-  
ary and Marine.  
Howard street, bet. Fremont and Beale, San Francisco.

Having had twenty-two years experience in this busi-  
ness, we feel confident of being able to compete as to  
quality of work—with any establishment on the Pacific  
Coast. 7v15-17

**I. H. SMALL,**  
MACHINE SHOP,  
REPAIRER OF

Steam Engines, Sawmills, Mining Machinery,  
and Wood Planes.  
Repairing of all kinds done with promptness and dispatch.  
Gears of all kinds cut at short notice, corner of  
Market and Beale St. San Francisco. 6v15-3m

**CALIFORNIA**  
TOOL AND FILE FACTORY.  
Blacksmith and Machine Shop.

No. 17 Fremont street, between Market and Mission, S. F.  
4v15-17 J. WEICHHART, Proprietor.

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No. 51 Beale st., bet. Market and Mission.

**D. & W. FOURNESS, Prop'rs.**

**STEAM ENGINES,**  
Flour and Sawmills, and MACHINERY of all descriptions,  
made and repaired at shortest notice.  
Particular attention paid to repairing Reynolds's Cut-off.  
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J. NEWBAM. J. BIGWOOD.  
**SOUTH BEACH IRON WORKS,**  
Near corner of King and Third streets, San Francisco.

**MARINE ENGINES,**  
AND ALL KINDS OF

**MACHINERY FORGING.**  
All kinds of ship-smithing and Mill work manufactured to  
order. Jobbing of every description promptly attended to.  
All work done guaranteed. 13v14-17

**JOHN LOCHHEAD'S**  
Steam Engine Works,  
Beale street, near Mission, San Francisco.

**STEAM ENGINES OF EVERY DESCRIPTION BUILT**  
to order—Marine, Stationary, or Locomotive.

**HOISTING AND PUMPING ENGINES,**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland  
navigation is called to the

**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San  
Francisco for the last fourteen years, and enjoys the re-  
putation of having built ONE HUNDRED AND SEVENTEEN  
STEAM ENGINES  
Screw Propellers of all kinds, and Steam Boat Machinery  
generally, made to order, and warranted to give perfect  
satisfaction in every particular. 25v12-3m



**SPLendid CARS.**—The long lines of railway now being used, and the necessities for continuous day and night traveling, is bringing into existence great improvements in the construction of cars. "Sleeping cars" have been some time in vogue; "hotel cars" are already in use, whereby all the travelers on a train can enjoy the conveniences and luxuries of hotels, about as well when traveling as when resting from travel. The latest improvement in this direction is "drawing-room cars," two of which have just been completed for the Central Railroad, to accommodate day passengers between New York and Buffalo. They are each sixty-one feet long by nine and a half wide, and contain nine apartments, elegantly fitted up, for the use of families and parties traveling together. Some of the rooms contain accommodations for eight, and some for four passengers. Each car contains sixty-four seats, including those in the general smoking room, which will be used in common by those of the private apartments. Each room is lighted by a large plate glass window forty inches square, affording a magnificent view of the passing landscape, while the interior decorations are of the most perfect and elaborate description. The cost of each car was about \$15,000.

People will soon seek railroad trains, rather than watering places as localities for luxurious ease.

Most of the silver from Chili, which was formerly shipped in the ore, is now exported in the shape of bar silver. This change has been brought about by an improved system of amalgamation. Formerly none of the ore which contained arsenic or antimony could be made available in Chili, but had to be conveyed to Europe, in order that the silver might be extracted. Within the last twelve months the system employed in Europe, has been introduced there in a modified form, and with such successful results that hardly any silver remains in the ore after the operation has been gone through. The probable shipments from Chili and Bolivia for the first six months of this year, are 28,251 tons fine copper, against 29,955 tons in 1866, showing a decrease of 1,704 tons.

**PLATE GLASS** has not yet been manufactured in the United States. This article has hitherto been derived chiefly from Belgium. A practical glass worker, in Birmingham, Penn., has, however, recently invented and put in operation an apparatus for the manufacture of plate glass, which is said to turn out an article equal to the best imported.

**BLASTING POWDER.**

PRICE, \$3.00 PER KEG.

—ALSO—

PORTING, CANNON AND MUSKET

**POWDER,**

Of superior quality.

**FUSE AND SHOT,**

Always on hand and for sale at the office of the

**CALIFORNIA POWDER WORKS,**

No. 318 California Street.

**JOHN F. LOHSE, Secretary.**

25v14qr

**Piles! Piles! Piles!**

NOT PILES OF GOLD, NOR YET OF SILVER, so much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of

**WOOD'S SUB-POSITORY.**

It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.

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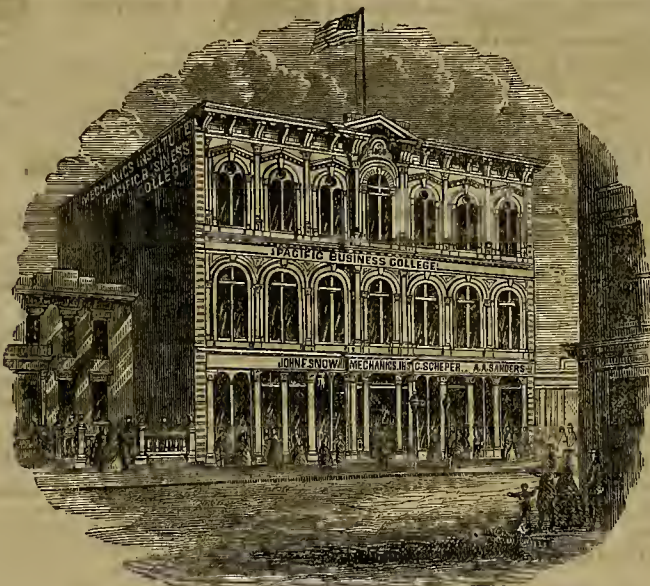
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We take occasion to inform our friends and customers that we have sold our entire stock in warehouse, also invoice to arrive, to Messrs. N. P. COLE & CO., 312 and 314 Pine street.

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THE MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity.

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Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government laws and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with one but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

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National Mineral Land Law, Instructions, Blanks, Etc. Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & CO., office Mining and Scientific Press, San Francisco.

The MINING AND SCIENTIFIC PRESS, San Francisco, has entered on its sixteenth volume. The Press is worth its weight in gold to the artisan and the miner, and is always filled with original matter of deep interest to all classes.—Amador Ledger, July 13th.

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Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches: 1. Assaying of ores, metals and other mineral substances. 2. Technology, or Chemistry, as applied to any special branch of manufacturing. 3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc. 4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed. 5. Concentration. Dressing of ores. 6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology.

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New Mining Advertisements.

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpiquo County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately.

Any stock upon which said assessment shall remain unpaid on the twenty-fourth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourteenth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sep23

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that the Annual Meeting of the stockholders of the above named Company, will be held at Dashaway Hall, on THURSDAY, October 24th, 1867, at 7 1/2 o'clock P. M., for the election of a Board of Trustees to serve the ensuing year, and for the transaction of any other business that may come before the meeting.

B. P. WILKINS, Secretary pro tem. San Francisco, Sept. 26, 1867. sep23

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, No. 611 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the seventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPHI, Secretary. Office, 611 Washington street, San Francisco. sep23

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of August, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like E F Baulwin, Adella Baulwin, J K Glassy, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of September, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, at No. 418 Montgomery street, San Francisco, Cal., on Monday, the thirtieth day of September, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. sep14

Ancient River Channel Blue Gravel Company Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the nineteenth day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House. sep7

Ancient River Channel Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—All persons are cautioned against purchasing the following Certificates of Stock in the Ancient River Channel Blue Gravel Company, as the transfer has been stopped on the same:

One Certificate, No. 82, for 125 shares; one Certificate, No. 6, for 10 shares; one Certificate, No. 27, for 15 shares. A. P. MORE. San Francisco, August 26, 1867.

Chilk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirteenth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John Fontman, H W Hall, Martin White.

And in accordance with law, and an order of the Board of Trustees, made on the thirteenth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on Monday, the thirteenth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets, San Francisco, California. an17

Chilpaneca Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of September, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco. sep14

Gold Quarry Company, Location of Works: Placer County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, room No. 10, second floor of No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office 402 Montgomery street, (Room No. 10, 2d floor) San Francisco, Cal. sep21

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment (No. 9) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. W. WOOD, 415 Montgomery street, San Francisco, Cal., or to the Superintendent, H. HUGGETT, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the nineteenth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WOOD, Secretary. Office 415 Montgomery street, San Francisco, Cal. sep21

George Washington Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 19) of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, only, at his office, in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the sixteenth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary. Office, 338 Montgomery street, San Francisco. sep21

Hansen Copper Mining Company, Location: Low Divide District, Del Norte County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the twelfth day of July, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Shares, Amount. Lists names like Ayres, Washington, Burch, W W, H. Berendorf, J. C. Buxzo, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twentieth day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesrooms of Badger & Chapman, N. W. corner of Kearny and California streets, San Francisco, Cal., on Monday, the thirtieth day of September, 1867, at the hour of 12 1/2 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOHN O. HANSCOM, Secretary. Office, at the Etna Iron Works, Fremont street, between Howard and Folsom, San Francisco. Office hours: from 8 A. M. to 12 M. sep13

Kelsey Gold and Silver Mining Company, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1867, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, northeast corner Battery and Clay streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. V. HERBERT, Secretary. Office, No. 407 California street, San Francisco. sep14

OLNEY & CO., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

La Blanca Gold and Silver Mining Company.

Location of Works: District of Ures, State of Sonora, Mexico. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the tenth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Briel, Henry, Briel, Henry, Meyer, Franz, Walzheim, Max.

And in accordance with law, and an order of the Board of Trustees, made on the tenth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Doro & Co., at No. 327 Montgomery street, San Francisco, Cal., on Monday, the thirtieth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

JOS. GOLDMAN, Secretary. Office, southeast corner Front and Commercial streets, San Francisco, California. sep21

Lady Franklin Gold and Silver Mining Company.—Silver Mountain Mining District, Alpiquo County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John Bardsley, John Bardsley, John D. Bardsley, Wm Browning, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at the office of the Company, 331 Montgomery street, San Francisco, on Tuesday, the fifteenth day of October, 1867, at the hour of 1 o'clock P. M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary. Office, 331 Montgomery street, corner of California, San Francisco. sep21

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of August, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John Farquharson, D F Richards, D F Richards, D F Richards, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Doro & Co., No. 327 Montgomery street, San Francisco, Cal., on Saturday, the fifth day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary pro tem. Office, 648 Market street, San Francisco, Cal. sep21

La Blanca Gold and Silver Mining Company, District of Ures, Sonora, Mexico.

Notice is hereby given, that the Annual Meeting of the stockholders of the above Company, will be held at No. 103 California street, corner of Davis, in San Francisco, on THURSDAY, the tenth day of October, 1867, at 7 1/2 o'clock, P. M.

Proxies must be written and filed with the Secretary. sep14-3v JOS. GOLDMAN, Secretary.

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Landor County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixth day of September, 1867, an assessment of three dollars (\$3) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, in San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirty-first day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco.

N. B.—Two per cent. will be allowed on all payments made on the above prior to 4th inst. sep7

North Star Gold and Silver Mining Company, Reese River Mining District, Landor County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 123 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. sep21

Neagle & Corcoran Silver Mining Company—Location of Works: Storey County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Bell, Rosena, Bell, Rosena, Edwards, A. L., Kennedy, Jas., etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Doro & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the second day of September, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. P. OREN, Secretary. Office, Room No. 11, 333 Montgomery street, San Francisco, California. au17

POSTPONEMENT.—The above sale is hereby postponed until Wednesday, the second day of October, 1867, at the same hour and place. By order of the Board of Trustees.

sep7 T. B. WINGARD, Secretary.

Neagle & Corcoran Silver Mining Company.—Location: Storey County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of September, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company 408 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the seventh day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-third day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary. Office, No. 408 California street, San Francisco. sep7

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. sep14

Potrero Company.—Location of Works: San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of two dollars and a half (\$2.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 533 Kearny, corner of Sacramento street.

Any stock upon which said assessment shall remain unpaid on the tenth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirtieth day of October, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, Cal. sep14

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like F H Aberding, F H Aberding, F H Aberding, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Doro & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. sep14

POSTPONEMENT.—The above sale is hereby postponed until Monday, the twenty-first day of October, 1867, at the same hour and place. By order of the Board of Trustees.

sep24 T. B. WINGARD, Secretary.

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fifth day of September, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-eighth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. sep7



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

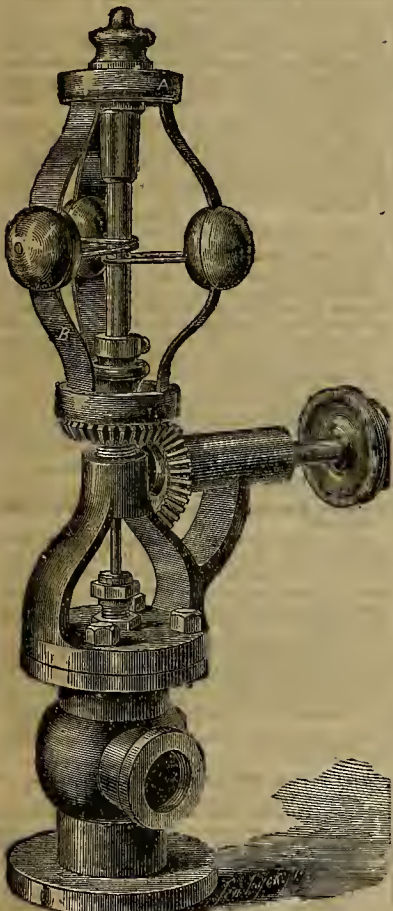
This Amalgamator Operates as Follows:

The pan being filled, the motion of the miller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

All men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

PICKERING'S ENGINE REGULATOR.



Warranted the Best in Existence.

Cheap and easy to attach to any Engine, old or new. Send for a Circular, to HAVIN STODDART, 114 Beale Street, San Francisco.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Up-right Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and that they will be held responsible in law and in damages.

Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages.

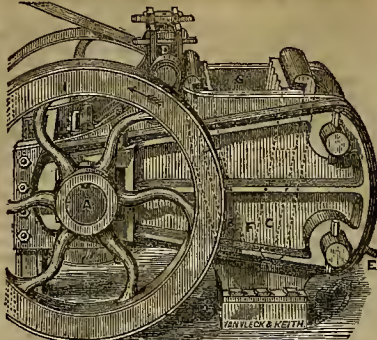
BLAKE & TYLER, Agents for the Pacific Coast.

Notice to Miners, Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done.

M. PRAO, Stove Store, No. 125 Clay street, below Dray.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms: No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—Price, \$600

No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour—Price, \$500 No. 3—Or 18-inch Crusher, with a similar manner of crush from seven to eight tons per hour—Price, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought-iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, R, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

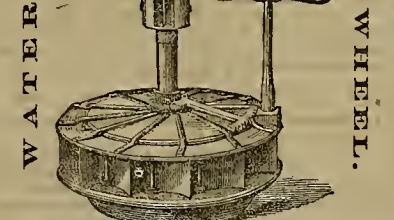
The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1865.

JAMES BAONIS, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers. Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine, will be found in the Mining and Scientific Press of Sept. 22d, 1865.

BRODIE & RADCLIFFE, Express Building, 402 Montgomery street, San Francisco.



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE UNITED STATES or elsewhere, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERNCES.—E. Stockety, Poisson; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coyville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GRANT, Agents for California.

26-13-lyqq 310 Washington street, San Francisco

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a First-class Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, San Francisco, Aug. 29, 1867.

Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

E. T. STEEN, Commission Agent for the purchase and sale of Engines, Boiler Castings, AND ALL KINDS OF MACHINERY. No. 608 Montgomery street, San Francisco. HAS FOR SALE One Engine, 6-Horse Power, \$140 One Engine with Boiler, 7-Horse, 600 One Engine, Link for Hoisting, 15-Horse, 900 Two Engines, Boilers, Port., 16-Horse, 1,200 One Engine, 40-Horse, 1,300 One Iron Battery of 4 Stamps, 500 Also, a great variety of Boilers and Machinery, CASTINGS OF ALL KINDS, AT LESS THAN MARKET RATES. Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency.

PATTINSON'S HURDY-GURDY WATER-WHEEL. The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hardy-gurdy wheel," and is considered the most economical Water-Wheel now in use. Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR. THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, 11-15-6m Per Wells, Fargo & Co's Express.

NELSON & DOBLE, AGENTS FOR Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, Oerman, Plow, Blistar and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine street, Between Montgomery and Sansome, San Francisco.

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing. HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running; by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State. Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 28 Second St., and 108 and 110 Jessie St., San Francisco.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE. WM. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

Steam Pumps, FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT. PICKERING'S GOVERNORS For Steam Engines. Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco. 23-12-3m

Quartz Mill Construction and Superintendence. THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 26-14-3m

Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay st.

THE Gold Hill News gives the mode of working the ores of the Montezuma mine, in Arabia District, Humboldt county, Nevada, as follows: The ore of this ledge consists of an oxide of lead and antimony, and much of it combines in the form of an antimoniate of lead. The ore contains from \$50 to \$300 of silver per ton, and the entire vein of from fifteen to twenty-five feet in thickness, is about fifty per cent. or one-half metal. It is reduced by smelting. The reduction works at first erected, though incomplete, produced from 300 tons of ore, \$25,000 in fine bullion. The product of the smelting operation is an alloy of lead, antimony and silver, the antimony varying from thirty to forty-five per cent. To separate these metals, two distinct processes are required, and in furnaces peculiarly adapted to each operation. In the first, the antimony is volatilized and driven off, leaving an alloy of pure lead and silver. This is called calcining. In the second, the lead is oxidized, forming litharge, and run off, leaving the silver alone in the furnaces, in large cakes of from \$3,000 to \$5,000 each. This operation is called the cupelling. The ore is readily smelted, the chief expenses being in refining. At present fifteen tons are reduced daily, producing about \$1,500 in silver alone. The pure lead reduced from the litharge, after the loss incident to the operation, amounts to four tons daily. This is piled up to await the railroad which will run within a mile of the works before another year. The lead will then pay nearly the entire cost of producing the silver, leaving that a clear profit. The antimony, now wasted, may be made to add largely to the profits of the mine. The ore is smelted by charcoal, which costs fifty cents a bushel. It is from nut pine, and is from forests of timber twenty-five miles distant from the smelting works. Great labor is required to procure the coal. The fuel for the calcining furnace is sage brush and greasewood of the country, two years' supply of which, it is estimated, lies within a range of three miles of the works. Five first class teams are used in procuring the fuel. The least part of the expense is the wood for the cupelling furnaces, only from half to three-fourths of a cord a day being used to each furnace.

GOLD PRODUCTION IN RUSSIA.—The quantity of gold produced in 1864 by private industry, in the Oural Mountains in Eastern Siberia, amounted to rather less than 19 tons, showing a slight falling off, as compared with the year 1863. The year 1865 was one of the most favorable character for the production of Russian gold, the results obtained having everywhere surpassed those of preceding years. As regards Eastern Siberia, the production of 1865 exceeded that of 1864 by 2,743 tons, and that of 1863 by 1,086 tons. This augmentation, which would have been greater if drought had not often interrupted the works, was the result of works in new bearings. In Western Siberia, 1865 yielded 0.272 tons more gold than was obtained in 1864, and almost twice as much as was produced in 1863. In the Oural district the production has scarcely changed of late years. From an absence of statistical documents as to the production of the State in the Oural district and Eastern Siberia, we can only, in order to form an idea of the importance of its bearings, adopt as a minimum the average production of former years—that is, about 1,670 tons for the Oural group, and 2,293 tons for Eastern Siberia. The total production of gold in Russia was estimated at nearly 23 tons in 1864, and at a little more than 26 tons in 1865.

THE VALUE OF FRUIT IN CALIFORNIA.—Next to the grape the apple yields the largest receipts. Last year the apple crop of California realized some \$400,000, of which San Francisco consumed \$120,000. Next to the apple comes the peach, which reaches within the neighborhood of \$300,000. The consumption of San Francisco is about 82,000 boxes, at a value of 102,500. The plum production reaches \$160,000, of which \$40,000 is consumed in San Francisco. Cherries about \$100,000, of which San Francisco consumes \$30,000. Apricots yield \$60,000, San Francisco consuming \$20,000. Pears amount in the aggregate production to \$70,000, of which San Francisco consumes \$10,500. According to the above estimates, the total yield of the fruit crop of the State is about \$1,090,000; about one-third of which is consumed in this city.

AN Eastern paper very correctly says that through most of the year, in parts of California, they can have strawberries and cream in the morning, and, before noon, a sleigh ride. The Pacific Railroad affords the necessary facilities for the latter.



THE HOOSAC TUNNEL.—The progress at the Hoosac Tunnel, for the month of July, under its new and energetic management, was much greater than for any previous month.

THE TRADE OF RUSSIAN AMERICA IN SKINS AND FURS IN 1866 amounted to \$1,500,000. These furs consist of sea otter, seals, blue and white foxes, mink, muskrat, beaver and bears.

FOREST EXTENSION IN FRANCE.—The effect of the laws against cutting and in favor of planting trees in France has been such that, of late years, instead of a steady decrease in the extent of woodland in the Empire, there has been a constant gain.

"BIO TREES" IN AUSTRALIA.—Dr. Mueller says in the Melbourne Age, that accurate measurement of some of the great Australian eucalypti have been made, and that one grand specimen found in Western Australia, known as Muelleri eucalyptus colosso, was ascertained to be 400 feet high.

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Advertisement for AMERICAN WATCH FACTORY, C. E. COLLINS, No. 603 Montgomery street, San Francisco. Lists various watch models and prices.

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Advertisement for GOVERNMENT HOUSE, Corner of Sansome and Washington sts., San Francisco, listing room rates.

Advertisement for WESTERN HOTEL, Nos. 43 and 45 K street, between Second and Third streets, Sacramento.

Advertisement for PACIFIC Insurance Company, SAN FRANCISCO, CAL., listing assets and services.

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Advertisement for LACOUR'S SARSAPARIPHERE BITTERS, describing its benefits for blood purification.

Advertisement for THE OLD MAN, THE YOUNG MAN, THE YOUNG WOMAN, THE HUSBAND, THE WIFE, THE DASHAWAY, THE INEBRIATE, THE TRAVELER, and Everybody Takes Them! PRO BONO PUBLICO!



**CORRECTION.**—In the article on "Perpetual Motion," in our last week's issue, certain words essential to the sense were accidentally omitted. We now give the last few sentences of the article as they should be: "A perpetual motion machine is, therefore, in the nature of the case, a chimera. A man may perhaps enlist the sun's rays in his service for a time, and by that means obtain motion, through properly arranged mechanism: but can he so store up those rays that they will furnish a supply of force to be drawn upon during their daily absence. When that has been done, and in such a way as to, require no outside interference until the apparatus falls to pieces from actual wear, we may perhaps modify our assertion."

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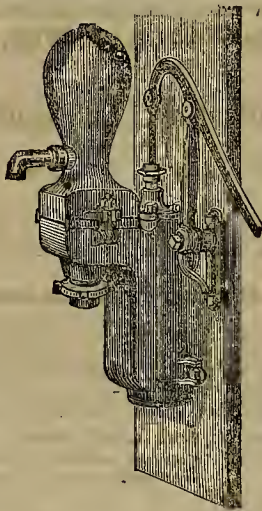
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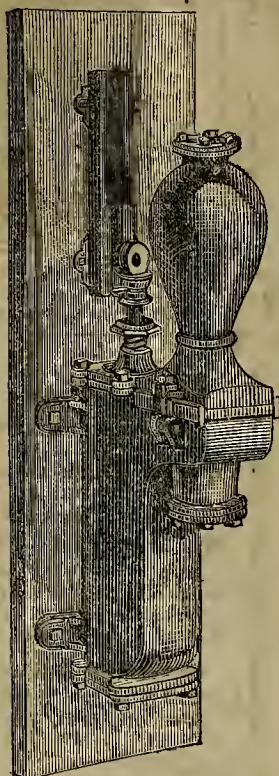
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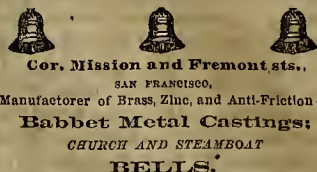
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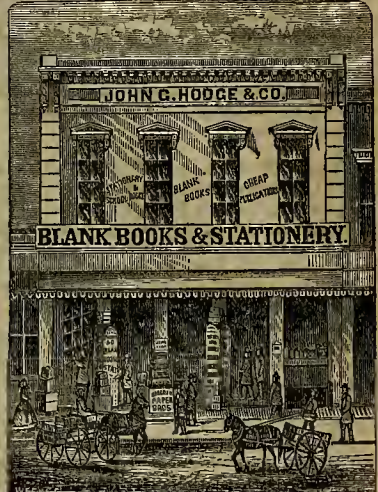
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SAN FRANCISCO, SATURDAY, OCTOBER 5, 1867.

VOLUME XV.  
Number 14.

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seen four solid ears or puppot-heads, for the reception of set screws, by which the dies used to receive the immediate force of the blows may be held in place and adjusted.

Instead of operating the machine by hand and handle, the handle, P, may be removed, and a connecting rod and foot-treadle substituted, so that both hands of the operator

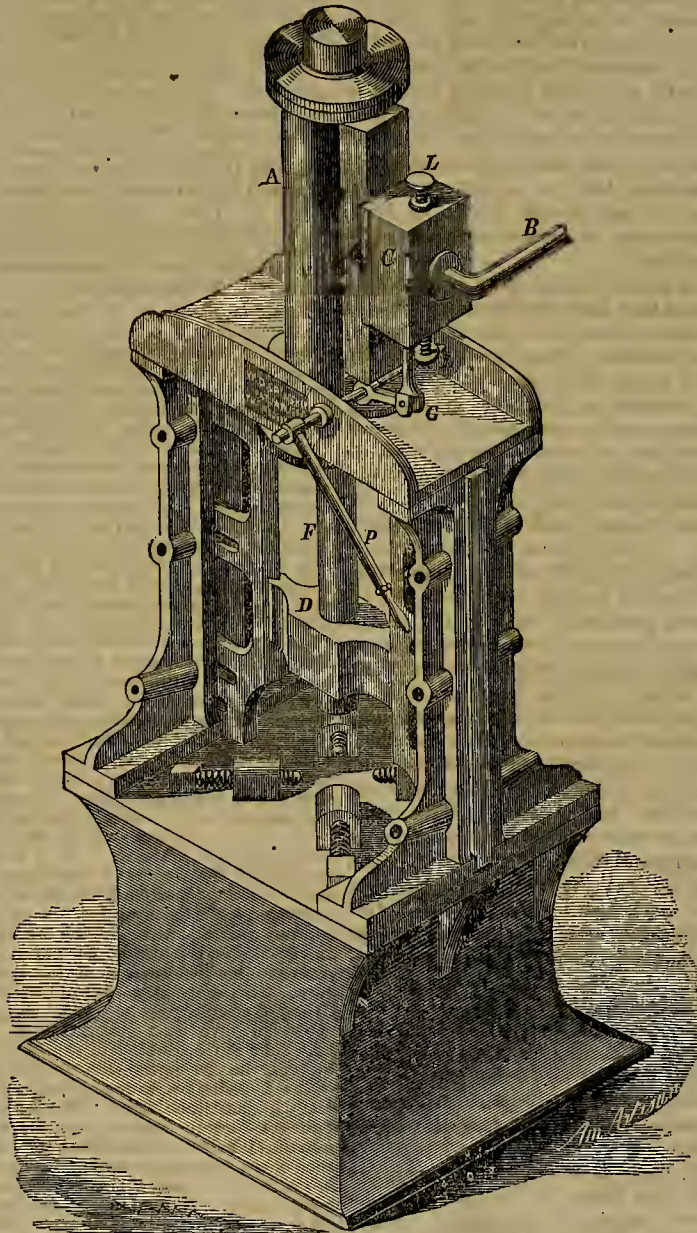
crushing, squeezing, etc. With slight modifications it might also be applied in the place of steam stamps for crushing quartz. The air-compressing pump may also be used as a blast or blower, when not needed for driving the hammer. It gives a very powerful blast for the furnaces, and to very good advantage as to economy. Its speed

## An Improved Mode of Handling Earth.

The handling of hard or rocky earth in deep excavations, as in railroad cuts, grading down hills, etc., is a most tedious and expensive operation. In sand and loose earth, that modern invention, the "steam paddy," has greatly economized this labor, and a giant wooden arm, worked by steam, is made to do the labor of many men. But this machine is inapplicable to hard or rocky earth, which constitutes nineteen-twentieths of all the excavations made; and the only resource has heretofore been to mere manual labor, for loading, with the assistance, sometimes, of a movable tramway for hauling off the earth in cars. When a hill is attacked, it is usual to place a number of men at the top or along the slope of the excavation to pick or blast down the superincumbent earth, which falls to the bottom, where about the same or a greater number of men are employed to shovel it up again and into the carts or cars for transportation.

On passing along the line of excavation on Townsend street, opposite the new gas works, a few days since, we noticed a novel and apparently effective plan of operations, which has recently been introduced there by Mr. H. Hill, and which we have never seen employed before, although Mr. Hill assured us it is not uncommon in deep railroad excavations in England, and has also been used by himself in Australia. Its evident utility is such that we feel quite well assured we shall be doing a good service by describing it, as we believe this *modus operandi* has never yet been placed before any portion of the American public.

In the first place a "heading" or short tunnel is driven into the face of the hill to be removed, of a size sufficient to allow of a horse and cart being backed into it. In the top or roof of the tunnel an opening is made under which the cart to be filled is placed. A properly constructed trap door is employed to close the opening when the cart is filled. This trap door is so arranged with heavy hinges, levers and catches, that it is readily operated by one man, who opens it by means of a short lever, to fill each cart as it is backed into position by the driver, and closes it while waiting for the next one. A cart is thus filled in about one minute. The earth and rock as it is loosened by the pick or blast, descends by its gravity to the trap-door, requiring no handling. If too large a mass of rock is dislodged to pass through the door, it is broken up or rolled away. The excavation is so shaped as to spread out, fan-like, from the trap door to the top of the bank, so that the earth and rock, wherever detached, will all find its way to the proper point. The tunnel must be pushed ahead as fast as the work progresses, so as to secure the proper grade for the rock to descend upon. So far as we can judge, from the appearance of the manner in which the work progresses, we should say that twenty men will do fully as much work, good picking ground, in this manner as fifty can do in the ordinary manner of first picking down the dirt and then shoveling it up. This plan of work is applicable only to ground where the bank to be moved is 25 feet high, or higher. It is equally applicable to all kinds of ground—clay, sand or gravel.



GRIMSHAW'S PATENT COMPRESSED-AIR POWER HAMMER.

## Air Hammers vs. Steam Hammers.

There are many situations and circumstances under which steam hammers are found very inconvenient, such, for instance, as when it becomes necessary to work bright steel, or under any other circumstances where the damp from the leakage of steam, or the dropping of water from condensed steam upon the anvil, would be objectionable. The air hammer also meets the case where water or other power than steam is alone available. It has also the advantage of being always ready for work, not having any accumulation of condensed water in the cylinder and steam passages, as is the case with the steam hammer. The rapidity of action of the air hammer may also be more readily increased than that of the steam-hammer, and the quality of the blows can also be changed more readily, and with greater accuracy. It is claimed that it will do its work with less consumption of power than is usually required by steam hammers, especially when the steam has to be carried for great distances, as is usually the case. The air hammer may be considered an important addition to the general assortment of machine tools for the workshop.

The machine consists of a force pump for supplying compressed air to a reservoir, and a working cylinder and piston connected with the hammer. The force pump and air reservoir are not shown in the annexed engraving. The pipe, B, is used to form the connection between such a reservoir and the valve-box, C, which latter answers to the steam chest of the steam engine. L, L are two screws, which pass through the side of the valve-box, and serve to hold the cut-off slides stationary in any desired position. The slide valve-rod is jointed at G to an arm that is attached to a transverse shaft, and to one end of this shaft is attached the lever, P, by the operation of which the action of the blow is obtained. F is the piston to which the cross-head, D, is securely attached; the cross-head, as it rises and descends, is guided in a vertical line by two guides, where angular edges fit into corresponding grooves of the cross-head. The cubical bed of the machine is a casting of sufficient weight and solidity to ensure permanency and power of resistance to the repeated blows required in the labor of striking. On the upper surface of this bed are

may be left at liberty for the ready manipulation of the material wrought upon. The particular machine herewith illustrated is the invention of Wm. D. Grimshaw, of Birmingham, England; the United States patent being owned by T. Presson & Son, 15 Gold street, New York, on whose premises they are manufactured.

The machine can be used for all such purposes as punching, piercing, stamping,

as a hammer may be varied from one to five hundred blows per minute, with a striking force of from 1,000 to 2,000 pounds. The illustration here given was prepared for and originally given in the *American Artisan*, of February 27th of the current year.

**SENSIBLE ADVICE.**—The *Louisville Journal* says: "Never buy goods of those who don't advertise. They sell so little that they have to sell dear."



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

(Continued from Page 146.)

[The following letter from our Paris correspondent, should have appeared in the issue next preceding the one upon the same subject, published Sept. 7th.]

## RAW MATERIALS OF THE PARIS EXPOSITION—FOREST PRODUCTS CONTINUED.

In my last letter, I omitted to mention the important contributions of Austria in this department of the exhibition. The woods and fruits of this State are considered as among the first in value of its natural productions. For variety, quality and cheapness they are hardly rivaled in Europe. The Adriatic sea, the river Vistula, which flows into the Baltic, the Elbe which empties into the North Sea, and the rivers which reach the Black Sea, as well as the railroads, all give facilities for cheap transportation. With these advantages, the exportation of wood has been constantly increasing until it has reached a total value of 75,000,000 of francs.

The quantity of timber sent by the administrator of forests of the different States of Austria, was so great that it could not be exhibited in the building, and it was therefore grouped outside in the *annexe*. The trunks of trees were cut into convenient lengths, which were reunited on the ground, so that their full dimensions are shown. The principal trees are oaks and spruces. Among them *quercus pedunculata* and *Abies excelsa*, are most conspicuous. The former is five feet in diameter at the butt, and is interesting as the wood which is largely used for the manufacture of wine and beer casks and barrels. A great number of staves of all sizes are shown in connection with the unworked woods. Some of these are fifteen feet long, and are intended for a grand cask to hold 100,000 French litres. There are several agencies in Paris for the sale of these staves. This oak grows in deep alluvial soils, and forms thick forests, in which the trees attain a height of more than 100 feet, and a diameter of from four to five feet.

## CORK.

This is a forest product which is of great importance to the wine interest of California; and as it is possible that the cork tree might be introduced there with advantage, a few details will not be uninteresting.

The principal exhibition of cork is from Algeria, and consists of slabs of raw "male cork" eight feet six inches long, with some of second growth, fifteen feet six inches, and specimens of raw cork bark of second growth eight years old. Some of these slabs are from four to six inches thick. The following explanatory statement is taken from the report of DeGayffier: "Cork is the substance lying beneath the true bark of a particular kind of oak, called the cork oak, which grows principally in Italy, Corsica, Algeria, Spain, and the south of France. The tree begins to furnish cork at the age of from twelve to fifteen years; but the first cork is of poor quality, and only fit to make floats and other coarse objects, and Spanish black, which is nothing more than cork burned in close vessels. After the first layer has been removed from the tree, the cork bark is deposited with more regularity, and then yields material fit for the finer purposes, such as the making of wine and other corks, sheets and other well known objects used for many purposes." From the period already mentioned, the cork may be removed from the tree once in eight or ten years, and the same tree will yield cork twelve or fifteen times. Raw cork, or that which has merely been rasped, comes principally from Italy, Spain, Portugal and Algeria. Spain supplies nearly the whole of the manufactured cork of commerce. Seville is the most important *entrepot* of this product. The importations into France in 1855 were 532½ tons, valued at 257,224 francs. In 1865 they had increased to 3,855 tons, valued at 2,502,696 francs. The export amounted to 169½ tons in 1855, and in

1865 it had reached the figure of 1,319½ tons, of the total value of 1,236,900 francs.

The government has encouraged the development of the riches of the cork forests of Algeria, by giving long leases on merely nominal terms to several companies. Large sums have already been expended there in the preliminary barking of the trees, but as yet, there has not been that measure of success that was anticipated. The natives have shown their ill will by burning several of the forests, and some of these enterprises have been abandoned.

(Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.)

## Formation, Distribution and Age of Igneous Rocks.

(Continued from Page 194.)

The Bangor deposit is situated along the western flank of this ancient anticlinal axis, and cannot be traced into the Sierra. The Oroville deposit is free of large boulders, and is composed almost entirely of light quartz gravel. There are no heavy deposits of quartz gravel between this volcanic axis and the line of cement and auriferous gravel deposit flanking the present summit of the Sierra Nevada. The mines existing in the intervening territory are what are termed "surface diggings" and quartz veins, which, so far as my observation goes, appear to have been formed during the intrusive era of quartz, or the sixth or new red sandstone period. This vast body of quartz gravel, composing the Oroville deposit, was evidently not drifted from the summit of the Sierra Nevada, or it would have been more or less mixed with large boulders of some other rock; and the conclusion seems unavoidable that the quartz must have found its way to the surface by being erupted from an extinct volcano near its present site.

The earlier stratified rocks seem to have derived their distinctive character from the igneous rock erupted during the period of their formation. Thus, during the eruptive era of granite, gneiss was deposited; during the eruption of feldspathic granite, clay slates and sandy shales formed, and during the eruptive era of the magnesian rocks, altered serpentine, greenstone, and hornblende slates were deposited. The vast deposits of quartz gravel hundreds of feet in thickness at the base of the Sierra Nevada, and covering scores of square miles, and also those vast deposits flanking the summit, and extending from the Feather to the Merced rivers, a distance of 200 miles, and the vast deposits of disintegrated quartz stained with the oxides of metals, which are now cemented into solid rock, may be satisfactorily accounted for on the hypothesis that metalliferous quartz similar in composition with that found in veins, was once erupted in vast quantities. And if it be really the truth, that ores were erupted in such enormous quantities, as these immense deposits would seem to indicate, it follows that placers are more widely distributed, and the ores of the useful metals enter more largely into the stratified rocks than has hitherto been supposed. As we further pursue this subject, we shall learn that such deposits of the ores of silver, lead, mercury, copper and iron do exist. I shall select a few facts which indicate that they also found their way to the surface during the eruptive era of quartz, and enter largely into the formation of the stratified rocks.

Mr. W. T. Rickard, in the MINING AND SCIENTIFIC PRESS, of Oct. 6th, 1866, describes a remarkable silver mine, "situated about two miles east of the Comstock lode. The matrix of the newly discovered mine is crystallized carbonate of lime and quartz. The stratum varies from eight to fourteen feet in thickness, and carries pay ore from one foot to ten in depth. The pay ore is distinguished from the barren portions of the vein by minute spots of sulphide of silver, with arborescent black oxide of manganese, which latter is beautifully developed at the northern extremity of the mine in the form of ferns, similar, but more distinct, to those found in the casings of some portions of the Comstock lode. The lode dips to the east at an angle of about 40°, and has well defined walls of hard schistose-like al-

tered porphyry of a greenish grey color, much harder than the bluish variety found in the Comstock. The lode has been traced some three miles, and it runs nearly parallel with the Comstock. The average value of the hullion taken from this mine is \$1.90 per ounce, as near as possible the quality of that obtained from the Comstock. The general appearance of the ore is very similar to that of the Copiapa in Chili, from which most of the Chili silver is obtained."

Now, that carbonate of lime is a deposit, there can be no difference of opinion. Prior to the Carboniferous era, carbonic acid existed in great abundance in the atmosphere, and the earlier limestones were probably formed by carbonic acid combining directly with oxide of calcium in solution, the compound silting down to form beds of great thickness. The ore of the above described mine, must have been erupted when the bed of altered porphyry upon which it rests was nearly horizontal, and it was subsequently covered by a stratum of carbonate of lime, which protected it from further disintegration and decomposition. By the upheaval of the mountain upon whose flanks it rests, this deposit was tilted up to its present angle, and the geological features of Mount Davidson indicate that it had attained to nearly if not quite its present altitude when the fissure containing the Comstock lode was formed.

The auriferous quartz gravel deposits, upon the western slope of the Sierra Nevada, cover scores, if not hundreds of square miles, hundreds of feet in depth. Deposits of argentiferous ores, of perhaps equal extent, may yet be found in Nevada, and the above-described silver mine may yet prove to be of much greater value than the Comstock vein. Deposits of the ores of the precious metals will be found skirting some volcanic axis of the old red sandstone period. The age or date of upheavals, may be determined by the character of the intrusive rock contained in the fissures found during such upheaval. Thus, feldspathic granite was intruded along anticlinal lines synchronously with the eruption of metalliferous quartz, and we might expect to find deposits of ores at intervals flanking such lines.

J. Alden Smith, of Colorado Territory, mentions a vein of argentiferous galena, the gangue of which is largely composed of heavy spar. Now it cannot be supposed that a deposit of heavy spar could occur at a period very far removed from the eruptive era of rock containing the alkaline metal barium. I am in a great measure compelled to depend upon the observations of others, and in many instances they are deficient in those discriminating marks which are the result of an advancing knowledge. From the language used in Dana's Mineralogy, in describing the Almaden quicksilver mines in Spain, it is to be inferred that the vein matter or gangue containing the quicksilver, is a deposit, in part at least. He says "the mines are not over 300 yards in depth, although so long worked (2,000 years). The mass of ore at the bottom of the principal vein is twelve or fifteen yards thick. The furnaces of Almadenojo's are fed almost exclusively by an ore obtained just east of the village, which is a black schist, strongly impregnated with native mercury and cinnabar, with but little visible. The rock is argillaceous schist and grit in horizontal beds, which are intersected by granitic and black porphyry eruption." It is to be inferred from this imperfect description that the ore of the Almaden found its way to the surface, during the eruptive era of metalliferous quartz. A part of the ore was disintegrated and partially decomposed and entered into the formation of the schistose rock. This schistose rock is intersected by dykes of granitic rock and porphyry, which could not have been intruded at a period later than the beginning of the carboniferous era, thus fixing the date of the eruption of the Almaden ore to the old red sandstone era.

Dana further says: "The ore in the mines of Idria in Austria, is mostly a bituminous cinnabar, disseminated through the rock along with native mercury. The mine is 750 feet deep, and the mining is carried on in galleries, as the rock is too fragile to allow of large chambers. Native mercury in some parts is very abundant." This vein or bed of ore must now be below the water line, and sulphurets are not oxidized under water. It is a noteworthy fact, that the ore in all anticlinal or intrusive veins in California, remains unchanged below the water line, and yet the ore of the Idria mine is very much decomposed. For the decomposition of sulphurets, air and moisture are indispensable, and the inference is unavoidable, that the ore of this mine, at some period in the earth's history, must have been subjected to the action of the atmosphere, and that this ore also found its way to the surface during the eruptive era of metal bearing rock.

Copper and iron are readily dissolved by sulphuric acid, and are found interstratified with the formations of the carboniferous era. Copper lignite has been found in such quantities that it has been mined for reduction. Gold, silver, lead, copper, sulphur and iron are sometimes found associated in the same gangue. I am led to infer, that those metals which combine with the largest proportion of sulphur at an elevated temperature, were erupted in the largest quantity the most recently. Iron pyrites are composed of iron 46.7 and sulphur 53.3, a larger proportion of sulphur than combines with any other metal. Some iron pyrites are not auriferous, and appearances which have fallen under our observation, lead me to believe they were the most recently erupted or intruded in fissures.

The following extract, from a lecture by the President of the Manchester (Eng.) Geological Society, relating to the origin and deposition of certain iron ores, speaks for itself: "The great deposit of Lindale Moor which had been worked, he believed for centuries, was really a valley excavated out of limestone, and filled with iron ore. As to the age of the ore, his own opinion was that it was since the deposition of the limestone, and before the formation of the Permian rock above it. Some years since, Mr. Bolton, a gentleman living near Ulverston, showed him a remarkable fossil which seemed to mark the age of these beds of hematite iron ore, and which caused him to believe that they were all formed during the deposition of the coal measures. His reason for dating the age at which these beds occurred, arose from the fossil which Mr. Bolton showed him—a good *sigillaria vascularis*, displaying good internal structure and external characters, all of which have been converted into peroxide of iron. No doubt that plant grew during the carboniferous epoch, and was afterwards converted into peroxide of iron. The origin of iron ores was now generally attributed to volcanoes. The holes in the limestone containing this ore, he thinks, might have been formed either by waters charged with carbonic acid, or washed by the sea."

If there was a period during which metalliferous quartz was erupted in such quantities as the vast deposits of old red sandstone would seem to indicate, the origin and formation of these deposits of hematite ore may be readily understood. Large bodies of erupted quartz carrying sulphurets of iron coming in contact, while yet hot, with water, would greatly facilitate disintegration and decomposition. The waters of the eruptive metalliferous quartz must have been strongly impregnated with sulphate of iron which was decomposed by the sulphuric acid combining with lime, the iron being precipitated as a peroxide. Peroxide of iron seems only to have been deposited as the coloring matter during the old red sandstone era. It was during this era that feldspathic granite was intruded in a plastic state along anticlinal lines forming cones and belts, frequently of great extent, and with the termination of the old red sandstone period, the granitic era may be said to have passed away.

[To be Continued.]

IMPORTANT, IF TRUE.—It is said that Mr. H. E. Tweedles, of Pittsburg, Pa., has invented and patented a new process for the distillation of petroleum oils, in which steam is the only heating agent employed. It is furthermore claimed that the oil so produced is obtained in such a state as to avoid the necessity and expense of any subsequent purification by alkalis and acids. But six or eight minutes only are said to be employed in accomplishing the result. The quantity operated upon in a six or eight minutes run, is not stated. Steam is undoubtedly to become a most important auxiliary in the distillation and purification of petroleum; numerous experiments in that direction have already been undertaken on this coast, with a greater or less measure of success. Still, we are not exactly prepared for the above announcement, as yet.

The man who invented the Prussian needle gun, has invented a species of dress or covering for the soldier which renders him impenetrable to the ball of the needle gun, or any other gun! What next?

The quantity of zinc obtained from British ores is about 15,000 tons per annum, considerably more than one-third of which comes from the Isle of Man.

Most of the iron mines in Michigan have adopted the old system of mining, instead of quarrying, as recently practiced.



**Mechanical.**

**Railroad Car Brakes.**

We gave a brief notice, some weeks since, of a newly invented steam car brake. This invention appears to have since been put into actual use, with the most gratifying success. A short time since the managers of a large number of railroads, from various parts of the United States, met by invitation on the New Jersey Central road, to witness the operation of this invention. The trial appears to have been highly satisfactory, and the examining committee adopted a resolution, fully endorsing the invention, admitting its reliability at all times, its simplicity of construction, fitness for general adaptation, its great safeguard for human life, saving of property and stock, its positive prevention of sliding wheels, and, in short, its great superiority over all the other engine or hand brakes in use.

This brake is under the solo management of the engineer, and gives him power at once to stop the train at pleasure, without the aid of brakemen. It is described substantially as follows:

The brake is operated by a steam cylinder with 34-inch throw of piston. This cylinder is placed under the foot-board of the engine. Nothing is seen on the engineer's stand but a small lever that opens and shuts a valve, and a 1/2-inch pipe through which the steam passes into the cylinder. A chain passes around, pulling on the piston-head. This chain goes through the train, connected by sections of rods and chains, and the brakes are applied through the agency of small standards in the center of the car. By means of the safety valve in the brake cylinder, the steam escapes when the pressure becomes greater than required for the best braking. By this means the great evil to railroad economy—of sliding wheels—is obviated.

Mr. Wm. Longbridge, of Paterson, N. J., has patented a means of determining, in pounds, the pressure exerted by this brake, a matter of considerable importance to its successful employment, and also a means of most satisfactorily showing some of its points of superiority. At one of the recent tests, seven brakemen exerted their full power at the ordinary brake windlass, and the indicator showed the following results:

A exerted a power of.....	320 pounds.
B " " " " " " " " " "	304 " "
C " " " " " " " " " "	288 " "
D " " " " " " " " " "	272 " "
E " " " " " " " " " "	256 " "
F " " " " " " " " " "	192 " "
G, a beginner, exerted a power of.....	150 " "

The steam brake showed a power of 3,500 pounds. The same power was again exerted, with the same result.

The following will show how quickly a train may be stopped at different velocities:

	Feet.	Seconds.
When running at a speed of 55 miles to the hour, the train was brought to a state of rest from the point where the signal was given, in.....	624	15
Second speed of train 32 miles per hour.....	405	13
Third speed of train 21 miles per hour.....	412	16
Fourth speed of train 21 miles per hour.....	250	16
Fifth speed of train 50 miles per hour.....	721	21
Sixth speed of train 50 miles per hour, hand brakes.....	1317	51

The engineers who have used it express their admiration of its use, and the engineer on the Central Railroad, on the train on which the brake has been in use for seven months, says he will not hereafter run a train to which it is not attached. He can stop a train within two feet of any point designated, at any rate of speed.

**How to HARDEN CAST IRON.**—It is generally supposed that the only way to harden a casting of soft iron is by the ordinary method of case hardening. A correspondent of the *Scientific American*, of August 31, says: "The simplest and best way that I know of is to heat them [small iron castings] to a bright red heat, and then simmer them in common whale or lard oil. If the scale is taken off the castings they will harden quite deep. I have seen quite a respectable cold-chisel made from a piece of common cast iron in this way. The harder the nature of the iron, the better it will harden."

**TINNING IRON.**—The plates to be tinned are now cleaned by scouring between rollers, instead of with acid, as has been the custom.

**SPECIALTY A MEANS OF SUCCESS.**—To gain a name for excellence of workmanship, says the *Engineering*—a name widely recognized in public as well as in the trade—is of immense value; but this often takes many years, and, however worthy the ambition of the true mechanic, the prospect is not one inviting the investment of capital with a view to early and extensive profit. There must be a novelty of some kind to start a business successfully; the novelty must be intrinsically good, and the engineer must know how to push it (for the best invention requires pushing); and he must know, too, how to keep it as much as possible in his own hands. Boulton & Watt's steam engine was such a novelty, and it was well pushed, too. Robert's self-acting mule established the prosperity of the Atlas works, Manchester, and Giffard's injector has contributed greatly to maintain it. Bullough's loom patents have returned hundreds of thousands of pounds in profits to the exclusive makers. Nobody had a monopoly of locomotive-making; but had George Stephenson known of and purchased and defended Neville's patent (of 1826) for the multitubular boiler—and every English locomotive made from the time of the "Rocket" down to 1840 was a clear infringement of that patent—the Newcastle Works would have become well-nigh a mint to the Stephenson family. Who can analyze the wonderful success of Mr. Penn as a marine engineer, and how is it that he has so long carried the Admiralty in his pocket? Gwynne's centrifugal pumps afford another instance of the thorough success of a well managed specialty. Although the late Mr. Appold is the putative father of all centrifugal pumps, and he took out patents, and large numbers of very successful pumps are still made in his name, Gwynne's pumps are nevertheless believed to have paid their manufacturers net profits of nearly £100,000. There are many other successful mechanical engineering businesses, based upon special novelties, still growing up.

**MECHANICAL SCIENCE.**—Mr. Whitworth has addressed to the Science and Art Department the following letter, which was laid before the Select Committee on Paris Purchases: "Feeling the national importance of maintaining the position which England has reached in the manufacture of machinery in general, I desire to do as much as may be in my power toward effecting this object. I should therefore feel obliged if you would inform the Lord President of the Council that I am willing to deposit in the South Kensington Museum [London], to be there perpetually preserved, three original true planes and a measuring machine, or instrument, demonstrating the millionth part of an inch; and I propose, subject to some conditions, to make a sufficient endowment to provide for the delivery of lectures to explain such instruments. Their importance will be manifest when it is considered that the value of every machine when made of the best materials depends on the truth of its surfaces and the accurate measurement of its parts."

**MANUFACTURE OF CARRIAGE WHEELS.**—Twenty years ago the manufacture of carriage and cart wheels was a slow business, all the work on them being done by manual labor. At that time a set of wheels for a carriage, wagon or cart could not be made by a wheelwright under one or two weeks, but now, with the aid of machinery, they can be made in a few hours. Instead of the wheelwright taking the timber from the farmer in the log and plank, and splitting or riving out his spokes, laying them by to season, then working them to the proper size with draw-knife and spoke-shave, as he once had to do, he obtains the spokes all ready turned and finished by machinery. Again, to form the hubs of wheels, the wheelwright had to saw off blocks, bore holes through the center, and turn them in a common hand or foot-turning lathe, all of which occupied much time. The felcos were got out by the use of a common whip-saw, which was by no means a rapid operation. The work is now all done by machinery.

The single firm of Clayton, Shuttleworth & Co., in England, has built nearly eight thousand steam engines within the last twenty years. A large portion of these engines have been those known as portable, for farmers' and builders' uses, etc.

**Scientific Miscellany.**

**The Manufacture of Iron and Steel by Means of Magnetism.**

We gave some account, a few weeks since, of a process said to have been discovered and patented in England by Mr. W. Robinson, for manufacturing iron and steel by the aid of magnetism. A late number of the *Mechanics' Magazine* makes a renewed reference to the matter as follows:

At present we do not see any reason to doubt the result which he therein states that he has obtained; but we do think he has failed to give the rationale of that process, which, of course, in the description of any process, is the thing strictly necessary to be set forth, also each process naturally falls into the category of empiricisms, and not into that of science as applied to art and manufacture. Still, if the results be good, there is no reason why the process should not be followed, providing it be economical. But Mr. Robinson says that he did not fall upon this process by accident, but after lengthened research; consequently, one naturally looks for something like a scientific exposition of it. He says that the object of his research has been the practicability of making wrought iron by the aid of the magnet instead of the laborious, tedious, expensive and somewhat uncertain process of puddling. The facts that led him to believe that such was practicable were the following: He found that some files by using became magnetic, and that such files always lasted much longer in use without showing signs of being worn than others; but he has not been able to ascertain how this magnetism comes about. We think if he tries he will find that any file will become slightly magnetic if he draw-files with it, and not only so, but that any piece of iron or steel will become magnetic if it be filed while it is being turned in the lathe. Another principal fact was, that he found when a compact mass of iron filings were formed between the two poles of a magnet and then broken by force, the appearance was exactly similar to the fracture of a bar of tough iron. These and other facts led him to try the experiment of applying a magnet first to castings while being poured and till consolidation, and then to the melting furnace. In the first instance the castings were bright, like newly cast lead, and would bear riveting when cold, while other castings from the same ladlefull of metal were the ordinary gray and brittle. In carrying out the process in the furnace to replace the puddling process, two pieces of iron were built into the furnace so that their inner ends might be in contact with the melted metal, and their outer ends in contact with the poles of a magnet. When the metal was in a melted state and a magnet applied, the magnetic arc was shown through the melted metal by blue flame and intense ebullition, and in twenty minutes the iron was gathered into a ball, and this iron when rolled was of the finest quality.

Now, suppose there to be no mistake about these results, what is the mode in which the magnet acts upon the crude iron? The mode in which the same or a similar result is arrived at may help us to an explanation. The two principal methods of turning crude iron into malleable iron and Bessemer steel is by the oxidation of the carbon and other matters out of the crude iron. In the puddling process successive portions of the melted iron are brought to the surface by stirring, and into contact with the air till the greater portion of the carbon passes off in the form of carbonic acid gas, etc., and the same thing is obtained much more readily and perfectly by the Bessemer process, by forcing the air through the melted metal. Now, we believe that it is an established fact that crude iron cannot become malleable till the carbon is driven off; therefore, if magnetism produces malleable iron from cast iron it is by driving off the carbon in some way; but if it be driven out it must be in the gaseous form. To render carbon gaseous, oxygen is necessary, and it so happens that among the gases oxygen is a paramagnetic; therefore, in the magnetic sphere there will be a concentration of oxygen. But this will not account for the oxidation of the carbon unless it can be shown that the carbon is brought in contact with the oxygen. On the surface it will be brought in contact with a condensed atmosphere of oxygen, but without stirring how is the carbon, which is mixed or in combination with the metal below, to be reached? There seems to be but one way of accounting for it, viz., this: The particles of iron being magnetic, but the particles of carbon not being so, the particles of iron are necessarily colligated together when under the action of the magnet; and the carbon squeezed

out, the carbon will necessarily rise to the surface and there burn, which it apparently does, from what Mr. Robinson says, producing a great heat and intense ebullition of metal, and oven melting the lining of the furnace and the bricks. Whatever the mode of operation may be, the results being as stated—and we see no reason to doubt them—this method of converting crude iron into malleable iron is by far the simplest and most economical yet discovered. Mr. Robinson has not yet been able to fully carry out his process; existing trade interests have worked against him; but that is what every inventor must expect—at least in England. "Vested interests" are all-powerful for obstruction.

**EDITORS PRESS:**—In your "Scientific" column of Sept. 14th, you mention the comparative force of insects and vertebrata. You say that "while the draught horse can only exercise a force of traction equal to two-thirds of its weight, the cockchafer can draw fourteen times its own weight." I will not dispute the facts claimed in that article, but must question the conclusion of M. Plateau, that "these results proceed not from muscle of a comparatively larger size, but from greater muscular activity." I think the comparison is not well instituted. The vertebrata have not, in the cases named, an equal chance to exhibit muscular activity. Let the cockchafer draw his load over plate glass, sprinkled with emery flour; or give the horse the same power to lay hold of his fulcrum; or let a tom cat pull his load over a three-ply carpet. It is well known that a man, properly harnessed and spread upon a ladder, can hold the best draught horse, on a steady pull. This results neither from larger size nor greater activity of muscle.

JEIGH ARRE.

**ALUMINUM.**—The new processes by which the production of aluminum has been cheapened, are tending to bring this beautiful metal more into use in the ornamental and industrial arts. A chemical establishment is now in process of erection in New York, in which the manufacture of aluminum will be pursued as a leading branch of the business. Alumina, or oxide of aluminum, is pure argillaceous earth; of ordinary clay, alumina is the principal constituent. The general process by which this ore is reduced may be described as follows, viz.: Take a quantity of clay and combine with twice its weight of ferrocyanide of potassium; add also common salt to the amount of one and a half times the weight of clay; raise to a white heat in a crucible for half an hour, and when cool, dissolve out the soluble salts with cold water.

Eventually it will cost no more to produce aluminum than tin, but aluminum is not well adapted for general culinary purposes. Though insoluble in nitric acid in ordinary temperatures, it is soluble in solutions of salt and various alkaline structures.

In this connection, we may remark, that the chief source from which aluminum is now obtained, in France, is from a singular mineral, composed chiefly of a hydrated compound of iron and alumina, to which the name of *bauxite* has been given. Bauxite possesses an ochreous color, inclining occasionally to brown or red. This mineral is found in some parts of the south of France, in considerable abundance; it is only of recent discovery, made, we believe, by St. Clair Deville, subsequently to the introduction of the valuable improvements for the more economical reduction of alumina metal, which possesses so many valuable properties.

**WHITE LEAD DIRECT FROM THE ORE.**—Mr. Bonneville, of Paris, has recently provisionally specified an invention for obtaining white lead (carbonate of lead) direct from the ore. This is accomplished by pouring the molten metal into cold water, to render it as porous and bulky as possible; it is then dissolved in sulphuric acid, and the sulphate is treated with pyroigneous or oxalic acid, combined or not with tincal, dissolves in water, and then dried over the fire on trays. The vessels employed are either made of stone or wood, lined with lead, which become coated with a protecting coating of lead.



## New Patents and Inventions.

Under this heading we shall mention, from week to week, as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

68,076.—WINDOW BLIND.—Wm. Pitt Hoffman, San Francisco, Cal.:

I claim the window-blind and anti-duster, composed of frame, A, V-shaped troughs, B, B, with straight or concave sides, and having the openings, a, a, the partitions, b, b, and tubes, E, G, the latter for the purpose of filling and emptying the troughs, substantially as and for the purpose set forth.

This invention relates to an improved window-blind and anti-duster, which admits of a free circulation of air into the room, and is said to effectually exclude the passage of all dust, and is especially adapted for use on railroad cars. The device consists of a series of V-shaped troughs filled with water, and placed one above the other, and set in the frame usually occupied by the window. Through the front or outside of each trough are pierced two or more holes, at such a height as to allow the surplus water from each trough to run into the next lower one, and at the same time wash off the dust. The inner side of the trough is made a little higher than the outer portion, and the outside is slightly concave, so that the dust will strike the concavity and fall into the water below, while a constant circulation of water, from top to bottom, is had. Mr. Hoffman, the patentee, is in the East seeking to introduce his invention.

68,150.—BUTT HINGE.—B. F. Barker, San Francisco, Cal.:

I claim, 1st, The three-leaf folding butt, constructed substantially as herein shown and described, the two forming a reversible hinge and acting alternately, substantially as set forth.

2d, The plate, A, in combination with the butt, substantially as described.

3d, The muffler, substantially as described, in combination with the butt, as and for the purposes specified.

68,188.—FUMIGATOR FOR DESTROYING VERMIN.—Jona. R. Hamilton, M. D., Portland, Oregon.:

I claim, 1st, The cup or bowl, A, with its insulated chamber, H, and pipe, D, as constructed with stopper, E, in combination with the apparatus, F, or its equivalent, for operating substantially as and for the purposes herein specified.

2d, The pipe, D, as constructed with the end closed, and side openings, e, e, for the escape of the fumes, when said pipe is constructed with a chamber having an inside coating of calcined plaster, or other suitable material, as a non-conductor of heat, as described and for the purposes herein set forth.

68,249.—VALVE FOR WATER-CLOSETS.—W. Smith, San Francisco, Cal.:

I claim the valve, H, working through the annular elastic washer, i, whereby in opening the valve the water in the chamber, J, is allowed to pass freely, said washer preventing the return of the water excepting through the channel, h, as herein set forth for the purpose specified.

The above invention has already been fully described in our columns, under the head of "Recent Inventions."

## RECENT INVENTIONS.

**CIGAR MAKING BY MACHINERY.**—We have already made a brief allusion to the reported invention of machinery for facilitating the manufacture of cigars. By reference to the following extract, smokers may learn that the reported invention is an accomplished fact, and that cigars which have until now been made by hand, may hereafter be made by machinery, at a considerable saving in cost, if we can believe the reports. A cigar-making apparatus has recently been invented in Germany, and patented in this country, which can, it is said, turn out 150,000 cigars a week. A contemporary says:

One of these machines is now in operation in Detroit, and is thus described: "The apparatus consists of several machines, through each of which the tobacco must be passed before the cigar is ready for the outside wrapper, which is put on by hand. It has

a number of valuable features about it, the principal of which are that the tobacco can be worked up dry, and when the cigar is made it is ready for use; that every cigar contains an equal amount of tobacco, that cigars can be made at half the price they can by hand; and that all the stock can be worked up with no loss of material. It requires forty-five experienced cigar-makers to put on the outside wrappers as rapidly as they are made by the apparatus, which can without difficulty make 25,000 cigars every ten hours. This is equal to the average of 90 or 100 experienced cigar-makers. It is estimated that the expense of manufacturing cigars by this machine is reduced about one-half."

**IMPROVED ELECTRICAL CLOCK.**—Herman Wenzel, of this city, is now engaged, conjointly with Stephen D. Field, one of the operators of the Fire Alarm Telegraph, in perfecting an improved electrical clock of their invention, which, it is claimed, will be exceedingly simple in construction, and accurate in operation, and better adapted for general use than any other yet devised. When completed it will be placed in the Merchant's Exchange for public inspection.

**A NEW HYDROSTATIC ENGINE.**—Mr. J. C. Carroll, of McAdams Creek, says the *Yreka Journal*, has invented a hydrostatic engine, which works on an entirely new principle and is a perfect success. The motive power is water conducted through a hydraulic hose, and introduced into a double cylinder, somewhat similar to that of a steam engine. The pressure of the water forces a piston out from each cylinder alternately, by which a wheel is turned by means of an ingeniously constructed flange, which puts the machinery in motion. The engine is in operation on Mr. Carroll's claim on McAdams Creek, where it is used to work the pumps.

**A WONDERFUL LAMP.**—C. P. Pollard, of Marysville, according to the *Appeal*, has recently introduced, as sole agent for the inventor, a most remarkable lamp, which is described by that paper as follows:

The lamp itself is nothing wonderful, but the inside arrangement is. The external appearance is of the ordinary kind of small stand lamps, and is made of brass, with a screw to regulate the burner. The inside, in which the fluid is placed, is double. Between the outside and inside linings raw cotton is placed which absorbs the fluid. The inside lining is perforated so as to permit the fluid to reach the cotton. To prepare it for burning all that is necessary is to fill the cavity of the lamp with the fluid, keeping it in long enough to saturate the cotton lining sufficiently. Then pour it off and light the lamp. A small lamp prepared in this way will burn twelve hours without replenishing. It gives a white, clear light, and produces no smoke or unpleasant effluvia as does kerosene. It is said to be the cheapest light ever yet discovered, and is admirably adapted for the sick-room. The fluid used is called *Lucine*. It will not stain or grease clothing, and only costs \$1.50 per gallon. It is non-explosive. The light is obtained solely from vapor. Turn it upside down or in any direction you will, not a drop of the fluid can be seen. A gallon of the fluid will last an ordinary family six months.

**A NEW REAPER.**—The Salem (Oregon) *Record* notices a new combined reaper and thresher, invented by Mr. Vanderpool, of Polk county, application having been made for a patent. The invention is considered a success, and a separator will be added to it; so that by the help of a man and boy, with a pair of horses, the machine will do clean work, saving all the grain and leaving the straw and chaff upon the field where it should remain to enrich the earth for coming crops. Such an invention seems practicable, and if made to work, will prove invaluable.

**A NEW APPLE CUTTER.**—Mr. Albro Pringle, of Salem, Oregon, has invented a device for cutting and curing apples, that have been pared. It is to be connected with an ordinary paring machine. The Salem *Record* says of it: "By an ingenious arrangement, the Turn Table Parer is fixed on a slide; the slide being drawn out, the apple is put on and pared, and, instead of taking it off, the slide is pushed up against a tin cylinder, in the center of which is a small tube of seven-eighths of an inch, from which to the edge of the cylinder extend strips of tin that divide the cylinder into six parts. When the apple is pared, instead of taking it off, the slide is pushed in and the apple is divided into six equal parts, the core being cut out by the center tube. All is done in an instant; the pieces of apple fall through a chute into anything provided for their reception, and the cores are shoved through the tubes and out of the way. A patent has been applied for."

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,  
October 4, 1867.  
City Stocks.

The transactions in city shares during the past week have been quite fair, with a slight improvement over previous quotations. Spring Valley Water stock was in request at \$68 75 @ 69, with some outside sales at a slight advance. Omnibus R. R. was in the market at \$61 per share. The cars of this company now run to the new wharf of the Pacific Mail S. S. Co. at the corner of First and Brannan streets, carrying passengers within a few steps of the steamers. North Beach and Mission R. R. stock has been selling at \$52, being firm at this rate, and showing an upward tendency. A few shares of Gas stock sold at \$68, and California Steam Navigation Co. at 72 1/2 per cent. National Insurance Co. realized \$69 per share. A small amount of Sacramento County bonds sold at 70 per cent.

At the annual meeting of the stockholders of the Bank of California, held on Tuesday, the 1st inst., the following named gentlemen were chosen Trustees for the ensuing year: D. O. Mills, W. C. Ralston, William E. Barron, N. Lanning, Thomas Bell, D. J. Tallant, A. Hayward, Louis McLane, John O. Earl, L. Sachs, and A. J. Pope.

The City Bank of Savings filed a certificate of incorporation in the office of the County Clerk within the past week. The object of the association is to aggregate the funds and savings of the members and depositors, and invest the same for their common benefit in such real and personal property as may be designated by the Board of Directors, to carry on a banking and discount business, receive deposits of money, etc. Capital stock \$750,000, divided into 7,500 shares of the value of \$100. The Directors for the first six months are: H. A. Cobb, Robert Foley, Robert Barry, Michael O'Neil, D. B. Murphy, James McNamara, Michael Daley, Daniel Murphy, Daniel O'Brien and John Shineberger.

The San Francisco Insurance Co. in a statement rendered Sept. 30, 1867, show their assets to be \$375,508 15. Deducting the capital stock, which is \$300,000, it leaves a surplus of \$75,508, and taking from this the proportion of premiums required to reinsure all outstanding risks, they report a net earned surplus of \$52,234 15. A dividend of 4 1/2 per cent. is payable to the stockholders since the 4th inst.

The sales at the regular sessions of the Stock and Exchange Board during the month of September for the past four years compare as follows:

September, 1864. \$1,235,980 September, 1866. \$1,758,190  
September, 1865. 4,829,501 September, 1867. 4,193,854

## Mining Share Market.

During the week under review the mining share market has undergone a very marked change, every share on the list showing a heavy decline from closing sales of last week. Several of the leading stocks have been largely dealt in, and under strong speculative operations have possibly been brought to a lower point than would otherwise have been the case; however this may be, these extensive sales had the effect of producing a general decline. It is not to be questioned but the present indications of a continuous large yield of the various extensively developed claims on the Comstock Lode, at least for some months to come, are not so promising as formerly. From all the information we can obtain the diminution of the ore product in quantity is very slight, but the quality is not near so good.

**CROWN POINT**—is in less favor, opening at \$725, advancing to \$755, falling to \$710 @ 660, and closing at \$680. Water has been somewhat troublesome in the shaft within the past few days, preventing the starting of the east drift toward the ledge from the 700-foot level. It will be reached at a distance of seventy-five or eighty feet. The north drift and north winze on the 600-foot level are said to continue in good ore. The new hoisting machinery was started on the first instant.

**HALE & NORCROSS**—is coming more freely into the market at lessening rates, rapidly declining from \$900 to \$525, and closing yesterday at \$550. During the month of September this company reduced 2,612 tons of ore, which gave a 65 per cent. assay yield of \$71,692 32, equal to \$27 44 per ton. In August the average product of hullion was \$38 47 to the ton, showing a decrease in September as compared with that month of \$11 per ton. It is a rather singular

fact that the quality of the ore decreased very suddenly, the average assay value falling from upwards of \$40 to \$27 per ton in one day, at which rate for a month or more past it has remained with little change for the better. The prospects of finding the same profitable kind of ore as has been heretofore extracted at a greater depth are thought by some to be very fair, while the very rapid decline of the stock seems to inspire holders with a different belief.

**SAVAGE**—continues to change hands to a very large extent under a rapid decline from \$153 to \$107, closing yesterday at \$115. The product of this mine continues very fair, amounting to 1,962 tons during the week ending Sept. 28th, against 1,879 tons extracted the previous week, and showing an average assay value of \$37 65 against \$41 40 per ton of the week ending Sept. 21st. From the north mine of the seventh level 934 tons were taken, middle and south mines of the second station 415 tons, and from the north and south mines of the third station 613 tons. In regard to the present condition of the mine we learn that the Potosi chimney still looks well, and that the south mine is producing more than was expected. The ore found in the winze in the north mine on the seventh level proves to be of a low grade, and another winze at the junction of the middle and north mines, at a depth of upwards of forty feet, carries second class ore. The drift northward from the third station is said to show some improvement, with some indications of considerable ore to the east, to which point the drift has been directed. In the winze from the middle drift on this level, at a depth of 40 feet, the same grade of ore is found as heretofore reported, and the drift south from this point continues to yield a fair quality of ore. The ledge has been reached from the fourth station. A heavy flow of water interfered for several days, but work was again resumed on the 2d inst. It is expected that a dividend of \$10 per share will be paid this month.

**CHOLLAR-POTOSI**—declined from \$382 to \$280, then sold at \$260, and closed at \$261. On the first instant a slight cave of waste from the second station interfered with work on the third Santa Fé level for a day or so. It is from this level that the greater proportion of ore is at present obtained, while the new Santa Fé level adds a fair supply, said to assay \$45, and the Pinta station a limited amount, showing an average of \$49 to the ton. Preparations are complete to run drifts from the lower station in the new shaft, the operations at this point being mainly governed by the amount of earth required to be raised from the shaft where repairs are being made, since one reel must do all the work. During the week ending Sept. 26th 2,548 tons of ore were sent to custom mills against 2,786 1/2 tons during the previous week. The hullion returns for the month of September will be less than the August yield.

**GOULD & CURRY**—has been little inquired for, declining from \$380 to \$315 seller 30, and closed yesterday at \$300. Up to the first instant \$75,842 74 in hullion has been received at the office in this city. We have nothing of interest relative to the mine.

**IMPERIAL**—declined from \$159 to \$110, and closed at \$121. The hullion returns for September amount to \$97,479 36 against \$89,280 received in August. GOLD HILL QUARTZ sold at \$100 per share. This mine is said to be looking better, yielding a considerable amount of very fair ore. It is thought that the yield of hullion for the current month will exceed the returns made in several months past.

**OPHIR**—has been quiet, declining from \$75 to \$62, and closing at \$55. They have encountered a large volume of water in the new shaft, which will require the aid of the machinery now being put up in order to prosecute further work. An assessment of \$3 per share or \$36 per foot was levied on the 27th ult.

**YELLOW JACKET**—receded from \$520 to \$410, and closed yesterday at \$430. BELCHER from \$130 to \$102 50, closing at \$100. KENTUCK from \$250 to \$182, selling at the close at \$185. EMPIRE has been inactive, a few feet realizing \$175. BULLION has been selling at \$18 50 @ 22 per share.

**OVERMAN**—has been in less request, declining from \$58 50 to \$35, and closing at \$41. On the 29th ult. \$5,625 in bullion was forwarded to the office in this city, making upwards of \$18,300 for the month of September.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last amounted to \$1,542,514.

**MINING MACHINERY.**—We understand that Mr. J. H. Stewart has made sale, during the past week, of nine of his pans; one of them to the Enterprise mine, in Plumas county, the others to the Eureka mine, in the same county, for the purpose of working the tailings from the same. A cut of these pans may be seen to-day in our advertising columns.

**PICNICS.**—All in search of health, pleasure, or recreation, will find Woodward's Gardens one of the most desirable places of resort this side the garden of Eden.



Fluctuations in Leading Mining Shares for the past Six Months.

Table with columns for Name of Company, April 10th, April 20th, April 30th, May 10th, May 20th, May 30th, June 10th, June 20th, June 30th, July 10th, July 20th, July 30th, Aug. 10th, Aug. 20th, Aug. 30th, Sept. 10th, Sept. 20th, Sept. 30th. Lists various mining companies and their share prices over time.

Advertisement for 'ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY' by Prof. LAYRES. Includes text: 'For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.' Price, postage paid, \$1.10.

MINING SHAREHOLDERS' DIRECTORY.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF MEETING, DAY OF DELINQUENT SALE, AND AMOUNT AND TIME OF PAYMENT OF DIVIDENDS. Lists various mining companies and their financial details.

San Francisco Market Rates.

Table with columns: Wholesale Prices, Retail Prices. Lists various commodities like flour, sugar, oil, and their current market rates.

CONSEQUENCE OF BAD FAITH.—One of the consequences of the bad faith exercised on the part of some New York contractors for several war vessels of the Japanese Government, wherein the said contractors failed to carry out their contract after receiving their money, has already been visited upon Horace D. Dunn, Esq., of this city, the correspondent of the National Department of Agriculture for this city.

Mr. Dunn had arranged with the Japanese Commissioners, late in this city, for an exchange of California fruit trees, vines, plants and seeds, for those of Japan, and expected to have received an assortment from Japan in season for setting out and planting next spring, while his California seeds were en transitu. The last incoming steamer from Japan, however, politely informed him that as the proposition "will be advantageous to both countries, we will collect and send them when you have sent us those of yours."

PURE WINES, SPIRITS AND TEAS.—The long train of evils growing out of the indiscriminate use of the various adulterated and villainously fabricated compounds—dealt out to the inconsiderate in the shape of "chain lightning," and carrying with it disease, desolation and death in a thousand forms—has for many years attracted the attention of the wisest statesmen of both Europe and America, and much has been done to abate the evil by means of salutary legal provisions.

But as the wisest statutory enactments are liable to evasion, a wide field for enterprise and usefulness was left open to such firms as Biniger & Co., of New York; Bigelow & Daves, of London, and other houses in both the Old and the New World, who have perhaps effected even more than statesmanship and philanthropy by giving to us a pure article of wine and spirits—untainted with copper, lead and logwood, or other poisonous dyes and drugs. In this connection we are pleased to state that Messrs. Whiting & Berry, who have accumulated a valuable fund of experience as wine merchants, here and elsewhere, at the earnest solicitation of some of our oldest citizens, have recently opened an establishment at 609 Sacramento street, which is intended as a depot where selected teas and spirits may be procured, at wholesale or retail, for medicinal and family use, and where every facility is offered to ladies as well as to gentlemen in making their own selections and purchases. The special attention of apothecaries, physicians and families, and all dealers who have a proper regard for the lives and health of their patrons, is called to their advertisement, which will be found elsewhere in our columns. The public need have no fears as to purity and genuine character of the different beverages here offered, from the fact that those gentlemen have too much at stake, in the way of reputation and the large amount of capital invested, to afford a disappointment. As a further guarantee, all wines and spirits will bear the impress of the signatures of the firm upon the label of each bottle, or be otherwise indorsed, to guard against all imposition.

THE PNEUMATIC RAILWAY WILL SOON BE INTRODUCED UPON THIS CONTINENT, BETWEEN JERSEY CITY AND NEWARK.

The tube will be of wood, constructed of staves and hooped like a barrel, three feet in diameter. It will cost about \$10,000 per mile.

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE FOLSOM STREET WHARF, AT 11 O'CLOCK A. M. of the following dates, for PANAMA, connecting with Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 19th and 30th of each month that has 31 days. On the 10th, 19th and 30th of each month that has 30 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Manzanillo, All touch at Acapulco. Departures of 19th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Departure of 19th connects with English steamer for Southampton and South America, and P. R. R. Co's steamer for Central America. The following Steamships will be dispatched on dates as given below: October 10th—MONTANA, Capt. E. S. Farnsworth, Connecting with GREAT OCEANIC, Capt. Gray. October 19th—OLDEN CITY, Capt. W. F. Landge, Connecting with the RISING STAR, Capt. Conner. October 30th—SACRAMENTO, Capt. Parker, Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendances free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship CHINA, Capt. E. W. Smith, will be dispatched October, either via New York, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI. For all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

Latest Stock Prices Bid and Asked.

Table with columns: Bid, Asked. Lists various stocks and bonds with their current market prices.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Sept. 22d: One day this week the Silver Creek quartz mill was seriously damaged, and for a time thrown out of use, by gross carelessness in the engine department. The damage consists of the breaking of two stamp eams, and the cast iron flange to the battery pulley on the main shaft. The mill had crushed about nine tons of second class Tarshish ore, six tons only of which was amalgamated, and this accident will cause a delay of two weeks in the work of producing bullion.

A change has occurred in the rock in the Mowyer tunnel, which indicates that they are running in the right direction to strike the lode.

## Amador County.

*Ledger*, Sept. 28th: Coney & Bigelow will commence, on Monday next, to re-timber their shaft and put it in order for winter operations. They will also erect steam hoisting works of a superior kind. This is much needed, as they are now down over 200 ft., and intend sinking 100 ft. more immediately.

## Butte County.

*Chico Courier*, Sept. 27th: We have a piece of wood taken from the center of a large conglomerate boulder, in the mining claim of J. L. Boles, on Chico Creek, about 20 miles from Chico. The boulder was blasted to get it out of the claim, and the wood found in the center. The wood looks like cedar, and must have been embedded several thousand years.

*Oroville Record*, Sept. 28th: The Oroville Mining Co., whose claim is situated on the bluff at the head of Downer street, have been at work for some time, and are doing well. Their flume has a water capacity of 1,200 inches, and they are prepared to wash an immense quantity of dirt, if they can get help to shovel it into the sluice boxes. Mr. Hewitt informs us that he can give steady employment to 25 men, and that means American miners, at good wages. There is a general complaint of the scarcity of help in this vicinity.

## Calaveras County.

*San Andreas Register*, Sept. 28th: The Irvin quartz mill is working to a charm, and gives general satisfaction. They have in operation, at the present writing, four stamps of 500 pounds each, but intend, as soon as pipe of sufficient size can be obtained to supply the works with more water, to put in force four more of the same weight. This claim, without a doubt, is the richest one yet discovered in Calaveras county, and will pay Mr. Irvin handsomely in a short time.

## Inyo County.

*Virginia Enterprise*, Sept. 27th: We were yesterday shown a lot of ore from Walker River of a very peculiar nature. It appeared to be a mixture of all kinds of minerals—copper predominating. The specimens shown us certainly are rich in silver, but contain hardly a trace of gold. Assays will shortly be made of the ores, when their exact value will be ascertained.

Sept. 28th: The following telegram has been received in this city, from J. B. Low, superintendent of the Kearsarge Co., Inyo county: "I forward you by to-day's stage, in charge of a messenger, 11,160 ounces of bullion in bars; also a sample of rich ore found in the lower tunnel."

*Trespass*, Sept. 30th: Saturday afternoon the bullion from the Kearsarge mill and mine was received in this city by Mr. Reynolds, and duly forwarded to California. The bullion is the result of 70 tons of ore, being over 160 ozs. to the ton.

Mr. Bush, a reliable gentleman, who has just returned from the Lone Pine District, gives the following description of the mines: The lodes are bold in outcroppings, and lie north and south, pitching to the east as sunk upon. The widths of the ledges vary from 9 to 15 feet on the surface, with a rich vein in most of them from nine inches to two ft. in width. The Mexicans, by whom the country is principally located, work the rich vein only, smelting the ores in adobe furnaces, and leaving the balance of the ledge (which by mill process will pay at least \$150 per ton) a mass of refuse quartz; or, they will gather perhaps three cords of wood, and build a pile, composed of alternate layers of dry pine and ore, when it will be set on fire and in a few hours be reduced to a smouldering mass, from which will be taken from 700 to 900 pounds of metal. This metal will in turn be taken to the adobe furnaces, and there refined, in due Aztec style, to bullion, which will in turn be refined at the hands of competent assayers.

The general character of the ore is galena and antimonial silver; the whole formation of the lodes seeming to consist of a succession of metallic boulders, until a depth of 18 to 30 feet is reached, when the casings become perfect and vein matter becomes fused into a solid ledge. On the ledges, particularly at the Cerro Gordo camp, quite an amount of labor has been expended, and several shafts have been sunk, some as deep as 45 ft.; but most of the work is done in the regular Mexican style—an excavation from which ten tons of ore has been taken being ten times the size that necessity requires. All of the ore worked in the district, so far, has been by smelting process, although two or three arrastras have been constructed, and are in operation ten miles from the mines, and giving good returns of the ore. Following are returns from ore of several mines which Mr. Bush saw worked: Saturn ore, 90 pounds, 41 ozs. bullion; Bueno (Good Luck Co.), 100 pounds ore, 18 ozs.; Mexican, 100 pounds ore, 40 ozs.; San Judas, 300 pounds ore, 51 ozs. We were also shown some ore from the Union mine, the rich vein in which is two feet in width, which was taken from the ledge at the depth of 80 feet, and which is almost a pure mass of silver. The mines above mentioned are prominent for their richness, yet there are hundreds of ledges along the mountain that assay from \$100 to \$300 per ton. Some of the more intelligent of the Mexicans resolved to try some of the ore by mill process, and accordingly about three weeks since 7,200 pounds of ore from the St. Lucas lode were packed to the Kearsarge mill—a distance of 45 miles—and there worked under the supervision of Mr. Low. That quantity of ore returned by mill process 116 lbs. of bullion, which Mr. Bush saw; and after paying all expenses for transportation, milling and mining, returned a net profit per ton of \$190. These statements can be relied upon as correct, notwithstanding the seeming impossibility of so rich ore being found on the surface.

## Mariposa County.

*Gazette*, Sept. 28th: Work is progressing on the Princeton mine. The mill has constantly been in operation since May, during which time the average yield of gold has been about \$20 per ton. The company propose to give more attention to this mine when their dam on the river is completed and the Benton mills are in operation.

A Mexican at Hornitos, a few days since, struck a pocket in Quartz Mountain, immediately in the rear of the town, and took out upwards of \$3,000. The strike has given encouragement to others, and a number are now at work on the same mountain.

## Nevada County.

*Transcript*, Sept. 27th: Ten tons of rock from the Oceola ledge, at Rough & Ready, has been crushed in one of the Grass Valley mills, and the yield amounted to \$15 per ton.

Sept. 28th: From five tons of rock from the Scandinavian ledge, taken out in opening the drift, and crushed at Palmer's mill, \$25.31 was taken. Extensions are being taken upon both sides of the Scandinavian, and other ledges have been sought for and been found.

The Pride of the Valley, the Maggie and the Bold Soldier Boy promise rich developments. Apart from quartz, Pleasant Valley is lively on account of gravel diggings. The Red Jacket seems to be the regular blue gravel lead which makes Smartsville famous, and a company is running a tunnel into Beckman Hill with every prospect of finding a rich deposit of gold.

Oct. 2d: Gilchrist & Co. have opened a new quartz ledge near the Half Mile House. They have sunk a shaft from which they have taken 25 tons of fine looking rock. This will be crushed soon in order to test its value.

*Gazette*, Sept. 27th: The Star mill and mines above Cañon Creek, have recently been leased by the trustees of the company to Messrs. James & Pierce of this city, both practical miners.

Sept. 28th: The Mary Etta mine, on Diamond Creek, three miles above Omega, was sold yesterday to James E. Perkins & Co. of San Francisco. The amount paid we are not permitted to state, but it was sufficient to insure its recent owners a snug fortune. The new company have a working capital of \$50,000 and will develop the Mary Etta as rapidly as possible.

The Ben Franklin Co. at Grass Valley cleaned up yesterday 321½ ozs. of gold, worth \$16 per ounce. The number of tons crushed was 150; yield per ton, \$34.30; total, \$5,144. It was crushed at the McCauley mill.

Sept. 30th: During a visit at the works of the North Star Co., Friday afternoon, we saw a car load of remarkably rich quartz as it was brought out of the mine. The rock was literally spotted with gold, some of the

quartz being crystallized, and making beautiful specimens.

H. McCormick's mine in Bear Valley is progressing favorably. The shaft is down 57 ft., having gone through a bed of cement and conglomerate boulders. They are now in a bed of pipe clay, and the indications are the same as found in the hydraulic diggings at Red Dog.

The new hoisting and pumping works of the Dromedary mine, have been completed, and are now in operation.

The mill of the Birchville Co. is nearly completed, and will be put in operation in a day or two. The mill has five stamps, and was originally built to crush cement; but the cement claims not turning out well, it was sold to the Birchville Co., and has been removed to their mine.

Oct. 1st: We saw yesterday some rich specimens of gold-bearing quartz lately taken from the Yellow Diamond ledge, at Rock Ravine, near Cement Hill. Some years ago an extraordinary rich pocket was struck in this ledge, and a few hundred lbs. of rock yielded several thousand dollars; but the ledge has been worked considerably since and with poor success. The extent of the pocket lately struck is not known.

The Eagle Co. at Relief Hill, is now in full blast. They have 1,500 ft. of iron pipe, varying from three feet to one foot and three inches in diameter. Their claims are extensive and they are prepared to work them on a scale corresponding with their extent. The Union Co. is working from 20 to 30 men.

Oct. 2d: We saw on Monday, at Delano's bank, Grass Valley, a gold brick weighing 400 ozs., and valued at \$7,200—the result of a crushing of quartz from the New York Hill lode. The mine is now fairly opened, is worked regularly, and is affording the owners good profits. The gross receipts from the mine for last month amounted to \$17,000.

Grass Valley Union, Sept. 27th: The hydraulic mining interest of Rough and Ready looks better at the present time than it has looked for years, and the preparations now being made to open and thoroughly work several claims, warrant the belief that this portion of Nevada county will render an excellent account of itself during the approaching hydraulic mining season. The Slate Creek and Deer Creek ditch, will now carry 600 in. of water, thus affording the hydraulic miners an opportunity to open their diggings. Vial & Co. of Grass Valley, have located the old Slate Creek Hill, and have commenced a tunnel on Fiddler Flat, to be run a distance of 600 ft., to open their claim. They are preparing to lay 2,500 ft. of pipe, most of which is now on the ground. On Goshen Hill, C. A. Smith and Allen Williams, of Grass Valley, are preparing to open the Hawes diggings. On Bunker Hill Hon. E. W. Roberts has commenced putting in a new 30-in. flume, to be 60 ft. in length, to work the old Sazerac diggings, which will be in working condition by the time water comes this fall. The Harris Bros. have sold their hydraulic diggings on Negro Creek, to a company of Portuguese, but we did not learn the figures at which the diggings were sold.

The Osceola mine is showing well. Last summer a shaft was started, which recently cut the vein at a depth of 60 ft., disclosing a vein 20 in. in width, but very much broken. A crushing of a few tons of rock from this point, made this week, showed a return of \$14 per ton. Considering that the ledge was broken, and that considerable quantities of slate and cab were mixed with the quartz crushed, this yield is quite satisfactory. The intention is to sink 30 ft. deeper on the incline before any drifting is done on the lode.

*Excelsior*.—Meadow Lake *Sum*, Sept. 28: The Gold Run Co. are taking out splendid ore from the first level of their mine. They have just struck a very rich streak, about 18 inches wide at this point. The rock is of a porous or decomposed nature, and shows a considerable quantity of free gold. A train of mules is employed packing rock from this mine to the Mohawk mill for crushing.

The Enterprise Co. are erecting a furnace for roasting rock, and thus facilitate the reduction of their ores. The process to be used is what is known as "Williams's superheated steam process." They have levied an assessment of \$1 per share on their mine, and intend to drive things ahead in proper style.

The boys of the Shooting Star Co. have levied another assessment of \$1 per foot.

The Excelsior Co. have struck some fine looking ore in their shaft this week.

## Placer County.

*Auburn Stars and Stripes*, Sept. 25th: McGougle & Co., in running a tunnel, run across a singular black formation, which, at the time, was rejected. On close inspection, specimens of this rejected black stuff exhibited, to use a miner's expression, "slathers"

of gold. Investigations that followed showed that the black stuff constituted a regular and well-defined ledge of gold-bearing silicate, which has been traced, up to the present time, a distance of 600 feet, and which, at the point where they are now working, is fully seven feet in thickness. The course of this ledge or streak, from the point of discovery as far as traced, is about N. 65° W. It is as easily worked as the softest slate, and after exposure to the air for a short time is as easily pulverized as dry clay. Large portions of it are richly studded with gold, and a considerable portion will yield \$1 per pound! Several tons have already been taken out, and it is reported that it grows richer as they go down.

Wentworth & McClure, on Squires' Cañon, in a first class manner for the coming winter.

It is reported that excellent pay has been struck in one of the tunnels at Blue Bluff, in which work has been prosecuted for ten years without remuneration.

Dutch Flat *Enquirer*, Sept. 28th: The King brothers, blue cement miners at this place, have realized \$5 per cart load for all dirt broken from their drifts this summer.

A Mr. Smith, mining alone near Owl Camp, above Lost Camp, has a claim that is paying very well; he realized therefrom, one day this week, five ounces.

*Herald*, Sept. 28th: On Wednesday last McGonigle & Co. struck it rich. One pan yielded about \$1,000. Fifty dollars per foot is the lowest that any interest in the claim can be purchased for.

Dutch Flat *Enquirer*, Oct. 2d: At Gold Run, ground that has heretofore been considered worthless is being worked with results highly satisfactory. One claim, owned by Mr. Jacob Abeel, on being opened and run for 16 days, yielded \$1,800. Other claims situated in the neighborhood of this claim have equally flattering prospects. The claim of Messrs. Wentworth & Wolcott is in rapid process of opening.

The cement mill at Dutch Flat continues to pound the richest gravel, and their returns will far exceed any former crushing. The prospecting for this lead in other claims in this immediate vicinity proves, conclusively, the existence of a continuous cement lead from the King Bros.' mill to Nary Red, a distance of over a mile. This will furnish ground enough to supply at least a dozen mills.

The mines at Gold Run, always good, are sustaining their reputation nobly by yielding large sums to their owners.

Mr. Osmyrn Harkness, after a run of 24 days in his claim between this place and Gold Run, cleaned up over \$5,000, four men working.

## Shasta County.

*Courier*, Sept. 28th: Peter Larkin & Co. are making from \$15 to \$20 per ton to the hand.

Jollie & Dosh, after making a short run on rock taken from their ledge at Muletown, cleaned up last week, and found that they had cleared \$10 per day. The owners of the Potosi also cleaned up a run from their mill last week, which paid handsomely.

The company formed in this place some months ago, for the purpose of prospecting for the lost Fifer Hill lead, at Pittsburg, has abandoned the enterprise, after running a tunnel 150 feet across Pittsburg Flat, and striking no pay of any consequence.

## Sierra County.

Downville *Messenger*, Sept. 28th: The Docile Co., near Alleghany, recently took out \$20,000 in a few days working.

The Fir Cap Mining Co., of Fir Cap District, took from their claim during the past week 400 ozs. gold dust, nearly \$7,000.

The Good Hope ledge is amazingly rich. The owners are now down 60 feet on the ledge.

## Siskiyou County.

*Yreka Journal*, Sept. 28th: The miners at Scott's Bar recently held a meeting to consider the propriety of allowing persons selling mining ground to Chinese. No definite action was taken on the subject.

## Yuba County.

Marysville *Appeal*, Sept. 26th: Rich quartz has been struck in one or two ledges at Brown's Valley that have heretofore barely paid expenses.

Sept. 27th: There are only four mines being worked at present at Brown's Valley, viz: Jefferson, Pennsylvania, Donnebroke and Rattlesnake. The main shafts of these claims have been sunk to the following depths: Jefferson, 650 ft.; Pennsylvania, shaft No. 1, 575 ft., and No. 2, 2,215 ft.; Donnebroke, 575 ft.; Rattlesnake, 165 ft.

## BRITISH COLUMBIA.

*Cariboo Sentinel*, Aug. 29th: Quite an excitement has been caused by the Butcher Co. on Red Gulch, who bottomed their shaft lately, and panned \$15 out of a portion of the dirt taken therefrom.



Sept. 2d: The last week's work at Williams Creek was as follows: California Co. 40 ozs.; San Francisco Co. 14 ozs.; Hibernia Co. 50 ozs.; Davis Co. 51 ozs.; Aurora Co. 190 ozs.; Ruby Co. 70 ozs.; and Prairie Flower Co. 50 ozs.

At Stont's Gulch during the week, Alturas Co. cleaned up 243 ozs.; Taft Vale Co. 67 ozs.; and Mneho Oro Co. 60 ozs.

In Conklin's Gulch, United Co. cleaned up 37 ozs.; Renfrew Co. 75 ozs.; and Reid Co. 55 ozs.

The Holman Co. on Mosquito Gulch, yielded 70 ozs. for the week.

In Red Gulch, a company called the Job Co. took out of their shaft five ozs. of very coarse gold, some of the pieces weighing from \$10 to \$12.

First Chance Co. at Lowlco Creek, took out during the week 120 ozs.

At Grouse Creek all of the companies are doing as well as usual. The Huron Co. took out 80 ozs. during the week, and the Caroline Co. 420 ozs.

Sept. 5th; Mr. Oliver Urquhart and his two partners have been out prospecting for several months past, returned on Monday evening, and reported the discovery of a creek in which they found gold in paying quantities. The creek has been named Mustang Creek. Urquhart and his party have located and recorded a discovery claim, about 500 ft. from the mouth of the creek, and have prospected it sufficiently well to know that they can make from \$12 to \$20 a day to the hand, and even more if there was a plentiful supply of water. There are a number of other creeks and gulches in the vicinity that look equally as well as the one referred to, which it is the opinion of our informant, who prospected some of them, will pay well.

**COLORADO.**

Denver News, Sept. 1st: There has been an exhibition at the First National Bank some fine silver bullion. One bar was from the works of Garrott, Martino & Co., 78 75-100 ozs., fine .915; value \$93.16 in coin. It was taken from 200 lbs. of ore from the White lode. The two buttons weighed 113 ozs., and were taken from 500 lbs. of ore from the Mohawk lode, by Prof. Johnson. Gen. Wilder also had about 70 lbs. of ore from the Mohawk lode, which he proposes to take on to New York. It assays \$10,000 per ton.

At the mint yesterday was to be seen 10 bars of gold bullion. Six of them weighed 455 80-100 ozs., value \$7,204.11. Two weighed 192 80-100 ozs., value \$2,879.46. The other two weighed 52 78-100 ozs., and were valued at \$814.99. This gives the total of 701 44-100 ozs. and \$10,890.56.

We were shown at the mint this morning, seven fine bars of gold, of an estimated value of over \$5,000. They had not yet been stamped.

At Cash Creek, a new flume company have just cleaned up \$2,900. Mr. Rickey has just taken out a nugget weighing 15 ozs. Capt. Hoyt & Co. are meeting with great success with their arrastras. California Gulch is paying well. Dr. Burt is taking out from an ounce to an ounce and a half per day to the hand. He lately found a nugget weighing 4 1/2 ozs. One has also been taken out of Iowa Gulch weighing five ounces.

Gen. Frank Marshall has sold to parties in Black Hawk, two tons of ore from the Square and Compass lode, for \$900 per ton.

Georgetown Miner, Sept. 12th: Mr. Minor yesterday assayed nine lbs. of ore, and obtained therefrom a button of silver weighing seven ounces.

An assay of gold ore from a lode near Central City was made by Mr. Miner a few days since, and the result gave \$1,700 per cord, from ore that yielded nothing under the stamp process.

Martine & Co. are now running on ore from the Coin lode.

From some specimens seen by the editor of ore from the Brother Jonathan lode, he pronounces it one of the very best silver deposits ever discovered so near the base of the mountains. It is a mixture of fine argentiferous galena with iron pyrites, and silver sulphurets.

Times, Sept. 5th: Yesterday the California Reduction Works cleaned up from the Smith & Parmelee claim on the Gregory. The bar was marked as follows: No. 101, gold .696 fine, silver .279 fine—77.30 ozs., value, gold \$1,112.15, silver, 27.91. Total, \$1,140.06 in coin. Average assay per ton of crushed ore, \$91.60.

Register, Sept. 11th: Messrs. Main & Rodman shipped this morning 1,500 lbs. of copper which was precipitated from the ore roasted by the Monnier process last year in Nevada. It is chemically pure, the gold and silver having been left in the residuum for amalgamation.

**IDAHO.**

Lewiston Journal, Sept. 12th: The Chinamen engaged in mining on the bars of the Snake, opposite Lewiston, are doing as well as could be expected. At one point they are making from \$1.25 to \$1.50 per day to the man, and at another they are making from \$1.50 to \$2 per day.

On Saturday last five Chinamen arrived from the Callville mines, on the upper Columbia, where they had been mining for the last 18 months. As the result of their labors one of their number realized the sum of \$1,100. The remaining four had about \$500 each.

Sept. 19th: A correspondent writing from Spokane Bridge, concerning the new mines at that place says: They are both rich and extensive. Several creeks have been struck that prospect well. One district, named Shot Gun Dist., prospects regularly 12 cts. to the pan, from three to eight ft. to the bedrock. The excitement in and about Bear Gulch is tremendous.

The Warren Diggings correspondent writes Sept. 6th: On the last day of August, the one-stamp mill belong to Sherwin & Myers was set in motion, and gave general satisfaction, making 78 strokes per minute. Mr. Sherwin has a small barrel amalgamator which Capt. Williams has been kind enough to show him how to construct, with the intent of saving the silver. Mrs. Wood panned out the first pan of rock that was crushed, and the result was \$7.75 in gold. The amount of rock panned was five lbs. There is on the ground about 1,500 lbs. of rock from the Winfield Scott, well roasted, which will be the first job of the mill.

**NEVADA.**

Virginia Enterprise, Sept. 25th: Mr. Isenbeck has exhibited to us two lots of clean amalgam from ore taken from the Snow Storm lead, Black Rock Dist. The two test lots, each of 250 lbs., were worked at the Stephenson mill—one lot being roasted and the other worked raw, Mr. Isenbeck's chemicals being used in working both lots. The exact result we will be able to give as soon as the bullion obtained is assayed, but it will go at least \$100 per ton. Mr. Isenbeck still has a considerable quantity of ore at the Stephenson mill. His plan of working is producing astonishing results. Day before yesterday he sent out to Washington Dist. a sufficiency of his chemicals to work 250 tons of ore. The cost per ton for chemicals by his process is about 20 cts.

Sept. 27th: Much interest is being manifested in the Black Rock mines. The ores from that region puzzle our best assayers, and in looking at them our old Comstock experts are ready to swear that they contain nothing, yet Isenbeck, the new manipulator, somehow manages to make them yield largely in silver and gold. Isenbeck and the Black Rock mines are either a very big thing or the biggest humbug yet heard of in Washoe. Let the experts decide.

**Pahranaagat.**

The Hiko correspondent of the Silver Bend Reporter of Sept. 28th, says: Mr. Iselin, who has been operating here since last June in our mines, has gone East. He has suspended all work on the mines under his charge here until his return. James Ostram is pushing work ahead upon his new mill, which, when completed, will for its capacity be equal to any upon the Pacific coast. He has just opened a large body of good ore in the Indiana ledge, and every one here is in ecstasies over his success.

Reville, Sept. 26th: The vein lately cut in the Indiana ledge is six ft. in width. The large vein is said to contain much excellent ore.

**Humboldt.**

Virginia Trespass, Sept. 30th: The Orena furnaces projected last season have been completed, and are now in busy and successful operation, smelting vast quantities of ore from the mine, and shipping the same to San Francisco. All the new machinery works to perfection, and the affairs of the company are in a most prosperous condition. A vast quantity of charcoal has been burned and is now at the furnaces; and there is ore enough mined to insure constant operations for many months. The ore averages over \$100 per ton, and the holders of the mine are absolutely assured of a magnificent fortune from the mine.

**Reese River.**

Reville, Sept. 23d: The prospects in Ione Dist. are just now encouraging. Many of the miners are taking out ore for the Knickerbocker mill, which will be opened immediately. The miners have agreed to furnish at least 10 tons per day for reduction. With both the Pioneer and Knickerbocker mills running, the Union Dist. will produce an amount of bullion that will attract attention and stimulate enterprise.

The mill of the Belmont Co. has been thoroughly overhauled and repaired by the

present proprietors. It has been improved and rendered more efficient by the addition of a capacious boiler, three of Belding's pans, two sotlers of his pattern, and a new cam shaft, tappets, etc. It began running with its new machinery last week, and produced an increased amount of bullion. The mill is reducing 10 tons of ore daily.

During the week ending Saturday, 12,616 ozs. of crude bullion were melted and assayed at the office of the Manhattan mill. This was the product of three days run of the mill, which was stopped for half of the week for the reception of new boilers. With those we may expect the mill to yield the usual product of 3,500 ozs. daily.

Sept. 25th: The mill of the Old Dominion Co. is working in the most satisfactory manner, and we shall soon receive a large shipment of bullion. The appearance of the Old Dominion mine of the company is said to surpass the most sanguine hopes of the enthusiasts in the district, and its development of rich ore is extraordinary. Several other mines are looking equally well.

Sept. 27th: Two teams passed through the city to-day with mill machinery for the Big Smoky Co., at Genova, Smoky Valley Dist.

Belmont Reporter, Sept. 28th: The California and Rhode Island mills at Austin, which have for a long time been idle, have been put in order and set at work again. The former has been leased by J. R. Murphy, and will be used for custom work, and the latter by W. E. Leon, Supt. of the Timoko, who will use it for reducing the ores of that mine.

A depth of 90 ft. has been reached upon the Champion ledge, Palmetto Dist., showing an unbroken vein six ft. wide heavily charged with mineral. Col. Catherwood has ordered his mill from Aurora, which will be erected at Palmetto without delay. There are a number of other ledges in the vicinity equally as good as the Champion, and next season great life and activity will prevail in that section.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia Enterprise, Sept. 26th: Just at present a good deal of interest is manifested in outside claims—that is, claims "outside" or supposed to be outside, of the limits of the Comstock lead. The majority of the outside leads are old locations—veins located in 1860, '61. We firmly believe that many of these leads contain ore that will now pay well for crushing—though almost worthless when the regular price for the reduction of a ton of ore was \$30. The high price charged for crushing ores was the reason of the abandonment of hundreds of mines in this State in 1862, '63 and '64. Now that ores are being reduced for \$10 per ton many of our old mines are being reopened.

Sept. 27th: We were yesterday shown some very fine looking ore from the old Sutro claim, on the north side of Cedar Hill. The ore was taken out near the surface, and very much resembles the surface ore of the Gould & Curry.

Sept. 28th: During the week, Wells, Fargo & Co. shipped from their offices in this city and Gold Hill, 9,164 lbs. of assayed bullion, valued at \$219,210.10.

Trespass, Sept. 28th: The Ophir Co. has suspended work on the new shaft until the machinery, which was used in the old works, is in running order. The shaft has attained the depth of 75 ft.; but water came in so fast they could not keep it out and continue sinking with only a common whim. The new machinery will be ready to commence labor in about three weeks, when sinking will be resumed.

**OREGON.**

Salem Record, Sept. 10th: The Union and Santiam Cos. have accepted the offer of Messrs. Salmon & Co. to work their mines until June next. The terms are in fact "bedrock pay." They are to have certain wages, conditioned that the proceeds furnish the amount. All that is realized over and above the amount of wages, to be divided between them and the companies.

Rich discoveries have lately been made of gold bearing quartz in the Cascade Mountains, on the headwaters of the Umpqua. The Roseburg Esquig has accounts of silver ore having been recently discovered 40 miles east of that place.

Jacksonville Sentinel, Sept. 21st: The company in possession of the Alta copper mine, situated at the Low Divide, on the Crescent City road, have shipped about 700 tons of copper during the present summer. The ore is transported to smelting works in Massachusetts, near Boston, but it is the intention of the company to erect works in Smith River Valley, California—to which place they will have a road completed from the mine this fall, at a cost of about \$13,000.

**UTAH.**

Gold Hill News, Sept. 28th: The following is an extract from a letter written by J. W. Mills, a practical miner, formerly of Gold Hill and Austin, from the Sweetwater mines at South Pass. These mines, I think, will prove one of the best quartz regions ever found. There seems to be no end to the quartz—and good quartz at that. The ledges are generally large, say from one foot to 20 ft. thick, and mostly gold, with a slight trace of silver. The advantages for milling and mining are good, there being no end to the supply of wood. I will say to you, Charley, and your friends connected with me, that this place suits me better than any mining camp I have ever seen, or ever expect to see—for there is more good quartz in the space than I have ever seen in Nevada or California. If my judgment does not deceive me, it will surpass, in time, Gold Hill and Virginia City. I send you samples of ore taken from one of my claims, at a depth of 12 ft., where I cut the ledge at a thickness of six ft. It is all good quartz, which is believed can be made to yield from \$30 to \$500 per ton.

The sample of ore sent, as mentioned in the above, was assayed in Gold Hill, and yielded at the rate of \$100 in gold per ton.

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## San Francisco:

Saturday Morning, Oct. 5, 1867.

## Notices to Correspondents.

**BRITISHER.**—Two centuries prior to the late Crimean campaign the French and English armies fought in alliance, as asserted by your Gallic disputant. The common enemy, on this occasion, was the Spaniard, then in possession of the fortified towns of Mardyke and Dunkirk, for the reduction of which towns the French and English armies were assembled in 1658. On the 3d of June, in that year, Condé, Don John of Austria, and the exiled Duke of York (afterward James II. of England), headed an attack to relieve those places; the besieging army being commanded on the part of the French by the celebrated Turenne, and the English by General Lockhart. A pitched battle was the consequence, the account of which forms a prominent part of every moderately extended French history, in which it is described as the Battle of the Dunes, in consequence of its having been fought among the long row of sand-hills eastward of Dunkirk. It is only very copious English historians, however, who notice this pitched battle, although so prominently dilated upon by Gallic historians, of which Sismondi has given a good abridgement, in which he describes, from French authorities, the sanguinary and obstinate nature of the combat on the fortified ridge of the principal sand-hill stormed by the English, who there began the battle, and astonished both their Spanish opponents and their French allies by the resolute and persevering obstinacy with which they struggled through the natural difficulties presented by ascending a loose sand-hill, and then fought at the summit, when it was surmised they would have found themselves exhausted by the labor of the ascent. The allied armies were victorious, and the chief honor attendant on the victory by contemporary French writers was cheerfully awarded to their English friends. It may, perhaps, not be much out of place to mention, in addition to the foregoing particulars, that the modern English word *dunes*, as applied to hills of low or very moderate elevation in the south of England, is a corruption of the word *dune*, which itself most probably is a derivation of the Celtic word *dun*, or a low hill. Thus Dunkirk, a compound Saxon and Celtic term, would mean the church on the hill. Southdown, or Down mutton, has long been and still is extensively celebrated; by none, however, was it more esteemed than by Charles II., especially that fed on Banstead Down, in near proximity to the world-wide celebrated Epsom race ground—a fact which gave origin to Rochester's pungent but impromptu epitaph, given at the "Merry Monarch's" own request. We republish it because we do not think it is very generally known among our readers, and perhaps will serve to amuse, and thus vary sometimes or enliven some monotonous employment or care. We agree with the adage, that "all work and no play made Jack a dull boy," so here is the epitaph:

"Here lies the man to eating long,  
Who's word no man could out-  
Wh never said a foolish thing,  
Nor ever did a wise one."

## The State Capitol.

Large numbers of people, from various parts of the State, embraced the opportunity of their visit to the recent State Fair, at Sacramento, to take a look also at the State Capitol. Their visits were generally made all the more pleasant and profitable, because of the attention and courtesy of the architect, who, whenever it was in his power, took especial pains to explain the plans and progress of the work. The noble proportions of this magnificent structure are now rapidly being developed, and so far has the work advanced since our last notice of it, as to merit especial attention from all interested in the prosperity of our young and rising State. All intelligent tax-payers, in observing the progress which is being made in this work, must become fully aware of the good use to which their money has been put in the progression, thus far, of this magnificent building.

From the architect, Mr. G. P. Cummings, we received a lucid and full description, explanation of plans and future projections, as the work advances. He gave us, also, many interesting particulars connected with the history of this and other large buildings of its kind, from which we learn that in the aggregate of style, size and imperishability of material, there is but one building on the continent which will be its superior, and only that one its equal. The building covers, with its angles, nearly 60,000 surface feet, and from its present ground line will be 226 feet to top of the dome, the circumference of which, at the roof, will be 267 feet, with an area of 5,600 feet at the lower balustrade, or promenade.

It will be remembered that contracts had been made by the Commissioners, under the Acts of former Legislatures, to finish the basement, or story under the columns, with granite. Although the contracts were broken, the work continued under all the disadvantages, and has just been completed, as we saw the last stones of the south portico placed during our visit. The stonework, which has dragged its slow length along for six years, makes a fine appearance, however, particularly the two elegant doorways on the east facade; nor will the more light and stylish architecture of the upper stories, which are to be finished in iron, brick and cement, detract, in any measure, from the solid beauty of the basement, more particularly as the granite will be painted the color of the sanded mastic—an improvement that will remedy its only apparent defect—the stains upon it. The granite seems to have been experimented with, as there are two kinds, but both totally unfit to carry out the florid architecture of the building, as a material in the upper parts. Nor does the measure appear to have been decided by any Legislative Acts; but the credit of the decision to change to a more practical, stronger, and not one-fourth as costly material, rests with the present Board of Commissioners, and more particularly with our present clear-sighted, straightforward, practical Governor.

As a people and as Californians, one of our virtues is not patience, especially when, in addition, we should be taxed for some ten or twelve years more, nearly or quite \$200,000 per annum, and even then would have been compelled to resort to iron, or soft stone, for a finish, as the architect informed us he knew of no instance of a corinthian capital being cut in granite.

The progress and mode of operations on the building are very perfect and economical; every man has his place, and must be always there. The mortar is made in a horse-power machine, and brought on railroads through the dome, and, like all the other material, hoisted through the rotunda by a succession of stagings and spars, the upper one of which is seventy feet long. Two other derricks are in use, and the entire floor is covered over its massive arching with tramways, etc. There are about

140 men engaged on the building, and the second story will soon be completed.

The beauty of the castings from the Miners' Foundry, of this city, are universally spoken of and commended; and the effect of the parts built in, particularly the Venetian arcade of the rotunda, with the symbols, bear's heads, etc., form the perfection of iron architecture.

It is not within our present limits to give a full description of the building. The designs of the legislative halls, library, dome, etc., which, with the eastern facade, are the work of the present architect, are in strict harmony with the other parts of the building, and like it are faultless in ornament and proportion. The so much talked-of fissures in the walls have disappeared from the remedies applied to them, and the heavy iron bars and powerful anchors that are carried through all the porticos, seem to render a fissure impossible, in a building as strong as iron and stone can make it.

## Fourteenth Annual State Fair.

(Continued from last week.)

**The Pacific Oil Works.**—The exhibit made by this company—L. B. Benchley & Co., agents—represented an entirely new branch of industry on the Pacific coast, which has been introduced and carried forward to success since the last annual exhibition. The interest here represented is a most important one, and if carried out to its legitimate limits will furnish a field for the employment of a large amount of capital, and add quite as largely to the agricultural industry of the State. The company exhibited raw and boiled linseed oil and oil cake, California paint ground in oil; also castor oil and mustard seed oil. This company has fully proved our capacity not only to produce all of these articles for home consumption, but it has also shown that by means of the great productiveness of our soil we can manufacture them for export. The great and immediate advantage which the State must derive from the establishment of these works, is the ready market which they afford for the sale of the various seeds employed in the manufacture of these oils—thus giving our farmers an opportunity to commence their production in a small way, and gradually increase that branch of their business as experience and means may warrant. A special premium was awarded for this exhibit.

**Knit Goods.**—Another most important and entirely new branch of industry, for the first time placed on exhibition on this coast, was the superb display of knit goods—all wool and wool and cotton—by the Pacific Woolen Mill, located near the Mission, in this city, a full description of which we gave in our issue of the 14th ultimo. Though an institution of only four months existence, it was nevertheless able to place on exhibition not less than fifty samples of goods, embracing almost every description of knit goods known in the market, and at least one article of this description of manufacture now for the first time introduced—a heavy *knit* woolen skirt—an entirely new thing in its way, and which has very properly been christened the "Pacific Excelsior Skirt." It is made of all shades of colors, and is intended for winter wear. The great feature of this establishment is the variety and superior quality of its goods. Its manufactures exceed, in variety, by almost one-third that of any similar establishment at the East; while in quality, the superiority of its goods are readily manifest to every person who will compare them with similar goods of Eastern make. They can also be afforded at a lower price than Eastern goods. This advantage is obtained from the fact that they can purchase their raw material direct from the growers, saving the cost of transportation of the same to New York and that of the manufactured goods back, with interest, insurance, etc. The saving in this respect is more than a counterbalance for the difference in cost of labor. The amount of this description of goods consumed on this coast reaches a large figure. We shall give some statistics on this point at a future time. Perhaps no exhibition at the Pavilion attracted more interest than this. The Committee on Awards recommended for the display a first premium of \$50.

**Woolen Woven Goods.**—The Mission Mills. The display of woolen woven goods was highly creditable to that important interest. The Mission Mills of San Francisco, made a really fine display. The blankets, especially, attracted a flattering share of attention, both as to variety and quality. It is a most interesting fact, and one which should be remembered, that this company

makes the finest blankets on the continent. Their goods have never yet been equalled by any establishment in the Atlantic States. Such is the universal verdict among New York dealers. The award at the Paris Exposition, also gives them the credit of the finest exhibition of blankets from America. A special advantage is claimed by this company in the matter of colors, to the brilliancy and durability of which especial attention is paid. Their flannels and fine cloths, especially their ladies' cloak goods and stuff for officers' wear, were pronounced quite superior. They were awarded a first premium of \$50 for the best display of woolen goods from one manufactory; also first premiums as follows: Ten yards woolen cloths, \$5; ten yards cassimeres, \$5; ten yards flannel cloth, \$5; pair woolen blankets, \$5.

**The Pioneer Woolen Mills,** the first enterprise of this kind undertaken on the Pacific coast, also made a very full and most excellent display of goods. Their general display of manufacture and fabrics was said by competent judges to compare very favorably with the best articles in the same line of either Eastern or foreign make, and like the productions of all the woolen manufactures on this coast are furnished to the consumer at a price as low or lower than the same class of goods can be laid down here from New York or any European port. This establishment manufactures a large amount of flannel goods, which are made up on their premises into shirts, drawers, etc.—some 70 sewing machines being employed for the purpose. One of the most attractive exhibitions at the Fair was a loom for weaving fancy colors, which was set up by this company on the lower floor of the Pavilion, and run every day and evening during the continuance of the exhibition. This loom combined all the latest improvements for manufacturing fancy goods, flannels, cassimeres, etc. The Committee of Awards in their report, called especial attention to the loom, and recommended for it a special premium. In addition thereto, the Committee also awarded a first premium for their display of woolen shirts and drawers, and a further premium of \$5 for an exhibit of ten yards of tweed of their manufacture.

**Cotton Manufacture.**—William H. Rector & Sons, of the Oakland Cotton Factory, added a new and additional article of manufacture to their display of last year, in the shape of water-proof tweed, for ladies' and gentlemen's wear, also samples of a heavier article for laborers and boys' clothes. This company claim to have introduced goods into this market of greater utility for their cost than any other manufacturers on the coast. They have recently commenced manufacturing their goods into clothing, thus giving employment to a much larger number of persons than the simple manufacture of the goods would do, and supplying our market with a large and important class of clothing for which we have heretofore been entirely dependent on the Eastern market. They also exhibited in addition to ordinary cotton goods, an article of sheeting made expressly for flour sacks—also brown drilling of a superior quality. The Messrs. Rector are deserving of much credit, and the fullest measure of encouragement for their efforts, in the face of obstacles, to establish a new and important branch of manufactures on this coast. They were awarded a first premium of \$50 for their display.

**Silk and Silk Goods.**—There seems to be a peculiar and growing interest manifested in the gradual development of the silk interests on this coast. Mr. L. Prevost, the enthusiastic and irrepressible pioneer in this branch of industry, was on hand with his collection, commencing with the silk worm's eggs, and from these showing the worms of all sizes feeding; then the cocoons, and again the millers ready to lay their eggs. From this point the equally indefatigable Mr. Newman took the cocoons to a reel of his own invention, where he reels off, before the visitors, the raw silk, and exhibits the same in hanks, or transfers it to his silk loom, which is exhibited by the side of his reel, and where he shows the slow and tedious process of silk weaving, gradually unfolding to the vision the rich, glossy and rustling silk, ready for the dressmaker to transfer into superb robes for our wives and daughters! We have no space in this report to do even an iota of the justice which belongs to this, which we sincerely believe is to become the great and crowning glory of the production and manufactures of our Golden State. In the words of the committee to whom this exhibit was referred, "We feel it our duty to congratulate the people of California on the evident progress which has been made the past year in this State in this most important branch of industry. We are confident that this progress is not ephemeral, but is the result of practical knowledge on the part



of enturists and manufacturers, and that a new and profitable source of labor is to be firmly established among our people, to their moral and pecuniary benefit, and that the representatives of silk culture at the State Fair of 1868 will convince the most skeptical." A first premium of \$50 was awarded to Mr. Prevost for the best general exhibition of the silk business throughout; the first premium of \$20 to Mr. Newman for the best specimen of manufactured silk; of \$10 for the best specimen of raw silk, and a first premium of \$10 for the best cravat; also, the first premium of \$10 to Mrs. Muller, of Nevada City, for the best pound of reeled silk made in a family. We shall at a future time speak of some other important matters connected with the silk business, in which Mr. William M. Hoyne, of Sacramento, is taking a most active part.

**Glass Ware.**—The display of glass ware by Messrs. Newman & Brennan, of the *San Francisco Glass Works*, would have done credit to any city in the Union. This company, until recently, have confined their attention to the manufacture of white glass exclusively—turning out large quantities of druggists' prescription vials of all sizes, from half an ounce to sixteen ounces; also patent medicine bottles, sampling bottles, lamp chimneys, etc. They have the Government contract for lighthouse lamp chimneys. They exhibited a most interesting and unique specimen of fancy glass work, in the shape of a single bottle with twelve compartments, from which as many different liquids might be found. It would be considered a rare specimen of the skill of glass-blowing in any place in the world.

Mr. Newman, senior member of the firm, exhibited one of his patent glass pots, which he has recently patented through the *MINING AND SCIENTIFIC PRESS PATENT AGENCY*, and by the use of which the Company has been enabled to successfully introduce the manufacture of colored glass into the same furnace with that partially employed in making white glass—thus adding to the scope of their manufacturing capacity, without any extra cost or inconvenience to their other business. The invention of this pot is the first important improvement which has been made in this direction for the last six or eight hundred years. This invention possesses many points of merit, the most of which have already been fully described in the columns of the *Press*. The committee recommended for this invention a special award for its great merits and its being a California invention.

The committee also, in view of the very great risk and expense attending the introduction and manufacture of white glass, and the large commercial value which it has added to the State and Pacific coast, recommend that, in lieu of the special premiums, an award of either the gold medal belonging to the third department, or else a special gold medal be awarded to Messrs. Newman & Brennan.

The *Pacific Glass Works*, of this city, John Taylor, agent, had also on exhibition a large variety of their ware, consisting mostly of colored glass, in the shape of soda bottles, wine and brandy bottles, patent medicine bottles, etc. This is the first extensive glass manufactory erected on the Pacific coast, and as such is entitled to most important consideration as a pioneer in this important branch of industry. The company have confined themselves almost exclusively to the manufacture of colored glass, and have been the means of early filling a most important necessity growing out of our distant and isolated location, which rendered the importation of such brittle articles as are made of glass extremely difficult and expensive from breakage. The goods exhibited by this company were all superior of their kind.

**USEFUL PUBLICATION.**—J. H. Carmany & Co., of the *Weekly Stock Circular*, have issued a very neat diagram of the room of the San Francisco Stock and Exchange Board. The diagram is about 14 by 20 inches in size, and displays distinctly every desk, 80 in number, with the name of its occupant on the first of October, plainly marked upon it. A list of officers and members of the Stock Board is also given, with the place of business of each member. A scale of commissions is also added, together with the hours of morning and afternoon sessions. The San Francisco Stock and Exchange Board was organized Sept. 11th, 1863. Its present officers are J. E. B. Cavalier, President; A. H. Lissak, Vice-President; Geo. W. Smiley, Caller; Franklin Lawton, Secretary; Henry Schmiedell, Treasurer. The present number of members occupying seats is 78—there being only two vacancies.

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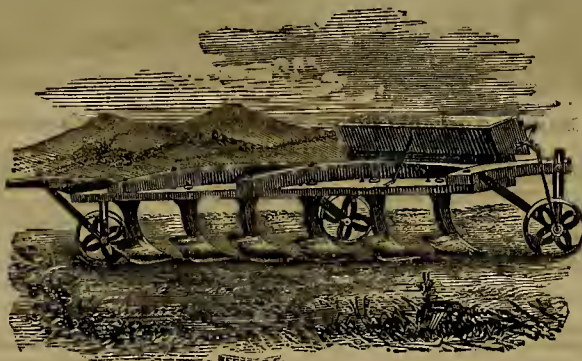


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BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

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**NOTICE TO CREDITORS.**—IN THE PROBATE Court of the City and County of San Francisco, State of California. Estate of HENRY GANAHL, deceased. Notice is hereby given by the undersigned, Administrator of the above natural estate, to the creditors of, and all persons having claims against said deceased, to exhibit the same, with the necessary vouchers, within ten months from the first publication of this notice, to the undersigned at his office, No. 23 Court Block, 636 Clay street, San Francisco. Dated October 31, 1867.

ANOREW D. SMITH,  
Administrator of the Estate of Henry Ganahl, deceased. 14v15-4w

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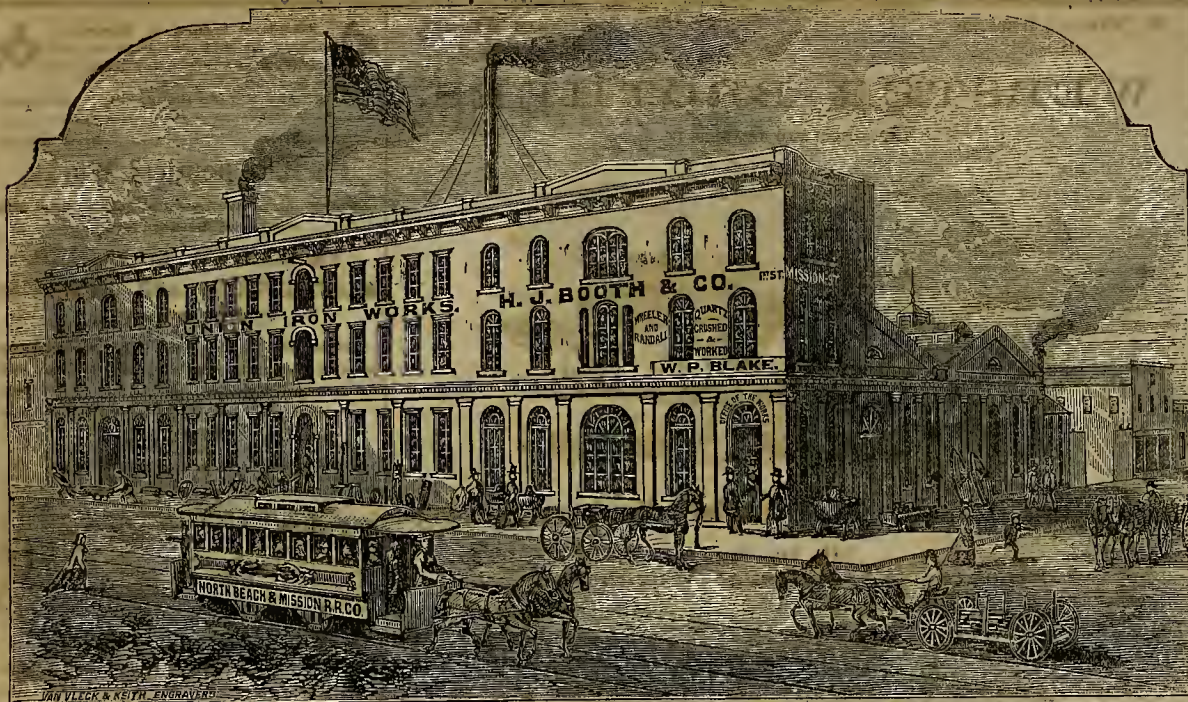
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WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, And from Franco and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, ACIDS and CHEMICALS, constantly on hand. San Francisco March 6, 1866. 1v10-1f

T. R. CHURCH, FASHIONABLE CLOTHING EMPORIUM No. 223 Montgomery st., Russ Block.

WHOLESALE AND RETAIL DEALER IN FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices. 9v15-qr

MEUSSDORFFER,

Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867; An Entirely New Style of Cloth Cashmere Hat

"YACHT HENRIETTA," Which are the most dressy Hat ever introduced on the Pacific Coast. 8v14

Cyanide of Potassium

QUARTZ MILLS,

Photographers, Electrotypers, Etc. Manufactured by the

PACIFIC CHEMICAL WORKS.

For sale by all Wholesale Druggists and Dealers in Photographer's Stock. 2v16-1alf

BEAN'S HISTORY AND DIRECTORY

NEVADA COUNTY, CALIFORNIA.

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN. Price, \$5.—For sale at the office of the Mining and Scientific Press, San Francisco. 13v15tf

Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay st.







Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

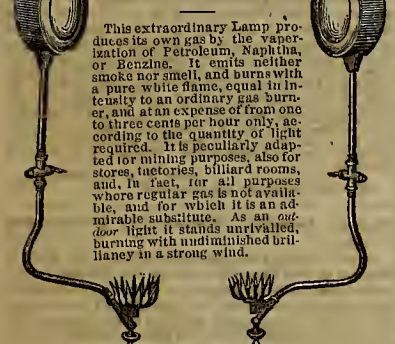
For rapidly pulverizing and amalgamating ores they have no equal...

This Amalgamator Operates as Follows: The pan being filled, the motion of the mill forces the pulp to the center...

Setters made on the same principle excel all others...

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the oxidation of Petroleum, Naphtha, or Benzine...

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full...

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco...

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION!

The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights...

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws...

Several infringing machines are made and offered for in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention...

Notice to Miners,

Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner...

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

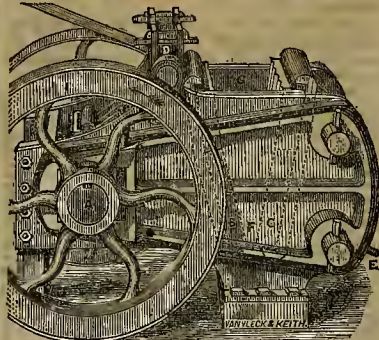
MACHINES OF ALL SIZES FOR SALE - by - WM. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel, manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 1v14gr

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for breaking or Spalling Quartz...

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable...

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion...

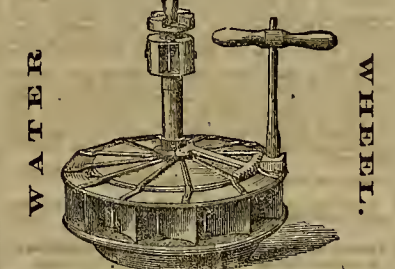
These Infringing Machines are made and offered for in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention...

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL. This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864...

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING. This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada...

Express Building, 402 Montgomery Street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED in the United States or the world, have been fully tested on this coast, more than forty being in use...

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated Hartford Engine...

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a First-class Fuel-Saving Engine...

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States...

San Francisco, Aug. 29, 1867. GODDARD & CO., Pacific Iron Works, 9v16ff

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

E. T. STEEN, Commission Agent for the purchase and sale of

Engines, Boiler Castings, AND ALL KINDS OF MACHINERY.

- One Engine, 6-Horse Power, \$140
One Engine with Boiler, 7-Horse, 600
One Engine, Lark for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One Iron Battery of 4 Stamps, 500

Boilers and Machinery, CASTINGS OF ALL KINDS, AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15gr

PATTINSON'S HURDY-GURDY WATER-WHEEL.

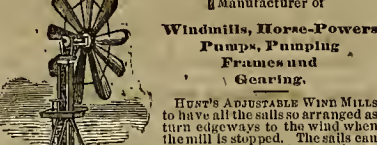
The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use...

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-qy THOMAS PATTINSON.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND PLACER MINERS, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss...

E. O. HUNT, Manufacturer of Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as turn edgewise to the wind when the mill is stopped. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds...

Freight Horse-Powers, Steam Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. 2v15gr

Steam Pumps, PICKERING'S GOVERNORS, Giffard's Injectors, STODDART'S IRON WORKS.

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT. For Steam Engines. For Feeding Boilers.

Beale Street, San Francisco. 2v12 3m

California Steam Navigation COMPANY.

Steamer CAPITAL.....CAPT. E. A. POOLE
CHRYSOPOLIS.....CAPT. A. FOSTER.
YOSEMITE.....
CORNELIA.....CAPT. W. BROMLEY
JULIA.....CAPT. E. CONKLIN.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets. B. M. HARTSHORNE, President.

LOWER CALIFORNIA Exploring and Prospecting COMPANY.

This Company have procured the services of parties that are well acquainted with the country. The Company will also prospect for Mineral Lands, Water Privileges, Town Sites and Harbors, etc.

J. W. CAREY, Secretary, No. 20 Montgomery St., Room No. 7. Shares of above Stock, \$10 each—Unassessable. 13v15 3m

Notes of Travel. THE NEW MINT AT CARSON.

EDITORS PRESS: We left Dutch Flat on the morning of the 18th, via Donner Lake, and Lake Tahoe, for this place. The most noticeable feature was the continuous line of work from Cisco to Coburn's station on the Pacific Railroad...

Passing for some distance along the northern and eastern shore, we were pained to see that the lumbermen, those thoughtless iconoclasts of primal beauty, at favorable points, were marring the unbroken beauty of its ever varying scenery.

As a great natural curiosity, at a point about a mile from the "Griff House," just at the water's edge, hot water comes bubbling up, charged with sulphurous odor. We plunged our hand in, but withdrew it as quickly, to prevent scalding. As a geological feature, we observed that on the lake side, and extending out into it, was lava or pumice of volcanic origin...

THE MINT AT CARSON. By the politeness of Mr. A. Mitchell, foreman, as also of Mr. A. Curry, superintendent of construction, we were furnished very full particulars of this public work.

The size of the mint is 90 feet front by 58 feet deep; portico in front, 12 feet; an engine house in the rear. Height of basement, 9 feet; of first story, 15 feet; second story, 14 feet; attic, 9 feet; with an observatory 14 feet square, and 17 feet in height; whole height, including flooring, 61 feet.

The material of which it is constructed is coarse sandstone, granitic in character, quarried within the prison enclosure, which is located about two miles distant.

The second story is nearly completed. To provide against fire, the floors are covered with lime mortar one inch thick, and the second flooring laid over it. Stairways are of granite, of fine quality. Windows arched, basement arched and grained, main chimney stack, 80 feet in height, with base 10 feet square. The building will be ready for the roof in six weeks.

The machinery is being prepared, and it is expected that it will be ready for operation some time next spring or summer. Its dimensions are ample, structure solid, and will, when completed, supply a pressing demand for a vast region on the eastern slope of the Sierra.

Carson boasts a population of 2,500, is mainly indebted for its size and prosperity to their mining interests.

Tenabo, fourteen miles south, has a population of about 300, subsisting on its agriculture. M. F. Genoa, Sept. 10, 1867.

INDIAN SKILL.—It is said the Indians have a very ingenious way of setting fire to houses with their arrows. They wrap with a rag some powder on the head of their arrows, and on the tip of the arrow-head place a percussion cap. When the arrow strikes the house, the cap is exploded and the powder and rag ignited. The rag burns long enough to set on fire any combustible with which it may come in contact.

GRAPE SEEDS FOR COFFEE.—It is said that in many parts of Germany the seeds of grapes are frequently used in place of the coffee berry. When pressed they yield a quantity of oil, and afterwards, when boiled, furnish a very economical, and, it is said, a very delicious substitute for the genuine Mocha.



NEW USE FOR POULTRY.—A Frenchman has devised a vehicle which he has fitted up with nest boxes, perches, etc., which he proposes should be kept on every farm, well filled with fowls, to be transferred every day to the spot where the most active farming operations were being carried on.

FISH BISCUIT.—Prof. Rosing, of Asa, in France, is said to have devised a process of making flour from a species of sea fish, which he forms into biscuit, thereby providing a very nutritious and compact species of food.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 29, 1867. TERMS— tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles, Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

The Commercial Herald —AND— MARKET REVIEW

Will be issued early on EVERY STEAMER-DAY MORNING. (TRI-MONTHLY). Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast. The Letter Sheet Market Review, Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper.

Weekly Stock Circular. Merchants can have their cards prominently inserted in the Letter sheet MARKET REVIEW.

THE CENTRAL PARK OF THE PACIFIC. Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, —AND— ZOOLOGICAL GARDENS. A GRAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SACRED MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast. The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Picnic.

FAIRBANK'S PATENT



Also, large Scales for weighing loaded wagons of Ore, Hay, etc., from 6,000 to 40,000 pounds capacity. Manufacturers Branch House, FAIRBANKS & HUTCHINSON, 120 California street, San Francisco.

Advertisement for N. P. LANGLAND, STAIR BUILDER, No. 49 Beal street, Between Market and Mission, SAN FRANCISCO. Includes an illustration of a staircase.

Advertisement for C. E. COLLINS, EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. Superior Watches, In Gold and Silver Cases. Includes an illustration of a watch.

Advertisement for WM. H. KEITH & CO'S Proprietary Preparations. List of products including Florentine Tooth Wash, Saponaceous Tooth Powder, etc.

Advertisement for Fine Custom Made Clothing and Gents' Furnishing Goods. WE ARE NOW OFFERING OUR IMMENSE STOCK. J. R. MEAD & CO., Cor. of Washington and Sansome streets.

Advertisement for Quartz Mill Construction and Superintendence. THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill.

Advertisement for HAYWARD & COLEMAN, IMPORTERS AND REFINERS of Illuminating, Lubricating, and PAINT OILS. Includes a list of products like KEROSENE, LARD, SPERM, etc.

Advertisement for Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. CAPITAL STOCK, - - - \$500,000.

Advertisement for THE GREAT LIGHT. THE DANFORD Atmospheric Lamp. This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame.

Advertisement for Pratt's Abolition Oil. FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, etc.

Advertisement for GOVERNMENT HOUSE, Corner of Sansome and Washington sts. THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes.

Advertisement for WESTERN HOTEL, Nos. 43 and 45 K street, between Second and Third streets, SACRAMENTO. Board, per week, 25 Cents.

Advertisement for PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91.

Advertisement for LACOUR'S SARSAPARIPHERE BITTERS. Have so speedily grown in favor that their unrivaled sale has attracted remarks and criticisms of the trade.

Advertisement for LACOUR'S SARSAPARIPHERE BITTERS. They are the most efficient Blood Purifier, because they combine with the wholesome Sarsaparilla, which operates by cutaneous excretions.

Advertisement for Assayer and Chemist. A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment.



**PICTURE FRAMES, ETC.**—We have just had the pleasure of a visit to the salesroom of Messrs. Jones & Wooll, 643 Market street, where a large and varied assortment of picture frames, looking-glasses and engravings are found constantly on hand. This firm commenced business here as early as 1855, and established their manufactory in 1864—the oldest of the kind on the coast. Persons desirous of procuring anything in this line, would do well to give them a call, as they have every facility for manufacturing goods of this class to order.

MARKET STREET HOMESTEAD ASSOCIATION.—J. S. LUTT, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**Gold Bars,** of whatever size, if well cast, assayed for two dollars, at A. P. MOLITOR'S Assay Office, 611 Commercial street, opposite United States Branch Mint. 15v14-3m

**Boiler Makers Wanted.**

WANTED—GOOD BOILER MAKERS, (THAT ARE NOT Society men,) to whom steady employment will be given. Apply to COFFEY & BIRDON, Boiler Works, Bush and Market streets. 13v16-4w

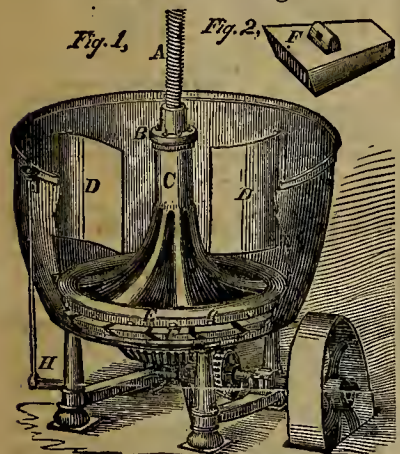
**CHICKERING & SONS' PIANOS**



Received the FIRST PREMIUM (Gold Medal)

And Decoration of Legion of Honor, at the Paris Exposition. KOHLER, CHASE & CO., Agents, 26v14nr16p 421 Montgomery street, San Francisco.

**STEWART'S CELEBRATED HINGED Grinder and Amalgamator.**



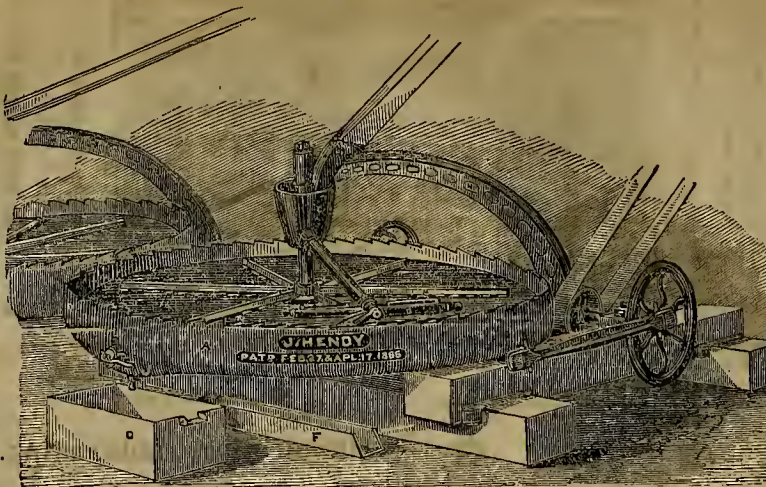
**The Cheapest and Quickest Pan now used.** It is flat bottomed, loses far less power in throwing the pulp, and elevates the same under the muller to better advantage than any other Pan in use, while the steam owing to the thinness of the cone, has a more direct effect in heating the pulp. E is the muller plate; F the Grinding Shoe, attached by an adjustable hinge joint, in the middle of the same—the bottom wearing down even with the dies. Mr. J. H. STEWART, the inventor, has had ten-years of experience in mechanical operations, and may be addressed at San Francisco, or called on at the Miners' Foundry, First street, where his Pan is manufactured, and is to be soon at any time in operation. 14v16-1am1f

**Hunt's Double-Action Pump**



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 103 Jessie street. 14v16f E. O. HUNT, Prop'r.

**HENDY'S LATEST IMPROVED CONCENTRATORS,**



**FOR GOLD AND SILVER ORES,**

With Revolving Stirrers and Rotary Distributor.

This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands, and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.

The principle upon which HENDY'S PATENT CONCENTRATOR is constructed, is the only true and mechanical one for the purpose of concentration.

**CENTRIFUGAL FORCE AND GRAVITATION,**

Combined as they are in this machine, CANNOT FAIL TO ACCOMPLISH the object sought. Many certificates from proprietors of mills, who have this Concentrator in use, can be had, if required, giving the most flattering accounts of its efficiency.

A most substantial evidence of its worth is the fact that the proprietor is receiving repented orders from those who are using them, and who have tested their merits.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. THEY ARE WARRANTED TO WORK SATISFACTORILY.

**Directions for Operating Hendy's Concentrators:**

- First—Set the Pan, A, level, by its inner rim.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

**References:**

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use
- EMPIRE MILL..... Grass Valley, Nevada County.
  - INDEPENDENCE MILL..... Brownsville, El Dorado County.
  - HUMBOLDT CANAL CO..... Humboldt County, Nevada.
  - EL TASTE CO..... Sonora, Mexico.
  - WOOLSEY & CO'S MILL..... Prescott, Arizona.
  - NOYES & CO'S MILL..... Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO..... Sinaloa, Mexico.
- RECENTLY ORDERED FROM THE UNION IRON WORKS:
- VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators)..... Nevada County.
  - GOULD & CURRY G. & S. M. CO. (4 Concentrators)..... Virginia City, Nevada.
  - VULTURE CO. (4 Concentrators)..... Prescott, Arizona.
  - MIDAS MILL CO. (4 Concentrators)..... Virginia, Montana.
  - PLYMOUTH ROCK MILL CO. (2 Concentrators)..... Calaveras County.
  - B. F. BROWN (1 Concentrator)..... Melbourne, Australia.
  - MOREY & SPERRY (1 Concentrator)..... New York.
- And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine: The Empire Mill Company, at Grass Valley, having tested the merits of Hendy's Concentrator, to their satisfaction, have ordered six more from the Union Foundry. In addition to this, three have been shipped during the past week from the Pacific Foundry for the Lucy Mining Company, Owyhee District, Idaho.—Mining and Scientific Press, September 14th.

[From the Mining and Scientific Press, September 21st.]

[COPY.]

SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. Co., VIRGINIA CITY, Nev., Sept. 17, 1867.

JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours, very truly, LOUIS JANIN, Jr.

We are told by Mr. Hendy that the bill was presented in accordance with the above request, and duly paid.—[Eds. Press.]

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus: "J. HENDY, Patented February 27th and April 17th, 1866." Orders or letters of enquiry, address,

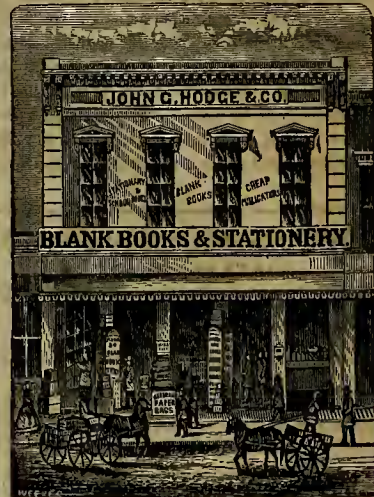
JOSHUA HENDY, Patentee, Union or Fulton Foundry, San Francisco.

**W. T. GARRATT, City BRASS AND BELL FOUNDER.**



Cor. Mission and Fremont sts., SAN FRANCISCO. Manufacturer of Brass, Zinc, and Anti-Friction or Babbet Metal Castings; CHURCH AND STEAMBOAT BELLS,

TAVERN AND HAND BELLS AND GONGS, FIRE ENGINES, FORCE AND LIFT PUMPS, Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, HYDRAULIC PIPES AND NOZZELS For Mining purposes, Iron Steam Pipe furnished with Flanges, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of Garratt's Patent Improved Journal Metal. Highest Market price paid for OLD BELLS, COPPER AND BRASS. 61f



JOHN G. HODGE & CO., Importers and Dealers in STATIONERY, Blank Books, School Books and Cheap Publications. WRAPPING PAPER, PAPER BAGS, ETC. Nos. 418 and 420 Clay street, San Francisco. Special attention given to orders from Country Merchants. 2v15-qr16p

MAGAZINES.	Per An.	W. E. LOOMIS, News Dealer AND STATIONER, Southeast corner Sansone and Washington streets, SUPPLIES ALL EASTERN PERIODICALS by the Year, Month or Number.
Harpers.....	\$ 4 00	
Atlantic.....		
Godey.....		
New York Ledger.....		
Blackwood.....		
Hours at Home.....		
Good Words.....	3 00	
Petersen's.....		
Artiller.....		
Lady's Friend.....	5 00	
Harpers Weekly.....		
Chimney Corner.....		
Literary Album.....		
London Society.....	6 00	
All the Year Round.....		
London Ill. News.....	15 00	

**Foundry for Sale.**

A One-half Interest in the UNION IRON WORKS, SACRAMENTO, Owned by William N. Williams, is offered for sale on the most favorable terms. A Good Bargain

May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets. Inquire at the office of the Foundry, or address WILLIAM N. WILLIAMS, 25v13tr19-16p Sacramento, Cal.

**Mineral Land Law Blanks FOR SALE.**

We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866: I. Applicants' Declaratory Statement. II. Diagram, Description of Diagram and Boundaries, and Notice. III. Register's Order for Publication—with Notice. IV. Deposition that Notice has been Posted. V. Application for Survey Etc. PRICES.—Single blanks, 10 cents; 75 cts per dozen; \$4 per hundred—postage paid. Pamphlet containing the Law and the Instructions of the General Land Commissioner, post paid, 25 cts. Address DEWEY & CO., Mining and Scientific Press, San Francisco.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge. If in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.



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## Cox's New Cement Mill.

We have already made several allusions to the "Cement Pan" lately invented by Capt. J. B. Cox, of this city, for the purpose of separating the gold from auriferous cement. This operation is performed in a kind of pan, with a perforated bottom, into which the cement is thrown and washed by a number of stirrers or plows, bolted to arms attached to a vertical central shaft, which revolves at the rate of about fifty revolutions a minute, and which so effectually stirs and breaks up the cement that, by the aid of a small stream of water constantly entering, the cement is thoroughly separated from the boulders and broken up sufficiently to pass through the very fine longitudinal openings left in the cast iron bottom of the pan. Although the construction is similar to that of a pan, operating with stirrers instead of mullers, it may be properly termed a mill, from the fact that the entire process of reducing or "crushing" the cement, and collecting the gold from the same, is performed by the pan and its attendant sluices without any additional machinery or manipulation—stamps or other crushing being entirely done away with. This pan is built up with sides of boiler iron about two feet high, with a diameter six feet across. The bottom is made of hard cast iron, with fine longitudinal openings, through which the cement, as fast as it is reduced to a sufficient fineness, falls into a sluice for washing and collecting the gold. The stirrers are made of steel, and firmly bolted to strong wood and iron arms. There are four arms, with four stirrers to each arm.

The charge of the pan, as now constructed, is one ton, and with a properly arranged chute for filling, six to eight charges can be worked each hour, and with cement of ordinary hardness. This work has been demonstrated by actual practice for months in succession. The cement may be introduced into the pan much coarser than it will answer to be placed under stamps. The cement heretofore worked at the Cox claim near Placerville will average about sixty per cent. of refuse or boulders and pebbles, which, after being freed from the cement, are discharged through a double trap-door in the bottom of the pan, which is conveniently opened and closed by levers.

Another of these pans has been in operation since the first of September, by D. T. Hughes, formerly an assayer in this city, at his claim near Jamestown, Tuolumne county. The result of the working of this pan fully sustains what we have said above. Mr. Cox has two other orders for pans—one from Oregon and the other from Tuolumne Co. A large number of others are thinking of putting them up. They are made for the inventor at the San Francisco Foundry, on Fremont street, in this city, where one may now be seen in course of construction. The cost of reducing cement by these pans is much less than by stamps. A single pan, with the frame, sluices, etc., complete, can be put up for from \$1,500 to \$1,800, and

will do the work of a 20-stamp mill, which will cost from \$12,000 to \$18,000, or more. We shall be able soon to give a more full and an illustrated description of this new and important invention.

## Petroleum as Steam Fuel.

Several gentlemen largely interested in steam navigation and the use of steam otherwise on this coast, went down to Santa Cruz on Monday last, to witness another trial of White's apparatus for burning petroleum for steam fuel. This apparatus has been placed in the furnace of a 15-horse power engine, where it has been subjected to a number of trials, all of which are reported successful in every particular. The fires are under the most perfect control of the engineer, and can be regulated as easily as the gas in any large number of connected burners. The principle which has been adopted by Mr. White, is similar to that adopted in the Eastern experiments; but was conceived by him, and has been the subject of almost constant thought and experiment for the past two years or more.

The apparatus by which the burning is effected is quite different from that adopted by Col. Foote in his Palos experiments, and in the opinion of good judges, who have examined the illustrations of the latter, far superior in effectiveness, convenience and durability. We understand that the party who went down on Monday were very much pleased with the manner in which it worked, and could see no reason why it should not operate for any reasonable length of time, as well as in the short time to which it was then subjected. We understand that the invention will soon be subjected to a crucial trial in this city, in which it will be thoroughly tested, and in a manner to fully determine its value.

From present indications there seems but little doubt that the problem of utilizing petroleum for steam fuel, is in a fair way to be proven a complete success. The possibility of the burning may be considered as already settled; the matter of economy as between it and coal, so far as can be judged by rough trials, seems to be equally well decided, and largely in favor of petroleum—especially on this coast where disparity between it and coal is more favorable for petroleum than in almost any other part of the world.

Great interest is being shown in these experiments by the owners and agents of the various river and ocean steamers out of this port, and it is the determination of all parties interested that nothing shall interfere with giving Mr. White's invention the fullest and most complete trial at an early day. Col. Foote left New York on the last steamer for this city, and will soon be here to look, in person, after the interests of his invention on the Pacific coast. He is accompanied by several engineers who have been connected with him in his recent trials.

CONTRIBUTORS TO OUR CABINET will hear with us another week. We shall give several very interesting items under this head next week.

## Samuels' Process for Preserving Wood.

On Tuesday of this week we witnessed at the Lincoln Works, No. 51 Beale street, near Mission, a new process for preserving wood, rendering it impervious to wet and dry rot, and impenetrable to insects. The process was invented by Mr. J. L. Samuels, who has applied for a patent. The wood to be operated upon is first placed in an airtight cylinder, and thoroughly steamed, in order to vaporize the sap in the wood; the air is then withdrawn from the cylinder, by means of an air pump, until a perfect vacuum, or nearly so, is created, which opens and frees the pores in the wood; when a solution of sulphate of iron is forced into the cylinder, under a pressure of 175 pounds to the inch, which forces the solution through the pores. This pressure is kept up for half an hour, giving the solution time to percolate or permeate every portion of the wood; when a solution of carbonate of lime is forced into the cylinder, which has the effect to precipitate the iron, forming a sulphate of lime; thus coating or filling all the minute cells of the wood with a mixture of oxide of iron and sulphate of lime. The wood is then thoroughly cleansed and dried, when it is found to have attained an extraordinary degree of toughness, and capable of receiving a beautiful polish, besides being rendered completely impervious to rot of any kind, and impenetrable to insects.

The invention is one long needed, and one which many have often vainly endeavored to effect, and will be of immense value to this city for preserving piles, which are rendered useless in a few years from the ravages of the *teredo navalis*, when the wood is used as at present. The inventor claims that wood, thus treated, will not only be useful when placed in the water, but will be equally available for railroad ties and street pavements, while from the hardening and drying process the wood is prevented from swelling or shrinking, thus providing a suitable wood for shoe pegs, and various other purposes where strength and durability is desired. The wood thus prepared is capable of resisting a crushing pressure, when compared with the unprepared wood, of eight to one, and the pressure required to break it transversely is as thirteen to one. Mr. Robert Chamberlain has made arrangements with the inventor to take out patents in Europe, and we understand that he will proceed to Europe in a few days for the purpose of introducing the process. Mr. Samuels wishes it understood that he is ready and willing to put his prepared wood to any test in order to prove that his process is what he represents it. A piece of the prepared wood may be seen at this office.

MINING REVIEW.—We publish on another page of to-day's issue, an elaborate and highly interesting review of the mining interests on the Pacific coast for the past three months, which we take from the *Commercial Herald and Market Review*. Our readers will find it of especial interest at this time.

CALIFORNIA ACADEMY OF NATURAL SCIENCES.—Regular meeting, Monday evening, Oct. 7, 1867.—In the absence of either of the regular presiding officers, Dr. Cooper was called to the chair, and presided at the meeting.

Dr. Cooper presented from Mr. Victor a specimen of salt, manufactured from springs near St. Helens, Oregon. It is fine, very white and glistening, and the people of Oregon think it is the very best salt procurable for dairy use. Though there is much competition in the market, from salt obtained on the southern coast from sea water, and from importations, yet this salt is manufactured profitably.

Dr. Stout read a paper on a resolution ordering a committee to take into consideration the subject of a suitable Academy building, and to provide ways and means therefor. He urged that the Society needed galleries more open to the public for the exhibition of its rapidly accumulating materials in natural history. There should be an enlarged library and reading-room for social and literary purposes; also a proper hall for public lectures, and a laboratory for experiments. The suggestions were acted on, and the committee appointed. Adjourned.

ENCOURAGING.—It always affords us much pleasure to find that our efforts to please the readers of the Press, or to give satisfaction to such as may favor us with orders in our capacity as patent solicitors, are properly appreciated; but it is seldom that we intrude the evidence of such approval before the public. We depart from our usual course, however, to-day, in placing the following note before our readers:

Messrs Dewey & Co., Publishers and Patent Agents.—Gentlemen.—I am in receipt of your note, informing me that my patent for an Improved Loaf Bread Machine is ordered to be issued. This is the more gratifying as the machine works finely, and my business has more than doubled by the use of it. I beg leave to thank you for the promptness and intelligence which you have shown in managing the case. Scarcely three months have elapsed since the model and accompanying documents were forwarded from this city. I would further say that you have secured any further business which I may hereafter have at the Patent Office, as well as that of my friends, so far as I can influence them. Yours truly,  
J. D'ARCY.

San Francisco, Oct. 3d, 1867.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

## Something About the Freiberg Mines.

By W. P. BLAKE, Commissioner from the State of California.

There is a tradition, generally believed, that the veins of Freiberg were discovered by a teamster named Goslar, in the twelfth century. This recalls at once the recollection of the discovery of our silver veins at Austin by the rider of the Pony Express, and it is singular that the ores of Austin and those of Freiberg are in some respects similar. In 1825, the now venerable Prof. Breithaupt made a calculation which showed that in 640 years the Freiberg mines had produced 82,000 quintals of silver, worth 240,000,000 of thalers.

Freiberg is only one of the mining centers of Saxony. The oro hearing or metalliferous region is divided into four mining districts as follows: Altenberg, 31 mines; Freiberg, 98; Marienberg, 48; Schwarzenberg, 146.

I have also indicated the number of mines opened in each, which shows a total of 323 mines in the four districts. Of these mines only 20 are worked by the government; the others are explored by companies and private capital. The total number of miners in the district, is set down in the government reports as 10,122, and the number of smelters or laborers at the reduction works as 1,175.

In the year 1865, the amount of first-class ore delivered at the Freiberg smelting works was about 33,614 tons, worth \$1,017,305 (in its raw state), or \$30 a ton. These ores when worked, gave products to the value of about \$2,000,000. The principal products, and in the order of their value, are silver, lead and its oxides, sulphate of copper, sulphuric acid, gold, zinc, nickel, bismuth, and arsenic. I have given the figures in round numbers, on account of the difficulty in calculating the different German weights and values.

The products of the Freiberg smelting works are derived not only from the ores of Freiberg, but from those of other districts, and also from distant places. Some ores are received there from South America and Mexico; those from the latter places being chiefly antimonial ores, and sent as ballast at a small cost for freight. The whole quantity of foreign ores is, however, inconsiderable, compared with those of the region.

There are three or more groups or systems of veins, having different directions and intersections at various angles. A copy of the official map of the region has been presented to me, and a glance at it would delight our "many-legged" lawyers in Washoe. Veins running parallel with each other and in close proximity, are there laid down and are regarded as separate, though usually worked under one company or administration. They are quite different from our Comstock lode, being in general quite narrow, compared with it, and without such remarkably well formed selvages or clay walls. I told one of the professors of the costly litigation we had had in Nevada upon the question of one or more ledges, and he remarked that formerly there had been similar and protracted disputes in Freiberg, until finding it impossible to settle the question satisfactorily, the laws had been changed so as to make the claims square; in other words, they adopted the plan of square locations.

The mining laws require the finder of a vein to obtain a permit to work it from the government, and to have it recorded in the government office. Each claim is divided into 124 shares, of which one belongs to the discoverer, one to the owner of the land, and two to the town. These four shares are unassessable, so that the whole expense of development or improvement falls upon the outside holders. Owners of stock have the option of giving up their shares to avoid the payment of an assessment. In this case, the shares fall into the hands of the mining office, and are sold to the highest bidder, preference usually being given to the old stockholders. The "freeze out game" seems

to have been practiced here for a long time, for I am told that the large and wealthy companies gradually absorb the smaller ones. Of all these mines, there are only six that pay dividends regularly, while there are several that just make expenses and continue to develop without assessing. There is one mine that regularly assesses the stockholders \$25 per share quarterly. The Himmelfahrt mine and the Himmelfurst are two of the most extensive in the vicinity of Freiberg. The former paid 700 thalers per share last year, and the shares now command from \$8,000 to \$10,000 each; forty years ago they could have been bought for eleven cents a share. The Himmelfahrt paid six thalers a share last year. The mines are now producing better than they have for years previously. It is said on good authority that the establishments here, including the reduction works, give in the aggregate a profit of eight to ten per cent. per annum upon the investment.

The Himmelfahrt is one of the most extensive and deepest of the mines. Its shafts are just outside of the old walls of the city, and they have been carried to a depth of nearly 2,000 feet. The length of the galleries is reckoned in miles, and portions of them extend under the town. They form a complete labyrinth, and many are so little frequented that a stranger might easily get lost and perish, perhaps, of starvation before finding an exit.

It was very interesting to me to walk through the ancient workings, where the galleries had been cut by pick and gad alone without the aid of gunpowder. They are very narrow, but are high, with the top roundly arched, and all very smoothly cut. They reminded me at once of the galleries in the Japanese mines, cut in a similar manner. One of these galleries led to a place where two tablets carved out of the solid walls, bear the date of 1767, and inscriptions noting the fact that powder was first used in the mine near that spot.

To descend to a depth of 2,000 feet, and ascend, is no small journey, and exhausts a great part of a miner's strength. To avoid this the deep shafts are fitted with the well known man-machine or *fahrkunst*, by which the trip can be accomplished with comparatively little fatigue. In this mine the man-machine and the pumps are operated by water wheels about thirty feet in diameter, which are placed in large chambers excavated far below the surface. The water is brought in by a gallery, and after passing over the wheels escapes by the adit. The hoisting is performed by the same power transmitted by wire cable to the surface. Steam is used at other shafts. The engines are generally horizontal, provided with link motion, and are connected with the hobbin shaft by gearing. The friction band operates upon the periphery of the fly-wheel, which I regard as better than our system. Their hobbins and pulleys at the head of the shaft are generally of good size—not less than eight or ten feet in diameter, and are double, so that while one cage or skip is descending the other is ascending. Round iron cable is used exclusively. No person is allowed to ascend or descend in the skip or car.

Most of the veins are without gouge or selvage, and all the ore must be blasted out. I was surprised at the small size and lightness of the German drills. A California miner would hardly consent to use them after handling our octagonal steel drills.

The country rock of the Freiberg veins is a hard tough gneiss—in fact, the typical *gneiss*—which is evidently a metamorphosed sedimentary formation, and is in many places nearly horizontal. The veins cut across it, and are, for the most part, nearly vertical. They make very little show at the surface, for there is no heavy gangue or veinstone of quartz, as with most of our mineral veins. The outcrops are generally very rusty and red, and thus indicate at once the pyritiferous character of the ores below. The ore is generally a mixture of iron and copper pyrites, with arsenical pyrites, galena, blende, and here and there the silver sulphurets. Occasionally very beautiful crystallizations of the silver minerals are found, and the cabinet of the Academy is enriched by them. It contains a magnificent collection of these ores and crystals taken from the different veins for 100 years past. Now and then considerable quantities of native silver are found. In four years, from 1857 to 1861, 8,300 pounds of this metal were taken out of the Himmelfurst mine, most of it in large plates, one of which weighed 400 pounds.

A mine called the Chur Prinz, a few miles from Freiberg, belongs to the government, and is kept as a sort of experimental mine, where new inventions and processes are tried at the public expense. I here saw some interesting concentrating machines, which I have not now time and space to de-

scribe. Two of Blake's ore breakers are in use here to prepare the ore for the jigs and other concentrators. The ore passes from one machine to the other, the last being adjusted to crush fine.

The stamping mills are very rude and do not compare favorably with ours for efficiency and economy of power. The total number of stamps about Freiberg are 656, of these 507 are dry stamps, and 149 wet.

Water is raised from the deep mines, not by water power alone, as I have described, but by Cornish steam engines at some places, and by the column of water, or "water-pressure engines" in others. Some of these latter are very perfect and interesting in their operation. Two long tunnels have been projected for the drainage of these mines. One of them is in progress. It will be about eight miles long, and will require many years yet for its completion. It is worked upon at several different points by means of shafts. The other tunnel has been surveyed and talked about, and is intended to be no less than twenty-eight miles long (28), but the money to construct it has not been obtained, and it is not probable that it will ever be commenced. The developments made by the other tunnel, in the ground outside the belt of veins have not been of a nature to encourage a hope that the lower tunnel would cut or discover new veins. During 1865, the whole number of men employed in the tunnel was 220, and the costs for the year was 78,599 thalers.

A few facts upon the rate of wages in Saxon mines may be interesting to our miners.

For eight hours work a miner receives about 20 cents (gold), an under superintendent 30 to 37 cents, and a superintendent about \$400 a year. Boys receive from 10 to 15 cents, and carpenters about the same. One-tenth part of the wages is retained for a common fund devoted to the support of indigent miners.

There is a feature in a German miner's life which will seem very odd to most Californians. Every day before the men enter the mine, they meet in a chapel at the mouth of the shaft and have a short religious service. Passages of Scripture and prayers are read, psalms are sung, in which they all join. After this the roll is called by the sub-superintendent, and the orders for the shift are given. The miners appear to enjoy good health, and to be contented and happy. They lead a quiet and simple life, and are full of good will towards others. This is expressed continually in the "*Gluck auf*," or "*luck to you*," with which you are greeted on coming or going.

I cannot close here without thanking the American students, and especially the Californians, for their kind attention to me during my visit, nor without echoing from the Pacific their kindly "*Gluck auf*."

OUR LEAD SUPPLY.—The yield of the Galena, Ill., lead mines, which form the principal source of lead in this country, has largely diminished of late years. In 1842, they produced 31,350,630 pounds of pig lead, at an average price of 2.25 cents per pound; in 1845 the yield was increased to 54,394,860 pounds, at an average of 2.96 cents. The production from that time gradually decreased, so that in 1855 it amounted to only 30,125,500 pounds, at an average of six cents. Since 1848 the United States have been dependent for their chief supply of this article on foreign countries, so much so that strenuous efforts have been made to have pig lead placed upon the free list. In 1857 the duty was reduced from 20 to 15 per cent. Under the present tariff it is two cents per pound. The Pacific coast, especially that part of it bordering on the Colorado river, and southwestern Nevada and southeastern California, abounds in valuable lead mines, from which the entire supply of the world may be derived, as soon as proper communication is opened between those distant regions and this city. The opening of the Colorado river and the construction of the overland railroad as far as the Humboldt Valley, both of which enterprises will be realized within the next twelve months, will place the yield of these mines within the ready reach of a market, and active preparations are already being made to work many of them on an extensive scale. Two or three in fact, are already yielding large amounts of lead, the most of which is being stored for future transportation; the working expenses of the mines being paid by the silver which accompanies the lead.

## Commercial and Financial Summary.

Under this heading the *Commercial Herald and Market Review* makes the following interesting and truthful remarks upon the material progress and growing resources of the Pacific Coast:

The first three quarters of the year just brought to a close have been marked by a large average degree of prosperity among the people, not only of California, but throughout the entire Pacific coast. Glancing over this period we find that nearly every branch of industry and field of investment has met with a fair and, in many instances, with a munificent reward. Rarely ever before in the history of the country has such great and generally gratifying progress been made in every department of business as during this time. Labor has been in full demand and well rewarded; manufacturing has been active with remunerative prices and money abundant at moderate rates for all legitimate purposes.

The shipping interest has been especially flourishing, the tonnage of the port having been employed the most of the time to its fullest capacity. Trade and commerce, without being attended with the liberal gains of earlier years, have been healthful and occasionally active, there having been but few failures or other financial disasters to record. Mining enterprise has not only escaped the ruinous losses that so often befall it a few years since, but has, for the most part, been attended with satisfactory results, indicating for this important branch of business more steady and profitable returns than have ever yet attended it. Payments by interior dealers have generally been made with promptness, pointing to a prosperous trade and an easy state of finances throughout the country. Ship and boat building has revived, not only at this port but at other points along the coast; it being particularly brisk just now about Puget Sound, to which locality, because of its advantages, much of this business will probably be hereafter transferred. Indeed, it seems likely that this magnificent water will soon become one of the greatest centers of naval construction in the world, the facilities for ship building being greater here than at any other known point.

As customary, trade at this point has been more active during the third quarter of the series under review than throughout the others, the business of the past three months comparing favorably with that done in any former corresponding period. Orders for machinery, both for quartz mills, marine, railroad and other purposes, have been large, keeping the most of our foundries and shops fully engaged. A new item in this line consists of architectural castings, a vast amount of which is now being employed in the construction of the better class of buildings. Agricultural implements are also now being largely manufactured in this State, those of home make being, like our quartz mills, generally preferred to the imported article. It is gratifying to observe that there has been less disposition manifested among our inhabitants thus far the present year to emigrate to points beyond the limits of the State, as well as on the part of our moneyed and business men to invest in foreign and other distant localities, where returns, as experience has amply shown, are by no means so large or certain as nearer home.

Greater attention is now being turned to farming and similar pursuits than to the more precarious business of mining, and as a consequence good agricultural lands as well as other kinds of productive real estate are appreciating in value. The money accumulations of the country—greater now than ever before, as the deposits made in the savings banks show—are being utilized more than formerly in the purchase of lands for cultivation, or of city property for improvement, much also being used in efforts to establish manufacturing in a small way, or, in some instances, through associated capital on a larger scale; all bespeaking a settled confidence in the future of the city and State, and indicating a growing thrift on the part of the laboring classes.

A review of our Agricultural market for the first nine months of the present year exhibits a progress as wondrous as it is gratifying. Our exports of Flour and Wheat are enormous in comparison with all former years, as will be seen by the following figures: To New York we have sent 209,791 barrels of Flour more than during the same period last year, and also 357,104 more sacks of Wheat. Great Britain has taken 2,251,080 sacks of Wheat more than in the first nine months of 1866, equal to \$4,500,000 at two cents the pound. No account is made of Flour, of which she has taken 38,761 barrels so far this year. Our breadstuffs trade with China and Japan has decreased considerably, but there is every reason to predict a revival during the next quarter. Most of the breadstuffs shipped to those countries last year were exported during the last quarter of the year. South America is rapidly opening her markets to our Wheat and Flour, the exports being 62,393 barrels Flour and 11,049 sacks of Wheat this year, against nothing during a corresponding period last year. Our trade with British Columbia, in the same articles, has almost reached zero. This is accounted for principally by the great decrease in population in that quarter of the globe. Australia and Mexico also exhibit a decline in the same trade, while with all other countries we are rapidly gaining ground. The total amounts of Flour shipped up to the 1st of October, 1866, was 241,413 barrels, while the quantity shipped the present year is 424,274 barrels, an increase of 192,861 barrels. The whole number of sacks of Wheat shipped during the same period last year was 1,333,657, and this year it has reached 3,506,574, or 2,162,917 more. The Flour this year expressed in Wheat would equal 1,302,832 sacks, being an increase of 578,483 sacks over last year. The combined value of the Flour and Wheat shipped this year in excess of 1866 reaches \$3,212,740. These facts speak for themselves and require no comment.

Quite recently, efforts last year inaugurated, have been resumed for aiding in opening up the Colorado River to navigation. Many of our leading merchants having subscribed liberally towards that purpose, it is now thought that freights will soon go forward through that channel with less delay and at lower charges than heretofore. Railroad transportation is also beginning to tell with beneficial effect upon the carriage of goods over local routes and to certain points in the more distant interior. The road of the Central Pacific Company, penetrating one of the great mining regions of the State, and extending thence across the Sierra Nevada, is especially felt in the transmission of freights to points along and near its line; and cannot fail, by establishing winter communication with Nevada, to greatly relieve the trade and business of that State, and of such points beyond as receive supplies through that channel.

In concluding our remarks on the material progress and growing resources of the coast, it may be observed that we are fast becoming self-sustaining in many of the staples of manufacture and the prime necessities of life, enabling us to retain for home investment large sums heretofore sent abroad for the purchase of these commodities. Among the articles most entitled to notice in this connection are salted meats, more particularly pork, bacon and hams, supplies of which, as well also as of lard, have hitherto been obtained chiefly from the Eastern States. The large number of swine now in the country and the facility with which these animals can be raised and fattened, renders it probable that this will be the last year that we shall be even in part dependent on sources outside our own limits for any thing in this line of provision.



## Mechanical.

**HEAT FROM PERCUSSION—HAMMERING IRON TILL IT BECOMES RED HOT.**—A late correspondent of the *Chemical News* intimated that the statement in many elementary works on science, to the end that blacksmiths are sometimes in the habit of hammering a cold nail or an anvil until it becomes red-hot, is a mistake. He suggests that the cooling influence of the anvil would be sufficient to keep the heat from rising to redness; and that the nail would become flattened out to foil before it would attain such a heat. Another correspondent in a succeeding number replies as follows: "I beg to state that it is a common thing for a good blacksmith to hammer a horseshoe nail red hot upon a common anvil. I have seen it done by one Jesse Stubs repeatedly, who informed me that 'years ago when he was a lad,' it was not an uncommon thing for a journeyman blacksmith on applying for work, to have to prove himself a good hammerman by making a nail red-hot in as few a number of strokes as possible. I once produced a blacksmith and anvil at a lecture, before the Royal Literary Institution of Hull, when the man made the nail glow before the audience by hammering it. Old blacksmiths in the country say that before the days of Congreve, Letchford, or Bryant and May, they many a time lighted their forge fire of a cold morning by means of a nail made red-hot by converting motion into heat, or as they term it, 'a few sharpish taps' with a hammer. Let 'Skeptic' go to a large blacksmith shop and offer a shilling to every man who will hammer a nail red-hot, and unless blacksmiths have degenerated during the late severe winter, he will soon part with his money."

**MORE OF THE APPLICATION OF MAGNETISM TO THE MANUFACTURE OF WROUGHT IRON.**—It would appear from the following paragraph, which we clip from the *London Mining Journal*, that the idea of applying magnetism to the manufacture of wrought iron is not a new idea. "Some twenty years ago," says the *Journal*, "Mr. Arthur Wall's electric process was applied to the manufacture of iron at the works of Mr. Jessop, at Codnor Park, Derbyshire; but owing to the expense of obtaining voltaic electricity it was found not to be of any practical utility; and Dr. Ure, in his dictionary, (edition for 1846,) mentions that he had then 'proved by experience that had the direct magnetic power been applied instead of the electric, a successful and practical result would have been attained.' The recent advances made in the cheap production of electricity have been availed of by Mr. Wm. Robinson, of Watling street, who states that the general theory upon which he proceeds is that heat, light, electricity, magnetism, motion and force are mutually convertible into each other. It is now rendered indisputable by Mr. Wilde's demonstrations with this powerful machine that mutual relations do really exist between them; thus his large electro-magnet is excited by the electricity evolved from a number of smaller magnets, whose action is rapidly repeated by a swift motion derived from heat, the combination is then capable of producing intense heat, intense light, or intense force, at the will of the operator, independently of combustion at the point of manifestation."

**CUT NAILS.**—Common cut nails are too brittle for repairing implements, or for other similar purposes. Buy only the very best for that purpose and anneal them, and they will answer all ordinary purposes of the best wrought nails. To anneal them, all that is necessary is to heat them red hot in a common fire and cool gradually. Let them cool, for instance, by remaining in the fire while it burns and goes out. One such nail, well clinched, will be worth half a dozen unannealed.

Every farmer should keep on hand a supply of copper wire, and small pieces of sheet copper, or copper straps. Copper wire is better than annealed iron wire; it is almost as flexible as twine, and may be bent and twisted as desired; and it will not rust. Copper straps nailed across or around a fracture or split in any wooden article, will strengthen it in a thorough manner.—*Rural Affairs*.

PHILADELPHIA claims to be the greatest manufacturing city in the Union. Her operatives number about 97,000, and their gross earning reach \$136,000,000 annually.

**FACTS FOR MECHANICS.**—St. Paul was a mechanic, a tent maker. Our Savior was a carpenter. The great Architect of the Universe has set his creatures an example in constructiveness, in the mechanism of the heavens and the earth with their productions, animate and inanimate, but which they never equal nor approach.

Next to farmers, mechanics are the most numerous and important class of the community. Whatever promotes their interests promotes the interests of the public. They, like farmers, have great facilities and inducements to become men of science and sound knowledge. Every mechanic in every operation brings into use some principle of science, which principle it is his interest and convenience to understand.

Every apprentice, no matter how assiduous or rigorous his employment, if he spends an hour daily in useful reading and modes of improvement, is certain to be a man of future influence and respectability. The apprentice who seeks most assiduously the interest of his employer, promotes effectually his own interest; as character is the best thing a young man can have for the commencement of business. Mechanics, like farmers, make safe and enlightened statesmen. They are well educated for legislators and for other officers, because educated in schools of experience. Who can be better qualified to make laws for aiding the operations of business than those engaged in these operations.

**THE ART OF GRINDING TOOLS.**—More than one-half of all the wear and tear and breakage and bother of dull tools comes from a lack of proper knowledge and practice in grinding. All steel, however refined, is composed of individual fibers laid lengthways in the bar, held firmly together by cohesion; and in almost all farm implements of the cutting kind the steel portion which forms the edge, if from a section of a bar, is laid in and welded to the iron longitudinally, so that it is the side of the huddle of fibers hammered and ground down that forms the edge. Hence, by holding on the grindstone all edge-tools, as axes, drawing-knives, knives of reapers, scythes, knives of straw-cutters, etc., in such a manner that the action of the stone is at right angles with the plane of the edge, or, in plainer words, by holding the edge of the tools square across the stone, the direction of the fibers will be changed, so as to present the ends instead of the side as a cutting edge. By grinding in this manner a finer, smoother edge is set, the tool is ground in less time, holds an edge a great deal longer, and is far less liable to "nick out" and break.

**POWER OF INVENTION.**—The last two great wars have illustrated in a new light the fact that one thought is mightier than a million arms. The inventor and the engineer fight the battles as well as do the work of the world. If there are exceptions and limitations to this statement at present, they are rapidly giving way before the advance of science, and the time is coming when they will be no more. We have only to suppose the inventor of the needle-gun to have been an Austrian or a "confederate" to perceive how the condition and future of either hemisphere might have been reversed through the agency of one man. Had the monitor sprung full-armed from a Southern instead of a Northern brain, where now would have been the United States? But there were reasons for these things as they were. The future policy of nations is too plain to be missed by a plain man, however theorists may obscure it. Only those who most successfully cherish, most determinedly grasp the whole system of arts and manufactures will hereafter be strong and secure.

**PROPER SPEED OF WOOD-WORKING MACHINERY.**—Velocity of circular saws at periphery, 6,000 to 7,000 feet per minute; velocity of the band-saw, 2,500 feet per minute; velocity of gang saws, of 20-inch stroke, 120 strokes per minute; velocity of scroll saws, 300 strokes per minute; velocity of planing machine cutters at periphery, 4,000 to 6,000 feet a minute.

Travel of the work under planing machine, 1-20th of an inch for each cut; travel of the molding machine cutters, 3,500 to 4,000 feet per minute; travel of the "squaring-up" machine cutters, 7,000 to 8,000 feet per minute.

Speed of wood-carving drills, 5,000 revolutions per minute; speed of machine augers of 1 1/4 inches diameter, 900 revolutions per minute; speed of machine augers of 3/4 inch diameter, 1,200 revolutions per minute.

Gang saws require for 45 superficial feet of pine per hour one-horse power indicated. Circular saws require for 75 superficial feet of pine per hour one-horse power indicated. In oak or hard wood 1/2 of the above quantity require one-horse power indicated.—*Molesworth*.

## Scientific Miscellany.

**STEREOSCOPIC.**—*Editors Press:*—A book in the Odd Fellows' Library, of this city, containing several stereoscopic views of the island of Teneriffe, some time ago led me to a singular discovery,—at least I claim it as such, not having read or heard of anything similar before. It is the fact that you can behold and contemplate stereoscopic views without the aid of a stereoscope, though with the same effect, but more minutely, even.

To effect this end, you have to take a glance at some object about 100 or 200 yards, distant, keep your eyes fixed in this direction; then introduce the picture into this fixed line of sight at the visual point (the point nearest to the eyes, where you can see any object with the most perfect clearness.) Probably you will then behold four pictures instead of two, but the two middle ones will appear very much mingled; then you have to try either to move the picture slowly to and fro, or cast your glance farther off or nearer by. Thus, you will find, that the outlines of the two middle pictures will change, and finally you have to try to bring these outlines into one. As soon as this is effected, of course you will see only three pictures; your eyes must rest upon the middle one, when this will show every object elevated exactly, as seen by the aid of a stereoscope, when the other pictures on each side will not. With a little practice, you will soon be able to control your eyes in this respect, so as not to be in want of the above stated proceedings; but neither will I say that everybody can learn this kind of eye-glancing, as only very few of my friends to whom I explained the matter have learned it, when most of them could not.

E. J. PFEIFFER.

San Francisco, Oct. 2, 1867.

**AERONAUTICAL.**—There seems to be more to be done at the present time, a persistent effort being made to advance the science of aeronautics to a practical utility. Numerous scientific men are engaged in the effort. The same principle, with various modifications, as an aid to elevation, and as a means of locomotion is being extensively experimented with. The greatest interest, however, seems just now to attach to some recent experiments of Dr. Wm. Smith, of London. The Doctor asserts that the wing of a strong pigeon strikes the air with a force which will raise a pound weight one foot high in a minute. But as soon as the stroke has produced its greatest mechanical effect it is suddenly cut short, nerves in the wing of the bird letting it know when the maximum effect is attained. He has succeeded in cutting some of the nerves of the bird from the organs of motion, the result being that although the bird flapped the air harder than before, it could not fly. He thinks, therefore, that in attempting flight by means of artificial wings, the stroke must be cut short when it has attained its maximum. On these principles he proposes a machine with artificial wings, propelled by motive power obtained from the explosions of mixed oxygen and hydrogen gases. The heat thus produced is not great, the gases would be exploded in india rubber accordion-shaped vessels, and these by their expansion would give the stroke.

**OXIDATION BY MEANS OF CHARCOAL.**—A communication was lately read at the London Chemical Society, concerning experiments made with recently burned boxwood charcoal. It was first placed in pure oxygen gas, and, after being saturated with other gases and vapors, the absorption as well as the resulting vapors were noted. Moist sulphurous acid and sulphureted hydrogen were changed to sulphuric acid; common alcohol to acetic acid, amylic alcohol to valerician acid; but the author asserted that ammonia does not undergo oxidation in the pores of charcoal.

M. ZALAWSKI has discovered a method of augmenting the power of a Bunson's battery, and making it more lasting. He uses two porous vessels, one within the other. In the inner one, which contains the carbon, he puts nitric acid, and in the outer sulphuric acid. In the outer vessel containing the zinc, he places a solution of sal ammoniac. No effervescence, it is said, takes place, and no zinc is consumed uselessly.

THE ACADEMY OF SCIENCES, of Paris, it is well known, is made up of a fixed number of members, which is never increased. When any member dies his chair is filled at the next meeting by balloting. None but the most eminent among savans have any chance of obtaining a chair of membership in that body—not even royalty itself can reach that distinguished honor except by the difficult road of scientific attainments. It is said to be the earnest wish of the present Emperor Napoleon to receive that honor, and he still hopes to attain it by his literary and inventive genius. The recent decease of M. Pelouze created a vacancy in this body; there were several candidates proposed, among them M. M. Cahours, M. Berthelot and M. Wurtz. The election finally resulted in the choice of the latter named *savant*. M. Wurtz was the discoverer of glycol and compound ammonias. These two discoveries gained for him the prize of \$2,000. He is also the author of a valuable work entitled "Chemical Philosophy," which has been translated in many languages. His claims were considered of the first order. The number present at the election was fifty-three. M. Wurtz was elected by forty-five votes against three given for M. Berthelot, and two for M. Cahours, and three blank. The three blank ones were an intimation that there was that number in the Academy who did not think that either of the three names presented were worthy to sit in their illustrious assemblage. In view, especially of the high attainments of the successful candidate, it was considered a most foolish display of importance and disdain, and a public exhibition of a most ridiculous meanness of spirit on the part of the learned Academical trio.

**MERCERIZING COTTON** is the term applied to the discovery of the peculiar action of caustic soda and sulphuric acid upon cotton. This singular process is called "mercerizing," from the name of its discoverer, and has the effect of untwisting the normally twisted tubes of cotton filaments, and converting them into cylindrical tubes. When colors are applied to the cotton so treated, they pass more readily through the minute pores of the tubes, and are precipitated in denser layers in the interior of the latter, whereby darker and more permanent shades are produced. Calico so treated becomes greatly increased in strength, and though hitherto no large quantities of cloth thus prepared have been printed, owing to the expense of preparation, advantage has been taken of the process to prepare the cotton fabric used in the production of the endless web known to calico printers as the india rubber blanket, which, when made with prepared calico, is rendered more durable. There is no doubt that Mr. Mercer's discovery is a valuable one, and when the objections to it become more generally known, some one may succeed in overcoming them. The advantages are that the fabric contracts about one-fifteenth linearly in each direction, and the threads appear rounder, firmer, and closer together; the cloth does not reflect so much white light, but has a translucent appearance. Its strength is also improved; cotton thus treated shows a superior affinity for some colors, especially indigo blue; it takes as deep a shade of blue at one dip as common cloth takes in six, and, generally speaking, colors look better on this than on untreated cloth. The objection to the process was mainly the expense of the soda, but now that this agent has been reduced in price this objection will not be so formidable. It was also said that the appearance of greater fineness and closeness, produced by the contraction of the fiber, could be more surely and economically produced by the loom.

A NEW ANESTHETIC has recently been introduced—a quadrichloride of carbon, which omits an agreeable smell of quinces, and can produce insensibility in less than one minute. The insensibility so produced, may be maintained with or without loss of consciousness; its effects cease speedily when desired, and are not followed by vomiting. It has also been successfully used for obstinate headache.

An explosive matter is obtained by treating a common glue with a strong solution of chlorate and nitrate of potash. This material, it is said, burns like ordinary gunpowder.



[From the Commercial Herald and Market Review.]

MINING REVIEW.

The business of mining during the past three months, constituting the third quarter of the current year, without being signalized by any marked discoveries or unwonted excitement, has been generally prosperous and progressive. This interest, as has been justly observed, is now in a sort of transition state on this coast, passing gradually from the precarious, fluctuating and transitory, but often largely remunerative business of stream-work or alluvial washing to the more difficult and expensive but, at the same time, more permanent and certain pursuits of cement and vein mining, calling for the employment of a greater amount of capital and skilled labor, and attended generally with larger and more certain but less immediate returns. Even the former branch of the business, as at present conducted, is much more costly and complicated than during its earlier stages, when the rudest implements and the simplest manipulations sufficed to segregate from its associate materials and to secure the granulated gold, the only metal then sought for. The pan, the tom and the rocker of the pioneer gold digger, have, except in a few localities, been long since superseded by the sluicing, hydraulic and other improved modes of washing, whereby immense masses of earth are readily broken down and deprived of their auriferous contents. The placer miner instead of pursuing his calling along the gravelly bars and in the beds of the rivers and alluvial gulches, where the most shallow excavations answered every purpose, now engages more extensively in deep explorations, sinking his shafts far down and driving his tunnels into the deeply buried cement and gravel beds; or, penetrating the superincumbent ruins of former geological systems, drifts along the auriferous channels of ancient rivers, richer, by far, than those more modern streams that supplied the earlier fields of mining industry. Vast banks of earth are shattered with powder and sluiced away; huge piles of tailings are annually washed and reworked, every year bringing with it some valuable invention and material advancement or marked change in the implements used and modes employed in this department of mining. But it is in the other branch of the business—in the working of quartz or vein mining that the greatest progress is being made, and the most vital gains achieved. As in this department the difficulties to be encountered were more formidable, so here the improvements made have been most signal and important, involving in their consequences questions economical, chemical and mechanical. As to the best methods of attacking and exploring the ore channels much has been learned, resulting in a greater economy, security and system, than had before been attained. A more careful and conservative policy is being observed in the conduct of leading mines, looking to their preservation and permanent productiveness rather than immediate and excessive profits. Improvements are constantly being made in the construction of machinery and the application of steam, some of which promise to effect a great saving of labor and propulsive power. The great problem of the successful treatment of the sulphureted ores of the precious metals makes gratifying progress; several large chlorination works erected in different parts of the State now being operated with results that promise for it an early and satisfactory solution. Other works have also been put up for treating these sulphurets by a cheaper and, as is claimed, more effectual process, while many of the more obdurate silver-bearing ores are being successfully reduced by means of smelting or such other modes as varied and persistent experiment has established as best. New explosive compounds are about being substituted for gunpowder whereby it is thought a saving of at least one-half the present cost of blasting can be effected, while the completion of railroad communication with many of the great mining centers of the State and its early extension to or near others, still further in the interior, cannot fail to impart to this branch of business an activity and insure for it a prosperity greater than it has ever yet experienced. The almost entire cessation of Indian hostilities in the earlier settled portions of the mineral regions has told favorably on the progress of many of the more out-lying districts, some of which had previously been much retarded by this cause. At present all the older Pacific States and Territories are nearly exempt from the depredations of the native tribes, though the latter still continue by their attacks or menaces to prevent exploration and defeat mining operations in many parts of Montana, Utah and Arizona; certain sections of which can neither be settled nor even prospected until these savages are destroyed or effectually subjugated. Another element of thrift in the more inland mining districts is the extent to which they are becoming able to supply all food-stuffs, flour and other staples of subsistence by products of local growth. Even in the more remote and desert sections of country a sufficiency of these commodities has been raised to meet every home requirement; the capacities of Arizona, the vast regions east of the Cascade Range and those lying between the Sierra Nevada and the great Central Cordillera of the continent, proving, in this respect, much greater than had hitherto been supposed.

Since the issue of our last semi-annual review the Commissioner for the collection of mining statistics on the Pacific coast has completed his labors and transmitted the same to Washington. His report, the material for which has been collected with the utmost diligence and care, is comprehensive, voluminous, and beyond all question one of the most useful and instructive papers ever compiled upon the resources and industries of this or perhaps any other country. It seems to cover the whole field fully and nothing appears to have been forgotten, slighted or overlooked. Questions of finance, agriculture, transportation, manufactures and commerce—of private interest and public policy—are all considered with reference to their bearings on the subject of mines and mining. The work is eminently practical and utilitarian, abounding in facts and figures drawn from the most intelligent and authentic sources; it having been the aim of the Commissioner to make it so thoroughly reliable that it could safely be adopted as the basis of legislative action as well as of extended business operations. To this end all his subordinates, of whom he had some twenty in his service, were specially enjoined to arrive at the utmost possible accuracy in the collection of facts, to keep within bounds, avoiding exaggeration and mis-statement, it being his desire to represent things in a light too subdued rather than over color or magnify the truth. Being compiled, then, with such a strict regard to exactness, and by parties every way competent and veracious, this work, when it shall appear, will have strong claims to be received as an authority upon the various topics of which it treats. That it will, despite these precautions against exaggeration, exhibit for our Pacific possessions an immensity of mineral wealth need hardly be stated. Indeed, the representations made of these and our other material resources are such as cannot fail to astonish the world by reason of their ready availability and vastness. The nations of the Eastern Continent, accustomed to pursue the business of mining in fields of comparatively narrow limits, will be amazed when they come to learn through an authoritative channel the richness and

extent of the mineral regions lying west of the Rocky Mountains. Here, instead of a few small districts, as with them, they will perceive that our metalliferous ranges stretch over States and Territories, either of them larger than almost any kingdom in Europe, our lodes being at the same time heavier and the ores much richer than there. Here, they will readily come to understand, are fields of profitable industry broad enough to absorb the cheap capital and give employment to all the surplus labor of the old world. Fields of industry, too, already explored and opened up to the enterprise of all peoples, native and foreign alike—our system making no distinction in this respect between our own and alien citizens. Here the miner from abroad can take up and hold claims, work and sell the same or buy others, without divesting himself of his nationality—enjoying, if he choose, all the advantages without assuming any of the burdens of citizenship. Here the laborer can command steady work at wages more than double those he has been accustomed to receive; or, if he prefer, become his own employer, with abundant chance of success. Here the capitalist receives every encouragement and protection, his investments enjoying immunity from annoying espionage and excessive taxation, and being safe against the fluctuations to which most other governments are exposed. Here there is no danger of his being oppressed by arbitrary laws or molested by official interference, as in many other mining countries. With us he is not liable, as in Mexico and South America, to be plundered by the government on the one hand and guerrillas on the other, nor subjected to a vexatious surveillance or the payment of royalties and other exactions. All these and many other advantages peculiar to our mining policy will be made apparent, attaining to wide notoriety through the pages of this report, an immense edition of which, it is understood, will be issued with a view to its broad and liberal distribution. That great and lasting benefits will through its agency accrue, not only to the mining region but to the country, and even the world at large, cannot be doubted. When the extent to which our own people have put their labor and means in mining properties, and in improvements auxiliary to that interest is understood abroad, an increased confidence in them as sources of permanent and profitable investment cannot fail to be the result. The fact that we have, in California alone, spent more than thirty million of dollars in the erection of quartz mills and the opening of mines, and almost an equal sum in the construction of water ditches, flumes, roads, etc., designed chiefly to promote their effectual development, cannot fail to be accepted as evidence of our faith in their vast and enduring richness. We have now in this State 420 quartz and cement mills carrying about 4,500 stamps, the whole erected at an aggregate cost of more than six million of dollars. About three-fifths of these are propelled by steam and the balance by water, a small number being driven by both steam and water. Besides these mills there are something over 400 arrastres, the most of them being connected with the mills for amalgamating purposes. These quartz mills carry from five to sixty stamps each, the number in most of them ranging from ten to thirty. The cost of their construction varies from \$10,000 to \$120,000 each, the average being about \$35,000. With the exception of those in Alpine, Mono, Inyo, and San Bernardino counties, they all work for gold alone. In the two counties first named only the silver saving process is adopted, while in the other two the ores are worked both for gold and silver.

How rapidly the business of quartz milling has increased in California is shown by the fact that there were but 140 mills in the State ten years ago, the whole of which carried but 1,500 stamps, and were built at a cost of less than \$2,000,000. Besides the above there are in the other Pacific States and Territories 285 quartz mills, supplied with over 2,600 stamps, and erected at an aggregate expense of nearly \$3,000,000, the building of which is largely due to California enterprise and capital. The linear extent of the main water ditches in California reaches 5,500 miles, with nearly 1,000 miles of branches for distributing the water at points more or less remote from the line of the principal ditches. The total cost of these works, including flumes, branches and reservoirs, approximates \$16,000,000. Some of them are of large capacity, and extend a distance of nearly five hundred miles. The most expensive, that of the South Yuba Canal Company, cost \$1,500,000—the cost of many others reaching from two to six hundred thousand dollars. The principal object of these ditches is to supply the placer mines with water, though they also furnish a good deal for irrigating purposes as well as for the propulsion of machinery. If to these sums we add others of minor importance, such as those spent in the construction of hydraulics, roads, bridges, etc., we shall have another heavy item of expenditure incurred for purposes subsidiary to the business of mining in its several branches, leaving out of account the still larger amounts spent in the purchase of mining properties in their various stages of development, or on behalf of labor and current expenses attending their working, the whole aggregating some hundred millions of dollars.

It is true, that these investments have not always proved either safe or profitable. Much money has been lost through inexperience and errors of judgment not only in the business of mining itself but also in the prosecution of enterprises designed to aid and encourage it; yet these losses have hardly been greater than those attending many other pursuits carried on in a new country and under circumstances eminently precarious and trying; while it may safely be affirmed that the business of mining for the precious metals on this coast is attended at the present time with as much certainty and as fair a chance for profit as merchandising, farming, manufacturing or any other of the leading industries of the country—a conclusion warranted by the accounts that reach us from nearly all parts of the Pacific slope of the continent. We have now data to justify the belief that the hullion product for the current year will be larger than usual, while it is well known that the cases of failure caused by injudicious investments are constantly diminishing. While some mills have been idle and some mines have remained unworked in different parts of the country, caused in some instances by mistakes of the kind mentioned, and in others by a lack of means or the want of a suitable process for the treatment of the ores, the cases so common a few years ago of parties expending immense sums in the purchase of worthless mines, erecting often costly mills in addition for the purpose of working ores that did not exist, are now no longer heard of. On the contrary, while very liberal investments continue to be made, no mining property can now find sale until it has been at least partially proved, nor are mills apt to be erected until there is an assurance that the ore supply promises to be ample. With these precautions quartz milling and mining is assuming a new and more hopeful phase, nor is there any likelihood that the former reckless style of procedure will ever again obtain in the conduct of this business. With these reforms achieved and the economies gained, as before related, the pursuit of mining is largely assuming the elements most attractive to capital—security and profit—placing its success on this coast beyond contingency. With cheapened cost of production the percentage of loss in the working of ore is constantly being diminished. This is especially true of operations in California, where the mills

working auriferous quartz are able, as a general thing, to save within 25 per cent. of the gold it contains as shown by fire assay; those adopting the chlorination process in the treatment of sulphurets saving 50 per cent., while some newly invented modes claim to be able to work at less expense and much more closely.

In the State of Nevada, where they have to deal mostly with silver bearing ores, the results obtained are widely different, the mills about Virginia City, working the Comstock ores, mostly reduced without roasting, saving only about 65 per cent. of the metal, while those at Austin, Twin River, and in the Cortez District, where roasting is practiced, save from 80 to 90 per cent. The saving at Belmont is still less than about Virginia, the ores there being worked by a cheap and expeditious process, whereby 40 per cent. of the silver is left in the tailings, which are carefully preserved for future treatment. It having been found that much of the ore in certain localities, as in the Humboldt and Esmeralda sections of country, can be successfully reduced only by smelting, works for this purpose have been erected there, and are now being operated with excellent results. Taken as a whole the business of mining in that State is likely to prove more prosperous the present year than ever before—the product of hullion approximating \$20,000,000, a gain of more than 20 per cent. on the yield of any former year; while the favorable situation of things there warrants the belief that the product will be increased in a corresponding ratio for several years to come.

In Arizona operations in quartz continue to be delayed by the difficulty encountered in finding a suitable process for reducing the sulphureted ores and the persistent hostilities of the Indians, these causes having also to some extent interfered with the progress of both this and placer mining in Utah, Idaho and Montana. The Lemhi mines, discovered over a year since in Idaho Territory, and to which there was a considerable emigration in the early part of the present summer, though quite extensive, have failed to pay more than very moderate wages, while those found about the same time in the southern part of Utah have been but little prospected on account of the Indians, who have refused to allow the whites to enter the country. The placer mines discovered during the past summer on the upper waters of the Humboldt, in the north-eastern part of Nevada, have also proved to be of but limited extent and richness, though several small parties have made fair wages there at surface digging, and the region abounds with what appear to be valuable quartz veins. Very recently an extensive range of placers has been found on the upper tributaries of the Payette River, Idaho, quite a numerous population since gathered there, being now engaged washing with good results. Discoveries of surface mines, though of less magnitude, have been made elsewhere during the present season; and, viewing this branch of business as a whole, it would seem to have been attended up to this time, with at least an average degree of success.

In our recently acquired territories on the northwest there is good reason to believe extensive deposits of the precious metals will be found as well also as valuable beds of coal, iron and copper; and it is anticipated that the country will be thoroughly explored with a view to ascertaining the extent of its mineral resources the coming season. During the past three months the more subordinate branches of mining—coal, copper and quicksilver, have been conducted with an average degree of success, the product of the New Idria quicksilver mine, now worked with a large force, being constantly on the increase. The Borax Company at Clear Lake continue to extract about thirty-five tons monthly of this salt, for which they find an increasing demand, and, although but little is being done just at present with our petroleum deposits, there is no doubt, considering their immense extent and the prospect that this material will soon come to be used as a fuel, but what they will in a short time be made largely available for this and other purposes.

What Others Say of Our Paper.

The Mining and Scientific Press is all that its publishers claim for it, being a compendium of mining news on the Pacific Coast, and a general disseminator of all matters of interest to the mechanical and agricultural portions of the State.—Dutch Flat Enquirer.

The Mining and Scientific Press, San Francisco, has entered on its sixteenth volume. The Press is worth its weight in gold to the artisan and the miner, and is always filled with original matter of deep interest to all classes.—Amador Ledger, July 13th.

Congratulating you on the many very great improvements you have made upon the Press—its usefulness and prosperity.—Letter from Editor Sac. Dec.

That excellent paper has done a new dress of California manufacture.—Keese River Reveille.

The Mining and Scientific Press—a most useful exchange.—Oayhce Avalanche.

BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

JACOB SNEY, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (date 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new Cabinet Photographs, which he is taking to perfection. 10v14ft

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Delays are Dangerous.—Inventors on the Pacific Coast should bear in mind that by patenting their Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

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The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS: It is simple, concise, and well arranged. It seems to be a work of great value.—John Sloat.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After as careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hatch.

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the application of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Dennison.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all these who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Hunt, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Hervon Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—J. H. Brayton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Bouie.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Bulletin.

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap, convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times

Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken,) holds it up before you; tears it to pieces before your eyes—or rather, we should say, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

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This is an ace in which the occasions are rapidly multiplying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—Stockton Independent.

The most eminent educators in California give it their hearty approval, and we concur.—Marquette Appeal.

Not only one of the best of its kind, but what is still better, one of the briefest. It contains 166 pages.—Virginia Enterprise.

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Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, October 12, 1887.

Bullion Product.

The following table shows the bullion product of the leading claims on the Comstock Lode during the first nine months of 1887:

Table with columns for Company Name, Location, and Bullion Product (in various units like ounces, pounds, etc.). Includes companies like Hale & Norcross, Savage, Crown Point, etc.

In the above table we have estimated the bullion receipts of the Yellow Jacket company for July, August and September. The bullion of the Kentuck company is placed at \$101,000 for September, though the receipts may be somewhat increased.

During the past three months city shares have been quite inactive, the sales being comparatively meagre under the very excited state of the mining share market.

IMPERIAL—advanced from \$130 in January to \$282 in April, declined to \$136 in May, sold at \$237 in July, fell to \$114 in September, and sold during the past week at \$114.

KENTUCK—came into the market in May, selling at \$180, rising at the close of June to \$260, dropping to \$154 in September, and selling yesterday at \$245.

GOLD HILL QUARTZ—ADVANCED M. & CO.—was placed on the market in the spring at \$200, and advanced to \$240 at the close of July, fell to \$180 in August, and sold at \$175 in September.

SOAP FACTORY.—The new establishment of Messrs. Lucy & Hymes, at the corner of Eighth and Brannan streets, is said to be the largest of the kind on this coast.

ELECTION OF OFFICERS.—NORTH STAR G. M. Co.—October 9th. Trustees, A. C. Peachy, Delos Lake, A. J. Pope, W. H. V. Cronise, G. W. Beaver.

constitute the burden of dealings on the Stock Exchange; but not all parties have the same view of such a thing.

That these mines should be operated more with a view to considerations of the future, that they should be preserved from the unhealthy influences to which they are now so largely subjected, that greater economy should be observed...

constitute the burden of dealings on the Stock Exchange; but not all parties have the same view of such a thing. Those at all conversant with the history of these transactions need not be reminded how often a similar condition of things has obtained during the past few years.

The following is a condensed review of claims upon the Comstock Lode for the past nine months: SAVAGE—has been in marked favor during the past nine months, having at the beginning of July reached the highest market price...

HALE & NORCROSS—has lately been sold to a considerable extent at a very great decline. During the first six months of the present year this stock seldom made its appearance in the market...

CHOLLAR-PORTER—has been very active during the period under review, and the favorable developments have given it more than its proportionate share of the attention of the market.

YELLOW JACKET—rose to \$200 early in June, fell to \$50 in July, improved to \$110 in August, and closed in September at \$340. The dividends of this company during the past nine months...

GOULD & CURRY—has been comparatively quiet during the entire period under review, selling within a range of \$50 to \$80 per foot from January to the close of August at \$25, falling to \$300 in September, and closing at \$235.

CHOLLAR-PORTER—has been very active during the period under review, and the favorable developments have given it more than its proportionate share of the attention of the market.

EMPIRE—rose to \$202 per share in April, then sold within a range of \$160 to \$185, and closed yesterday at \$190.

KENTUCK—came into the market in May, selling at \$180, rising at the close of June to \$260, dropping to \$154 in September, and selling yesterday at \$245.

GOLD HILL QUARTZ—ADVANCED M. & CO.—was placed on the market in the spring at \$200, and advanced to \$240 at the close of July, fell to \$180 in August, and sold at \$175 in September.

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MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Receipt; Day of Payment; Sale; and Amount and Time of Payment of Dividends.

Table listing mining companies, their locations, and details of assessments and dividends. Includes companies like Ancient River, Belcher, Chalk Mount, etc.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table of stock prices for various companies and bonds, including United States Bonds, California State Bonds, and local mining stocks.

RAILROADS.

Table listing railroad companies and their stock prices, such as Sacramento Valley Railroad, San Francisco and San Jose Railroad, etc.

BANKING INSTITUTIONS.

Table listing banks and financial institutions, including California Loan and Savings Society, Bank of California, etc.

INSURANCE COMPANIES.

Table listing insurance companies and their stock prices, such as Fireman's Fund Insurance Co., Pacific Insurance Co., etc.

MINING STOCKS—WASHE DISTRICT.

Table listing mining stocks from the Washoe District, including Alpha, Baltimore American, Belcher, etc.

San Francisco Market Rates.

Table of market rates for various commodities, including flour, sugar, coffee, and other goods.

Table of commodity prices for coffee, tea, sugar, and other goods.

Retail Prices.

Table of retail prices for various goods, including butter, flour, and other household items.

San Francisco Metal Market.

PRICES FOR INVOICES.

Table of metal market prices for various types of iron, steel, and other metals.

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THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast.

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It is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of valuable and entertaining, Original and Selected matter.

Rates of Subscription.

Table showing subscription rates for one year, three months, and other periods.

Boiler Makers Wanted. WANTED—GOOD BOILER MAKERS, (THAT ARE NOT Society men) to whom steady employment will be given.

Boiler Makers Wanted. WANTED—GOOD BOILER MAKERS, (THAT ARE NOT Society men) to whom steady employment will be given.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Oct. 5th: The Silver Creek mill will start up next week again on Tarshish ore. The proprietor was obliged to take the broken iron work to Virginia City for repair, which has caused a vexatious delay.

In the down shaft of the Tarshish, better ore is being found than any before seen in the mine. This shaft is going down at a rapid rate, water not interfering so far with the working.

## Amador County.

*Ledger*, Oct. 5th: The Coney mine has been stopped for repairs and for the purpose of erecting an engine on the shaft. It will require five or six weeks to complete the contemplated improvements and alterations. We were shown two bars of gold at the assay office of P. Reichling, the result of the last 28 days run of the mill. They measured 6 in. by  $2\frac{3}{4}$  and  $1\frac{1}{4}$ , or  $4\frac{1}{2}$  cubic inches, weighing 427 ozs., and worth \$8,186.50. One of the bars, 210 ozs., was gold from the mill, and worth \$17.80 per ounce. The other, 217 ozs., worth \$20.50 per ounce, was from the sulphurets reduced by chlorination.

Old Bob's claim, located in Walker's Ranch, is looking fine. They are now down 58 ft., and have two distinct veins of promising rock.

## Inyo County.

*Virginia Enterprise*, Oct. 1st: Mr. M. L. Remington, who built the Janin & Park mill, will leave this city in a day or two for Pine Grove, Wilson Dist., to make arrangements for the erection of a mill in that region. Mr. Remington thoroughly understands the art of mill building.

The 11,160 ozs. of hullion from the Kearsarge mine, mentioned in the last issue of the Press, was the result of a crushing of 40 tons of second class ore, instead of 70 tons. The *Virginia Enterprise* says that they have ores in the Kearsarge that yield as high as \$800 per ton.

## Los Angeles County.

*News*, Oct. 4th: Daniel Sexton, Esq., of San Gabriel, has just received a patent for a new model of a quartz mill, by which machinists claim that one-half of the motive power will be saved. Mr. S. is now making arrangements to start a mill upon the new plan and patterns, by which a practical test will be made of the new invention. If what is claimed for it be true, the cost of quartz mining will be materially reduced by its introduction.

## Mariposa County.

*Mail*, Oct. 5th: The new quartz mill erected by Robinson & McAllister on their vein, (formerly the Potts vein,) in Hunter's Valley, is nearly completed, and will be started up next Monday. It contains 12 stamps, has all the modern improvements, and is the most complete mill in the county.

## Mono County.

The Munckton correspondent of the *Virginia Enterprise* of Oct. 1st, in describing the newly discovered Dunderberg lode, says: The lode is from 15 to 20 ft. wide, and its east casing is granite, while the west is slate, which is good evidence of a fissure vein. The ore, of which there is 100 tons at the shaft, contains both gold and silver, the former predominating, and of which I have tried all classes, from one side of the ledge to the other, and from the showing of the horn, after pulverizing, as well as from the test tube, I am free to say that from the uniform results the entire lode will work \$100 per ton.

The same paper says: We were yesterday shown by Dr. Munckton and Mr. Thompson, of Carson City, some results obtained from the Dunderberg mine, Castle Peak Dist., about 25 miles southeast of Aurora. An assay of the ore, made by E. Ruhling & Co., shows it to contain \$159.32 per ton—gold, \$100.46; silver, \$58.86. A lot of ore from the same mine, worked by regular mill process at the Merrimac mill, yielded at the rate of \$102.85 per ton.

## Nevada County.

*Gazette*, Oct. 5th: The Marietta ledge is five feet wide, and the rock so easily mined that one man keeps the five-stamp mill running night and day. The mill is new, is run by a hurdy-gurdy wheel, and the cost of mining and working the quartz does not exceed \$3 a ton. The quartz shows a great deal of free gold and sulphurets, and there are very few mines in the county yielding better pay. The company own another very large ledge near the Marietta, on which they contemplate erecting a mill next season.

Oct. 7th: Quite a serious accident occurred in the claims of the Eagle Co., at Relief Hill, lately, which will detain them from

working for some time. They had run a new tunnel to tap the deposit at the lowest point in the channel, and sunk a shaft to connect with the tunnel through a hundred feet or more of bed-rock. The rock was so solid it was supposed the shaft would stand without timbering, but they had only been working a few days when the upper part caved, thus forcing them to suspend operations. They are now engaged in reopening the shaft, commencing at the surface and curving it in a substantial manner as they go down.

The big blast, now being prepared in the claims of the Union Co., will be ready for firing in about ten days or two weeks. This will be the heaviest blast of the kind ever set off in the State—750 kegs of powder being used.

Oct. 8th: Kerr Phelan & Co., who have acquired by purchase and location the claims on Shady Creek, have made arrangements to work the same by means of drifting. The creek is filled with tailings to a depth of 25 or 30 feet, washed down from the claims at Cherokee and Chimney Hill, and have become packed as solid as the old gravel deposits. These tailings have been tested sufficiently to show that they will pay well for working, those lying on the bottom, especially, being very rich, but they cannot be worked by the ordinary process of sluicing for the lack of fall. Phelan & Co. have erected a wheel for pumping and hoisting, and intend to drift out the gravel along the bed of the creek.

The new mills of the Commercial and Birchville Cos., as well as the Black & Young mill, and the arastras of Booth & Co., at Enreka, are running steadily, and are doing a good business. Miners are at work opening new ledges, the most of which show favorable prospects.

*Transcript*, Oct. 3d: The Scandinavian Quartz Mining Co. determined at a recent meeting to incorporate, and the officers were authorized to take the necessary steps. A contract is to be let for running 100 feet of tunnel upon the claim. The mine, as far as opened, looks exceedingly well.

Oct. 4th: The mines about Eureka are turning out splendidly. A large amount of prospecting is being done, and the mills are kept at work. The older mines are still doing well, and several new mills are being erected. Eureka promises to be one of the liveliest mining camps in the county. The Birchville Co. has just completed and started their new mill.

Oct. 5th: The five additional stamps ordered for the Grizzly mill, some time since, passed through this city yesterday. The mine has proved so good that the mill, with ten stamps, can be kept in constant operation. For the last two runs the yield has averaged \$100 per day, with five stamps.

"Blaze" has a handsome case, containing 16 small vials, which are filled with specimens of gold dust from the different localities in the county. The specimens vary in fineness from the smallest grain to the size of ordinary beans. They present a very handsome appearance.

A fine specimen of float rock was found a few days since, out beyond Maltman's sulphuret works, on the ridge. It weighed several pounds, and was filled with galena, in which gold could be seen. The party who found it supposes it was broken from a ledge in the vicinity.

Oct. 6th: The Ben. Franklin ledge, on Franklin Hill, a short distance from the Lone mill, is destined to be a big thing to its lucky owners. The *National* says a perpendicular shaft has been sunk on the ledge 86 feet, from which drifts have been run 100 feet, both north and south. Dan. Tierney & Co. have contracted with the owners to take out rock, and they are bringing it to the surface as fast as it can possibly be taken out. A short time ago 75 tons were crushed at Ben. McAuley's mill, in Boston Ravine, which yielded \$86 per ton. The ledge varies in thickness from 12 to 18 inches.

Oct. 8th: We saw, on Sunday, a beautiful specimen of quartz gold, from the Empire mine. The specimen consisted of a small piece of rock, out of which shot a crystalline mass of pure gold. The beautiful crystals glittered in the sunlight like diamonds, and on being held up, rays of light could be seen through the openings between the crystals of gold. The gold was almost pure for an inch and a half in width and two in length. It was about an eighth of an inch in thickness.

*Transcript*, Oct. 9th: The Commercial Co. have recently completed a 10-stamp mill, which is now running. The ledge is excellent, and the rock pays from \$15 to \$20 per ton.

The Birchville Co. have just completed a 5-stamp mill. Their rock averages \$30 to the ton.

The Golden Age ledge has been opened,

and a large amount of rock has been taken out. No crushing has yet been had.

The Liberty ledge has been opened 100 ft. The rock pays from \$15 to \$20 per ton.

The Reasoner Bros. have a fine ledge, upon which they have opened 120 feet. The rock last crushed paid about \$12 per ton.

The Banberry ledge is opened to the depth of 30 feet. It pays \$30 per ton. About 300 tons have been worked in arastras.

We saw yesterday, at Carley & Beckman's saloon, a piece of rock taken from the Scandinavian ledge, which weighed two pounds and ten ounces, and was hespangled on every side with free gold.

## Placer County.

*Herald*, Oct. 5th: Yesterday Mr. McCarty showed us a piece of rich rock taken out of Wall & Co's claim, near O'Brien's. The company on Wednesday last took out \$600. The ledge is from 8 to 14 inches wide. It is entirely in slate.

Mc. also showed us some rock taken from the "Gorham" ledge, which is about  $2\frac{1}{2}$  feet wide and runs parallel with the "Black Ledge" about 500 feet east. The rock is very similar in appearance to the rock from the Black lead, and carries plenty of free gold.

The Green Emigrant is still producing as well as ever.

Since the recent rich strikes on Quartz Flat many more claims have been taken up.

## Shasta County.

*Courier*, Oct. 5th: The mines on the North Fork of Cottonwood are paying unusually well. Two claims were cleaned up a few days ago, after a run of several weeks, which paid from \$10 to \$15 per day to the hand.

On the South Fork, the striking of rich prospects in one ledge, has led to the commencement of work on a number of others.

## Sierra County.

*Downieville Messenger*, Oct. 5th: A rich quartz ledge has been discovered at Cold Spring ranch, near Plum Valley.

The north extension of the Docile Co's ledge are taking it out rich—pounding only the selected rock in mortars and getting \$30 or \$40 per day to the hand. The owners are working within a few feet of the surface.

Five hundred ounces of gold are reported to have been taken from the Docile quartz ledge, at Alleghany, last week, the work of three men. A much larger amount is supposed to have been the true yield.

Efforts are being made to induce parties in New York city to develop the vast deposits of iron near Gold Valley.

## Siskiyou County.

*Yreka Journal*, Oct. 5th: The mines on Soda Creek are yielding good average wages—as high as \$4, \$6 and \$8 per day.

## San Bernardino County.

*Guardian*, Oct. 5th: Parcot & Co., in Holcomb Valley, have sunk a shaft and struck the bedrock; they are now running a tunnel, searching for the channel, as it is supposed in the wash is deposited the heavy gold. When struck it will be found rich, as the fine gold is obtained on the surface and all the way down. The steam pump continues working to perfection.

Wade & Co. are engaged in placer mining. Their little engine, the "grasshopper," will be ready for work in about a week.

In Van Duzen cañon there is a company of four men who have done a great deal of work, in the way of prospecting. They have struck gravel, and think they are on the channel.

In the Green quartz lode, work is progressing; they are down about 300 feet, and getting some very rich rich rock.

The news as to the success of the projected water works, on Lytle Creek are encouraging. Several claims have been bought up, and hydraulic washing is making its way through the red clay at a decidedly paying rate.

## Trinity County.

*Journal*, Oct. 5th: A correspondent writes from Minersville that Peter Van Matre picked up a \$56 nugget in his East Fork claim the other day, and that Hugh Markey cleaned up 32 ounces as the result of 24 days work in his Gassy Hill claim. Two Cornishmen, who have been drifting into the mountain opposite French Gulch for some time, picked up a \$13 piece one day last week.

## Yuba County.

*Marysville Appeal*, Oct. 5th: The Brown's Valley mills have machinery attached for saving sulphurets. They are said to be rich, and are sent to Grass Valley for working. We heard some time ago that sulphurets from the Pennsylvania mill assayed as high as \$1,600 to the ton.

The late strike in Brown's Valley was in the Rattlesnake mine. The Donnebroke mill is crushing from it and the rock pays

well. The gold is coarse, rock hard and expensive to mine. The Jefferson Co. continues to turn out rich rock. The Donnebroke mine is about to resume work on its own rock.

## ARIZONA.

*Miner*, Sept. 12th: On account of the scarcity of water in the Hassayampa, Mr. Smith will suspend operations as soon as he can clean up his arastra. He has recently discovered a new lode, which he has named the Sinclair.

Mr. Lewis informs us that "Shep" and Billy Middleton, two intrepid miners of Lynx Creek, have struck it rich opposite Clark's old cabin at Walker's. The arastras on the creek are idle for want of water, but the boys are still getting out ore.

At Walker's Camp on Lynx Creek, Poland and McCrackin are taking out ore from the Post Oak and Deadwood No. 2. These two ledges have, and are still furnishing plenty of first class rock. The Deadwood No. 2 has paid as high as \$48 to the ton in free gold. The Post Oak has also paid well. Messrs. Poland and McCrackin have erected an 18 ft. overshot water wheel, with which they drive their arastras.

Uncle Billy Pointer, a man of great age and energy, has a lode named the Pointer, which is very rich. The old gentleman has taken out of it, with his own hands, several tons of rock, which he thinks will pay better than an equal quantity of rock from any other lode in the country.

A party of miners are getting ready to smelt galena ore from a lode called the Spur, which is said to contain lots of the precious metals. A few companies are placer mining, making fair wages. Mr. Pearson, recently, in one day rocked out of a hole two feet square the sum of \$18.

Good and extensive diggings are reported in the neighborhood of San Juan Mountain. In one gulch at the depth of 15 ft., 25 cts. in coarse gold to the pan was obtained.

Noyes & Co. have 18 men employed in prospecting and taking out ore for the Aztlan mill, in the Hassayampa Dist. They are taking rock out of the Montgomery and other lodes.

## BRITISH COLUMBIA.

*Cariboo Sentinel*, Sept. 9th: Messrs. Dietz and Claudet have just returned from the Cherry Creek silver mine. The latter brought down with him a lump of ore, 54 lbs. in weight, which had been broken from a section taken from the lead, 150 lbs. in weight. It is of the rich blue ore.

The result of the last week's work on Williams Creek is as follows: Old California Co. 35 ozs.; Aurora Co. 278 ozs.; Forest Rose Co. 46 ozs.; and Ruby Co. 70 ozs.

Stout's Gulch: Alturas Co. 176 ozs.; Taftvale Co. 251 ozs.; and Mucho Oro Co. 40 ozs.

Mosquito Gulch: Job Co. 4 ozs.; Willow Co. 12 ozs.; and Jeffree Co. 36 ozs.

Grouse Gulch: Ne'er do Well Co. 80 ozs.; Heron Co. have declared a dividend of \$100 to the share.

The Dominique Co. on Nelson Creek, are making \$25 per day to the hand.

Work has been suspended on the ledge of the Washburn Quartz Co.

Terry creek is nearly abandoned; six white men are all that are working there at present.

There is about 10 Chinamen working on a small stream that empties into Government Creek, in which they make small wages.

## COLORADO.

*Georgetown Miner*, Sept. 19th: The hands on No. 1 Gregory lode lately struck several rich pockets of gold bearing specimens. John Martin and Sam Scott have discovered a fine sulphuret bearing lode on Alpine Mountain. Ore is being packed from the Astor lode to Garrott, Martine & Co's works. A dirt crevice has been struck on the North American lode, assays from which yield \$180 to the ton. Two men can take out four tons per day. Martine & Co's works are running 20 tons from the Coin lode.

We saw a splendid piece of retort this morning at Warren Hussey & Co's bank. It was from  $3\frac{1}{2}$  cords of ore from the Oro Cache lode near South Boulder, and weighed 64 ozs. 9 pwts. and 12 grs., value \$1,750 currency. This result was obtained by Messrs. Frothingham & Jones, by means of a Dodge cracker, Rotary crusher, and Ball polisher, and afterwards amalgamated in Hepburn pans.

Denver *News*, Sept. 25th: Duhois mill at Black Hawk, has been destroyed by fire. Loss \$25,000. Placer diggings in Colorado Gulch are paying \$25 per day to the man.

We saw at the Colorado National Bank, this morning a bar of gold bullion from Cherry Creek dust. Its weight was 10 56-100 ozs., fineness .992 $\frac{1}{2}$ , value \$217.27.

A diamond very white and clear, and about the size of a hen's egg, is said to have been found in Denver, 40 ft. below the sur-



face in the gravel drift.—[Likely—EDITORS PRESS.]

At the United States mint this morning were two bars of gold bullion, from dust from the Cimeron mines on the northern borders of New Mexico. They each weighed 145 75-100 ozs., fineness, .875½, value of each \$2,660.61, being a total of 291¼ ozs., and \$5,321.22.

#### IDAHO.

*World*, Sept. 28th: A discovery has recently been made on Bummer Hill, of a ledge of the same species of rotten, decomposed quartz, as that found in the noted Growl and Go ledge beyond Placerville. The newly found ledge prospects exceedingly rich, and its discovery created no little excitement in and about Centerville.

The Big Ditch which supplies the hill, gulch and bar diggings about Pioneer, and which is being extended to Bummer Hill and Granite Creek will be completed before winter sets in.

*Owyhee Avalanche*, Sept. 28th: H. B. Morse is running the Cosmos mill on North Star ore with a prospect of paying well. About 150 tons of ore is at the mill.

The Minear mill is still running on ore from the Ida Elmore mine.

Col. Fogus has opened another rich ledge on the summit of War Eagle Mountain. It is well defined and shows on the surface a width of about 15 in. We were shown pieces of the croppings, a considerable portion of which is black sulphurets of silver interspersed with particles of gold plainly visible.

In Flint Dist. operations are quite brisk. The Black mill is now employed on Leviathan ore. The Iowa mill is nearly completed, and will be well supplied with Rising Star quartz. This mine has been leased to the Iowa Co. for a limited time. General McQueen is giving employment to a force of men in the mine day and night, and will ere long have several months' supply of pay ore out. The ledge at the point of present work is 15 ft. wide, and in taking it out makes a shaft wide enough for a double set of miners and two windlasses overhead. There being such an immense quantity of quartz, only a very rich quality is treated as first-class, and the remainder as second and third class.

#### MONTANA.

*Post*, Sept. 21st: A 15-stamp mill has arrived for the Hot Spring Gold and Silver Co. The mill was built at the Western Foundry Works, St. Louis.

Taylor, Thompson & Co., Holloway & Lindy and Gerwitsch are working a bank of gravel in their claims in Last Chance Gulch which averages 20 ft. in depth, and runs \$200 per day to the sluice, with no bed rock.

Claims on El Dorado Bar are looking up; they now command from \$500 to \$1,500, and ready sales are found at these rates.

A new gulch has lately been discovered by Col. Woods on the head waters of Salmon river, and has been named Dahlenega. It prospects well.

The new diggings on Thompson's river are attracting considerable attention. Report says that the diggings are good, with plenty of water.

John Simonds and Henry Augustine lately sold 80 ft. of claim, No. 1 west from the discovery on the Whitlatch Union lode, for \$10,000.

Sept. 28th: Some 60 contiguous claims in Alder Gulch, in Summit and Pine Grove Districts, with a bed-rock flume 1,700 ft. long, sluices, mining tools, water ditches, rights, privileges, etc., which cost over \$13,000, were lately sold at sheriff's sale for \$6,500, greenbacks. The property was considered worth \$30,000.

Prof. Chas. Rumley, of this city, from 12 ounces of rock assayed 3 ounces and 15 pwt. of silver, 919 fine, being at the rate of \$10,826 96 per ton. The rock comprised a few picked specimens from the Rumley & Bucher lode, on Flint Creek. The Professor has obtained much larger results than the above from the same lead. A short time ago he assayed a piece of ore which went something over \$30,000 silver and \$100 gold per ton. The extent and richness of this lead is probably unparalleled on this continent, or, for that matter, in the world. It is now uncovered for a length of 600 ft., showing a well defined crevice averaging six feet in width.

The Highland correspondent writes as follows: "The Only Chance is owned by Nevins, Flower & Co. The first clean up from this lode from arastra was \$363; second, \$1,036 80; third, \$1,338 20. Each run—one week—was made from Nevins' lode; the result was 48 ounces; about the same amount of rock. Our gulch diggings have not equaled our expectations. Yet a large amount of gold has been taken from our diggings. I know of a number of fortunate ones who have gone East with from \$3,000 to \$5,000 each, and we yet have good ground."

The new mines at Libby, near Tobacco Plains, are reported to be rich. The gold is fine, resembling Alder Gulch dust. The pay lies shallow on slate bed-rock; water and wood are abundant, and from pannings from \$7 to \$18 are said to have been realized per day. This is the story of one returned from there. Since penning the foregoing, four Bear Gulch miners have returned from Libby, and in unqualified terms pronounce these new mines the biggest "hik" of the country.

#### NEVADA.

##### Black Rock.

*Butte Record*, Oct. 5th: Certificates of incorporation of the Chico Gold and Silver Mining Co., and the Black Prince Gold and Silver Mining Co., were filed in the Clerk's office of this county on the 26th ultimo. The claims of these companies are situated at Black Rock, the ores of which were recently tested at Dall's mill. A quartz mill is now on its way to that locality, and it seems not improbable that Black Rock may yet prove as valuable as the Comstock lode.

##### Esmeralda.

The *Virginia Enterprise*, of Oct. 4th, calls the attention of miners and millmen to the advertised sale of the Brick mill, and the Tucker & Stark wooden mill, on Bodie's Gulch, near Aurora, Esmeralda Co.

##### Humboldt.

*Unionville Register*, Sept. 28th: A shaft has been sunk on the Calaveras lode, and a body of fine black sulphuret silver ore has been drifted into 16 ft. without reaching the hanging wall. This ore yields \$210 silver per ton of 2,000 pounds of ore.

Patents have been applied for for the Starlight and Midas lodes. The Starlight has a shaft 30 feet deep, at which depth a well defined vein of ore, 10 feet wide, is exposed to view, which yields \$44 silver to the ton at the mill. The Midas is a gold-bearing vein, 2½ feet in width at the depth of 30 feet, and yields \$147 gold per ton.

The Golconda mill is now in motion on ore from the Golconda mine. The first run of 30 tons of ore gave a yield of \$50 to the ton, which is very flattering, as the quantity of ore is unlimited and can be mined at small cost, the lode being very large, all metal, and much decomposed.

The new mill of the Summit Co., Vicksburg district, was started up last week on ore from the Spring ledge. The first run was entirely satisfactory, giving a very handsome return of bullion for the amount of ore worked.

##### Reese River.

*Reveille*, Oct. 1st: The mill of the Old Dominion Co. is working very successfully. The first ore crushed in the battery was a lot of second class from the Old Dominion mine, the pulp of which assayed \$150 per ton. They were about to work some 15 tons of the first class ore, the estimated yield of which was very high. Great masses were obtained from the mine which exhibited an unusual amount of horn silver, the characteristic surface ore in the district. The developments on the Old Dominion ledge were of the most extraordinary character, and bid fair to furnish the mill of the company with a full supply of ore. At the depth of 20 ft. in the incline there is a vein of pay ore 12 ft. thick, the whole mass of which may be carried to the mill with substantial profit.

A large lot of ore which was taken to Hot Creek from the Morey District for reduction in the mill of the Old Dominion Co., has given a yield of upwards of \$200 per ton by an assay of pulp. The owner of the mines in the Morey District has contracted with the mill for the delivery of 100 tons of ore.

We learn that Col. Catherwood was so highly pleased with the appearance of the Silver Champion mine that he bought and shipped a mill from Aurora, which is to be erected immediately at Palmetto. The Silver Champion has been opened to the depth of 65 ft., and has produced a considerable amount of good looking ore, a specimen of which was shown to us. Mr. Stansberry showed us also two specimens from the Lodi and the Nevada ledges, owned by him, which assay high. The ore contains a large proportion of gold.

Oct. 2d: The mill of the Centenary Co., in Newark District, was set in motion on the 25th ult. The first ore crushed was an inferior grade from the Chihuahua mine of the company, the pulp of which assays from \$50 to \$75. At present the battery is crushing the ore wet.

By the stage which arrived from Belmont on Saturday evening three bars of bullion were brought from the mill of the Belmont Co.

Oct. 3d: A large body of very rich ore has been developed in the Murphy mine of the Twin River Co., which is said to be superior to any hitherto exhibited in the mine. In the very partial development of the Murphy, several "chimneys" of great extent

have been encountered, which have produced ore of a high grade.

Oct. 4th: This afternoon some 30 large bars of bullion from the Manhattan Co. were delivered at the office of Wells, Fargo & Co., but the circumstance received no more notice from the passers than would a load of bricks.

We were shown a box of specimens taken from the Reality ledge, Washington district, which exhibits the characteristic mineral of the district. It is distinct from that produced by the greater number of the districts of Eastern Nevada, and is mainly an argenticiferous galena, rich in silver. Ore of this character appears to be inexhaustible in quantity. The veins are generally large and regular in their formation, and vary from 4 to 15 ft. in width. Several attempts have been made to reduce the ores of the district, but they failed through lack of skill of the operators. The ore exists in immense masses, and it is the judgment of competent authority that it could be readily and economically smelted, or reduced in a furnace of the proper construction.

The greater portion of the miners who left the White Pine district for the Goose Creek gold mines, have returned, and are working their claims. The Uncle Sam, Philadelphia and Vanderhilt are being worked.

The Monte Christo Co. is working one of its mines called the Mohawk with considerable vigor. The machinery and nearly all the materials for its five-stamp mill has been on the ground some time, and workmen are rapidly giving them the form of a practicable mill.

Joe Williams, one of the most successful prospectors in the State, has returned from a tour to the southward, after an absence of 30 days. He discovered and located eight ledges of silver and gold-bearing ore, samples of which he brought into town for assay. Mr. Williams thinks the locations were made upon the boundary line of the State, in which they are situated as well as in California. He pronounces the ledges, as far as size and general appearances are concerned, to be the very best he has yet discovered. Several of the samples of quartz exhibited free gold. Mr. Williams stopped at San Antonio, where Rigby was pushing work on the Liberty mine to great advantage. His small mill had been repaired and was running, but was to be replaced shortly by one of greater capacity.

Oct. 5th: The Ware mill, worthless for the reduction of silver, and which has been idle for a long time, is to be taken down and removed immediately to the district of New Pass, 25 miles west of Austin. The purpose of erecting the small 5-stamp mill in the district is to test the quality of the ore thoroughly. If the result should be satisfactory, it is the intention to erect a mill of greater capacity.

*Silver Bend Reporter*, Oct. 5th: The new mill at Hot Creek is now in successful operation. The first ore crushed in the battery was a lot of second class from the Old Dominion mine, the pulp assay of which was \$150 per ton. A lot of Morey ore gave a pulp assay of over \$200 per ton. There is also considerable ore on the way to the mill from the mines of Reveille district.

From 2½ tons ore from the Highbridge mine, Reveille district, worked by J. W. Varney at the Faulkner mill, the yield was \$381 per ton.

In the Potosi mine the depths already attained yield convincing proofs of its richness and permanency. The ore from this ledge, by an assay of the average, has lately yielded the sum of \$200 per ton. The claim, at its present depth, can without doubt be reckoned among our first class mines.

*Trespass*, Oct. 2d: We saw a large lot of machinery, this morning, which is to go to Belmont for a mill now in process of construction for the Combined Co.

*Enterprise*, Oct. 3d: The late results obtained by assay and mill process from the Dunderberg mine, near Monoville, were entirely satisfactory, showing over \$150 per ton; but they have since had assays of ore from their lead showing over \$200 per ton. The company has taken steps to erect a mill at an early day.

##### Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

*Virginia Enterprise*, Oct. 1st: The new Janin & Park mill, for the reduction of blanket washings, started up last Tuesday, and day before yesterday made their first clean-up, obtaining 266 lbs. of clean amalgam from 41 tons of washings. The machinery of the mill is driven by a 25-horse power engine and consists of six flat-bottomed pans, each containing 13 shoes and three attlers, each eight ft. in diameter. The blanket washings—concentrated tailings—operated upon were from the Regna &

Wheeler flume. Janin & Park have a long string of flumes of their own, but the capacity of their works is such that they find time to do much work for other flume companies. The mill is the finest running little mill in the State.

Oct. 2d: The owners of the old St. Lawrence mine are about to resume operations upon the lead. An engine will be placed on the ground with which to do the hoisting from the shaft. The lead of the company yields ore that prospects exceedingly well. Work will also shortly be resumed on the Old Emigrant claim, below Silver City.

The Sierra Nevada Co. have encountered very hard blasting rock in the drifts they are running, therefore the progress made is necessarily slow. They have drifted beyond the point where they encountered the body of water last winter that drove them out. At that time it was supposed that the casing of a large lead had been cut, and the stockholders entertained great expectations; now, however, it is known that the rush of water came from a large streak of loose, shaly rock, which formed a pocket or subterranean reservoir far below the surface. Undismayed, the company are still pushing ahead, hoping eventually to strike the Comstock vein.

Oct. 5th: The amount of bullion shipped from Wells, Fargo & Co's office in Silver City, for the month of September, was \$28,050.

During the past week, Wells, Fargo & Co. shipped from their office in Virginia and Gold Hill, 6,533 lbs. of bullion, valued at \$164,461.72.

*Trespass*, Oct. 2d: The Union mill, Gold Hill, is now being repaired and made ready for the coming winter's labor. Two new pans, Knox patent, are to be added to the amalgamating capacity, and new settlers, vats, etc., will be built, when the Union mill will be ready to resume reduction of ores.

Of late there has been much talk indulged in of the danger of some of our best mines being closed by a cave. It is all nonsense. There is no danger of such a catastrophe, and none has ever been apprehended by those best informed.

Oct. 5th: The Petaluma mill run 20 days during the month of September on Kentucky ore, crushing 900 tons, yielding \$46.18 per ton. The mill is now crushing 55 tons per day of Kentucky ore.

#### OREGON.

*Jacksonville Sentinel*, Sept. 28th: Last week, Mr. Oliver brought from a ledge on Grave Creek a load of quartz rock—about 1,500 lbs.—to the mill on Jackson Creek. Col. Drew crushed it this week, and obtained \$14.87, very fine gold. At this rate it will pay nearly \$20 per ton. No gold is visible in the rock. We understand it is the intention to test the ledge further, and if sufficient encouragement is met with, a mill will be erected on the ledge.

Parties are leaving town nearly every day for the mining district, between the North Umpqua and Willamette rivers. It is credibly reported that average specimens assay \$180 to the ton.

Col. Butterfield, who is sinking on a bed of cement near Waldo, is sanguine that the cement will pay for crushing, and has ordered machinery for that purpose. A few boulders and some gravel has been struck in the bottom of the tunnel, but the cement still continues.

**Changing the Address.**—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. ... at ... P. O. ... County, ... State, to Mr. ... at ... P. O. ... County, ... State. .... 186-"

#### Generous Compliments.

The following is a sample of the generous acknowledgments which we frequently receive. We can only return thanks for such gentlemanly obligations, and assure our friends of our best endeavors to merit their respect and kindness:

GEORGETOWN, January 23, '67.  
MESSRS. DEWEY & Co.—Sirs: I have the honor to acknowledge receipt of your letter of the 21st instant, transmitting to me "Letters Patent" on my application through you for an "Improved Machine for Washing Ores." It came to hand safely, and I am pleased to tender you my grateful acknowledgments for your success on my behalf.  
Very truly yours,  
M. A. WOODSIDE.

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## Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits his duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR READERS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. C. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17, 1867.

## San Francisco:

Saturday Morning, Oct. 12, 1867.

## Notices to Correspondents.

PONTIAC.—Cast Iron was the first form in which that metal was employed in bridge building. French and Italian engineers were the first to pay marked attention to the use of this metal in such constructions, and made several unsuccessful attempts for its introduction abroad, wholly owing to the then inability of foundries to cast large segments. The first attempt was made at Lyons, in 1855, and one arch was put together in the builder's yard; the project was abandoned as too costly, and timber employed. The first permanent construction of this kind was made at the suggestion of Mr. Darby, the original founder of the celebrated Coalbrook Dale Coal and Iron Works in England. A bridge across the river Severn being required near this place, it was resolved to try the experiment of a bridge of cast iron, having a span of one hundred feet. It was a bold design, well executed; an error, however, was committed by treating the arch as an equilibrium, the abutments proving defectively weak were forced inward by the pressure of earth behind them, in consequence of which the arch was partially fractured. Nevertheless the bridge proved serviceable, and continues so to the present day. The next successful design for an iron bridge was based upon and eventually constructed on calculation and models made by the celebrated Thomas Paine—the publication of whose pamphlet, commencing, "These are the times that try men's souls," forms so memorable an era in the history of American Independence. Next week we will furnish some particulars respecting this remarkable bridge which was originally designed to cross the Schuylkill.

CABALLERO, Los Angeles.—Is desirous of more attention being called to the improvement of horses and pack animals generally, wishing, at the same time, that the great capabilities of the southern counties of California for this object should not be overlooked. We would suggest to any one entering upon such an enterprise, the advantage that would be derived by crossing the native California breed by importing a fine Arab stallion. To make the point better understood, we subjoin the following brief description of the horse of the desert: The Arab horse is small, not rising in general above fourteen hands one inch, but they are firm and have great power and size for their height; limbs flat, broad and powerful, deep below the knee, small and fine about the fetlock, with a clearness and beauty of outline, alone sufficient to stamp the term *blood* on its possessor. The neck is high yet arched, the flanks closely ribbed up, the tail carried out with a sweep, like the curve of a palm branch; a small head is terminated by large nostrils, maintained continually in motion, snorting and neighing. Colors—gray, of various shades, brown, bay and chestnut, are the ordinary—in fact it may be said are the only colors of Arab horses—a utraque gray being the commonest variety; chestnut, however, is the most esteemed.

## Overland Railroads.

The aid which the press of the Pacific coast is ever ready to lend to every new home industrial enterprise, has often been noticed and commended abroad. But this aid should only be granted where the enterprises are *bona fide*, and when they do not promise to cripple similar enterprises already existing, which fully supply all reasonable demands, and which deserve to be cherished, rather than to be made to suffer loss by a supply that is ahead of the demand.

The subject to which we would call attention, in connection with the above matter, is that of the Pacific Railroad. As the readers of the Press are aware, a through continental road is being pushed across the country by two companies, over what is known as the Central Route. No great enterprise was ever placed in more energetic hands, than this one is. The Union Pacific company on the Atlantic, and the Central Pacific company on this side, are pushing the great work ahead toward the center of the continent, at a rate altogether unparalleled in such enterprises, especially when we consider the great difficulties in the way. The road, it is promised, will be completed in 1870.

Now, with a population of only one million of people, on this side of the Rocky Mountains, with dozens of local railroads urgently needed and remaining unbuilt, and with hundreds of other legitimate enterprises untouched, calling for development, is it not absurd to talk of building any more through Pacific railroads, for the present, at least? The Government has aided the road now being built, largely, by granting it lands and lands; but is it consistent with the economy, so urgently called for at present, with justice to other enterprises requiring governmental aid, with good sense and the necessities of the coast, to ask national grants to all the Pacific Railroads that are laid down—*on paper*—by speculators?

One road will prove amply sufficient to accommodate all the business that will be offering for years to come; and even if only a second road was now built, the result would be that neither would pay. Lofty talk is indulged in with regard to the immense trade to be developed by a continental road; but this has yet to be proved,—and when one road is burdened with traffic, surely it will be time enough to build a second, and then a third, when needed. And, surely, too, it is but fair and honest that the pioneers who push through the greatest work of the age, should be allowed to derive a fair income from it at the start, and not see their profits run away with, as well as that of their opponent, by the establishment of the latter.

To build another Pacific Railroad would cost about \$175,000,000. Is there a man on the coast who will not admit that there are hundreds of uses to which such an immense sum of money could be much more profitably put, than in such a foolish enterprise? How much more profitably, too, could the labor of the vast requisite industrial army be used, than in building, at the present time, even a second through road.

Each of the half dozen Pacific Railroads, that exists on paper, claims to have the best and easiest route. But prejudice or falsification, it is well known, alone give each these seeming benefits. The Central Route was chosen in preference to all others, simply because it lay along the great lines of travel, population and natural wealth. Each one of the other routes is known to be more or less deficient in these requisites. It is claimed that the building of each road would develop or supply these wants. But have we the money to prove this at present? and even if we had, would it be prudent to risk it in what is known to be an uncertainty? Besides, while many on this coast have honestly given their countenance to a second or a third through road, it is well known that

the chief spirits engaged in these undertakings reside at the East, having little or no interest here, and that selfish speculation in franchises, which they hope to secure, is the only object they have in view. Of this fact developments connected with Fremont's and Levi Parsons' late *fiasco* with the Southern Pacific road, afford a noticeable example.

The people of this coast generally have not the money to subscribe to the stock of the road at present being built, and purchasers have to be sought abroad; but these purchasers will in vain be sought, if the stock of a second or a third through road is thrown upon the market. We claim, and we think we have foundation for the claim, to be second to none on the coast in our desire to aid each and every legitimate enterprise here. But we have no hesitation in saying that, *at present*, a second through Pacific Railroad is not a necessity. When we have added another million to our population, built all requisite local railroads, and made some approach to developing the hundreds of our natural manufacturing and commercial resources, that are now so loudly calling for aid, then the talk of building additional roads will be in order. At present, we may well be reasonably satisfied with the flattering prospects we now have of soon having one through road.

PURE ASPHALTUM.—Whatever may be the result of the search for petroleum on this coast, certain it is that a kindred interest of large commercial importance has in the meantime grown up, which, to a certain extent at least, has been incidentally promoted by efforts in the other direction. Considerable deposits of asphaltum, of different degrees of purity and value, have been discovered from time to time, more particularly in some of our southern counties. Prof. Whitney, in his geological report of the vicinity of Los Angeles, represents the pure bitumen as oozing from the earth's surface in the form of "tar springs," frequently covering an area of from ten to fifteen acres, and as hardening on exposure to the air into what is known as "brea," or asphaltum. Mr. Nouval, of the Pacific Asphaltum Co., No. 533 Kearny street, has laid upon our table some specimens from their mines in Los Angeles county, where the deposits are said to be almost unlimited, which appear to be nothing more nor less than pure bitumen, so free are they from sand and clay or other foreign matter. We understand that the asphaltum introduced here by this company within the last few months, commands from \$3 to \$4 per ton more than any other in the market, in consequence of its purity and freedom from rock, clay and other impurities. For a similar reason, sidewalks laid with it are said to be harder, and to wear better than when made from the asphaltum in general use, from the fact that the very large amount of tar called into requisition has a tendency to soften, under the influence of a summer's sun, and to render the character of the work less substantial—an objection entirely obviated in the article now offered to the public by this company. But little if any tar is required to fit this superior bitumen for effective service.

TELEGRAPHIC.—Our clients will be pleased to learn that we have received a telegraphic dispatch from our partner, Mr. Dowe, now in Washington, that the following applications for patents have been passed for issue by the Commissioner: Walter Pierce, Union Valley, Plumas county, "Rock Drill;" F. Morris, West Point, Calaveras county, "Amalgamating Process;" Mordcai Disney, of this city, "Car Coupler;" Daniel Hayes and Wm. Free, of this city, "Fire Escape;" Daniel Flint, of Sacramento, "Improved Farm Gate;" Messrs Rice & Leach, Union Postoffice, Merced county, "Driving Bridle;" E. G. Woodside, of this city, "Wheel Hub;" Albert Moore, of this city, "Shoes and Dies." We expect further dispatches, from time to time, until our long calendar of cases is fully disposed of.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

## Colorado vs. California at the Paris Exposition.

The wisdom of a thorough representation of the mining interests of Colorado at the Paris Exposition, has already been apparent. It will be recollected that our Colorado neighbors not only secured a fine and full collection of minerals for the Exhibition, but also dealt liberally with their Commissioner, Mr. J. P. Whitney. The consequence has been that the Colorado exhibition has been honored with the award of a gold medal, while the two mineral exhibitions of California have received only a silver medal each—Colorado carrying off the prize in a contest with California! More than this, through the funds furnished Commissioner Whitney that gentleman has been enabled to publish a full descriptive catalogue of his minerals, in pamphlet form; which publication has been considered of sufficient importance, in England, to be worthy of a republication there, and it has accordingly appeared, "magnificently printed, by a London house." The account before us adds that "it contains a schedule of the ores, some general information, and a beautiful map of the territory, and forms a beautiful close to the creditable representation of Colorado among the mining regions of the world, at the great Exposition."

As a further result of this "creditable representation," Commissioner Whitney will be accompanied on his return to Colorado by Mous. L. SEMONIER of the *Ecole de Mines*, and HERR HEINE, a distinguished German engineer. MONS. SEMONIER comes out to make an official report of the value of Colorado as a mining region, and will have his official letters published in the *Moniteur*, thus securing for them the best, most valuable and most influential circulation which such letters could obtain in Europe. HERR HEINE will write a series of letters for the German papers at Frankfurt and Cologne. These are some of the beneficial results accruing from a proper representation of an American Mining District at the Exposition.

An outlay of twenty, or even thirty thousand dollars, under any other circumstances, could not have done for California the half of what three or four thousand would have accomplished if that sum had been raised when it was asked of the citizens of San Francisco, by the late Exposition Committee of this city. Professor Blake, our Commissioner, went out empty handed, and almost unaided—the small amount that was finally raised for him came too late to be of any benefit whatever. A more able or a more proper man could not have been selected to represent the State; and important benefits would have accrued from his efforts had they been properly sustained. As it is, the great Golden State of California has been overshadowed, altogether, by an interior mining district, perched upon an isolated spur of the Rocky Mountains.

ORE CRUSHING.—Mr. S. W. Howland, at his ore-sampling establishment, No. 34 California street, still finds full employment for his patent ore crusher; while that machine, contrary to the experience with nearly or quite all other machines constructed on the principle of his invention, continues to work and wear in a most satisfactory and economical manner. His crusher consists of two conical-shaped cast iron shells, one above the other, with teeth on the inner sides, and also two toothed burs of similar shape and similarly situated, working within the shells, into which the rock is fed. It is compact and simple, occupying a space of not over six feet square, and is said to be able to crush from forty to sixty tons of limestone in twenty-four hours, and its full equivalent of work when operated on harder minerals or ores.

JASPER is procured to any required extent at St. Gervais, in Savoy, where there is a quarry of this mineral, with a surface of not less than 24,000 square yards. The quarry has been worked to the depth of 66 feet.



Fourteenth Annual State Fair.

(Continued from last week.)

**The Danforth Lamp.**—Gillig, Mott & Co. make an excellent exhibition of tin ware, stoves and rubber belting, accompanied with a fine show of the Danforth lamp, of all sizes and styles. This lamp, it will be recollected, is designed to burn without the use of a chimney—the draft supplied by that usual device is obtained by means of a fan-wheel, operated by clock-work, with such rapidity as to throw a steady and sufficient current of air upon the flame to secure a perfect combustion. A considerable saving is thereby effected by avoiding the breakage of chimneys, and it is also claimed that a steadier and clearer light is obtained. They were awarded a special premium and diploma for their lamps, honorable mention for their tin ware and belting, and a first premium diploma for the best family cooking stove, the "Good Samaritan."

**Benzine Light.**—Benzine is a light hydrocarbon, so volatile and inflammable that it is found necessary, in the process of distilling crude petroleum, to separate it from the ordinary illuminating oil—also there is great danger of explosion. It is employed chiefly in the place of turpentine in the mixture of paints, and latterly it has also been largely used for carbureting coal gas and for consumption in petroleum stoves. Its extreme volatility and cheapness renders it peculiarly well adapted for these purposes. When converted into gas it possesses a very high illuminating power—approaching to that of olefiant gas; for this reason many devices have been produced for employing it as an illuminating agent, but without much success until Mr. J. J. Hucks, of this city, conceived and constructed his "self-generating portable gas lamp," by which this cheap hydrocarbon is safely converted into gas at the instant of combustion. Its peculiarity is such as to render it especially serviceable when it is required to have a strong light in positions exposed to strong currents of air or to the wind; the latter is often the case in night work, in hydraulic mining, and the former almost always in tunneling and drifting. As an out-door lamp it cannot be excelled; it burns with a very white flame and great brilliancy in a very strong wind. It is the cheapest light which can be used—costing only from one to three or four cents per hour, according to the amount of light desired. Mr. Hucks has done a great public service, in thus opening up a new mode of utilizing a cheap and plentiful article of commercial product.

**California Pitch, etc.**—Messrs. Hucks & Lambert made a fine display of their famous axle-grease and of California pitch. They were awarded an especial premium for each of these exhibits.

**Rubber Cement and Paint.**—Eppes & Ellery, of 226 Jackson street, San Francisco, exhibited a patent india rubber cement and paint, composed of rubber and other gums dissolved in linseed oil, mixed with various coloring matters and ground in any color. It is considered a superior paint for roofs and brick buildings; also for ship and steam boat work. New cloth roofs, coated with this paint, are guaranteed for \$8 per hundred feet. No tar or asphaltum is used. It is especially recommended for repairing leaky roofs. It has secured large awards at different fairs in the Eastern States, where it was first introduced, and where it is well and favorably known. It is said to have been applied to more than ten thousand roofs.

**Staveless Barrels.**—Among the novelties at the exhibition was the "staveless barrel." This is a recent invention and attracted considerable attention. The wood for this barrel is first cut into veneers, the same as for ordinary cabinet veneering, being very flexible it is then wound spirally around a cylinder, so as to cover it. The outside is then covered with glue and another veneer put on so as to cover the first in such a manner that the grain of the wood crosses the first layer in a transverse direction. The barrel is thus built up to any desired thickness or strength. Some half a dozen veneers are generally used for an ordinary liquor cask. They are thus made in long sections, and when thoroughly dried or removed from the cylinder and saved up into proper length, for the size of the barrel desired. The heads are then made on a flat surface, cut into the desired size and shape by machinery and driven into the bodies, much like bungs into an ordinary cask, where they are readily secured. Such a barrel can undoubtedly be very rapidly and cheaply constructed; and if they can be so made that liquors will not moisten the glue, and thus destroy the cask, they may be introduced into very general use, and become of much value, especially for transporting petroleum and its more volatile products, for which

the ordinary barrel cannot be made tight enough. At all events we do not see why the staveless barrel may not come into large use for the transportation of grain and flour, on account of its less cost and greater durability than sacks. It is claimed that they can be made cheaper than an ordinary flour barrel. The entire machinery for their manufacture is quite inexpensive, costing only about \$12,000 in gold in New York. Joseph L. Lord, of this city, was the exhibitor, is the agent for the patentee, and is about organizing a company for their manufacture in San Francisco. Boxes, as well as barrels, can be made after this method.

A **Combination Wrench** was exhibited in model by Dewey & Co., the invention of Mr. John Mott, of Danville, in this State, the body of which consists of a wrench, hatchet, claw, nail-puller, hammer and vice. The handle is made hollow, and contains quite a number of small tools, such as gimblet, screw-driver, etc. The jaws are constructed parallel with the handle—a new feature in this tool. Honorable mention was made of the invention by the committee of awards.

The combination keyless lock, the invention of Mr. W. C. Barry, was also exhibited by the inventor, and attracted considerable attention from its novelty and apparent merit. It was awarded a diploma.

**Books.**—Messrs Roman & Co. made a very fine display of books, printed and published in California, one of which was printed from stereotype plates, the first which were ever prepared on the Pacific coast. This exhibition was especially important as showing that California is fast becoming independent of the East in the publishing business, so far as works of a local nature are concerned. A first premium diploma was awarded to Messrs. Roman & Co. for this display.

**Dewey & Co.**, proprietors of the MINING AND SCIENTIFIC PRESS, exhibited bound copies of their paper and copies of "Elements of Composition," written by Prof. Lyres, of this city, and printed by Dewey & Co. A special premium, diploma, was awarded for this exhibit.

J. L. Derby exhibited his improved school desks and seats, for which he was awarded a premium of \$3.

Matteson & Williams, of Stockton, were awarded one first and two special premiums for their exhibits of agricultural implements.

**California Files.**—J. Weichhart, of the California File and Tool Factory, were awarded a special premium for their exhibit of files of their manufacture.

The Pacific File Factory were awarded a first premium for files of their manufacture, a choice assortment of which they exhibited. These two establishments represent another new branch of California manufactures, and are fast placing us independent of Eastern manufacturers.

J. M. Allenwood, of Timhuctoo, Yuba county, exhibited a patented apparatus for holding and easily managing hydraulic pipes, when at work. The hose is so supported that the pipe may be easily directed to any point and the hose itself readily moved as occasion requires. The invention appears to be a very useful one for hydraulic miners.

**Seeds.**—Mr. D. L. Perkins made his usual creditable display of seeds—one hundred and twenty-five varieties—for which, as a whole, he was awarded a first premium of \$20, and various other premiums for individual excellence among the great number of articles exhibited by him.

The ladies, as usual, contributed largely, by the works of their hands and by their individual presence and smiles, to the usefulness and interest of the exhibition. The display of needle-work and machine-work was very large and good. Among the former we noticed a magnificent specimen of raised needle-work, by Miss M. A. Coates, of this city. It consisted of a couch cover, the center of which comprised a rich display of roses and rose buds, surrounded by a beautiful wreath, which formed the border of the cover. It was elegantly lined with green silk, and neatly quilted. It was fit for the couch of a queen. The committee showed their appreciation of the same by the award of a first premium, in the shape of a napkin ring.

**CALIFORNIA LEAD ORES.**—The ores of lead on this coast, besides being exceedingly abundant, are much richer in silver than the lead ores found in Europe. The silver yield of European lead ores seldom exceeds ten ounces to the ton of lead. The crude lead thus far obtained on this coast yields from 15 to 150 ounces of silver to the ton of lead.

A State University.

At a meeting of Trustees of the College of California, held on Wednesday evening last, it was unanimously agreed to tender, as a gift, to the Commissioners for locating the State Agricultural, Mining and Mechanical College, the beautiful site of ground six miles out of Oakland, which was some time since purchased by the College of California for their future and permanent location. The Trustees further passed a resolution agreeing to disincorporate, and pay over all their net assets to the State Institution whenever a classical branch is added to it, so as to complete its organization as a University. This donation, when completed, will amount in lands and money to at least \$100,000, and will furnish to the State Institution one of the most beautiful and eligible sites on the Pacific coast for its purposes. The Commissioners of the Mining and Agricultural College have already declared that that institution shall be located in Alameda county, and it now rests with them to determine whether this donation shall be accepted and fixed for its location.

The Trustees of the College of California have shown a noble spirit of generosity, in not only removing themselves from the paths of a State Institution, but in donating all their assets to its development and prosperity. It is hoped that this step will lead to the concentration of the educational influence of the entire State upon one institution. In no other way can we hope for many years to establish a Collegiate institution in California, worthy of the prominent position which we are soon to assume in the great family of States.

The State Commissioners meet again for some definite action next month; and we have no doubt but they will gladly accept the tender so nobly made by the College of California; and that the outgoing Governor, in his closing message, and the incoming Governor in his inaugural, will consider this a matter of sufficient importance to occupy an important place in their suggestions for the Legislation of the coming session.

**THE SCIENTIFIC EXPEDITION TO ALASKA,** was at Sitka on the 20th of August, waiting for an hour of good weather before starting for Onalaska in longitude 106 deg. The work has been retarded on account of continued rain, fog and wind, with little prospect for the better at this late season. At Fort Simpson the party waited six days and did not get an hour's sunshine. Some developments have been made and hopes are entertained of getting lines of soundings over the fishing banks south of the Fox Islands, but the want of coal deposits will limit the amount of work. When the expedition returns to Sitka, Mr. Davidson will make special local explorations. The Russians and Indians report that the country on the Copper Mine river is very rich in gold, copper and coal. There will probably be valuable diggings discovered there as soon as miners can go thither in large numbers, so as to overcome the Indians, who are very bad. Excellent reports are given of the harbor and surroundings of Archangel. The hay is never closed by ice.

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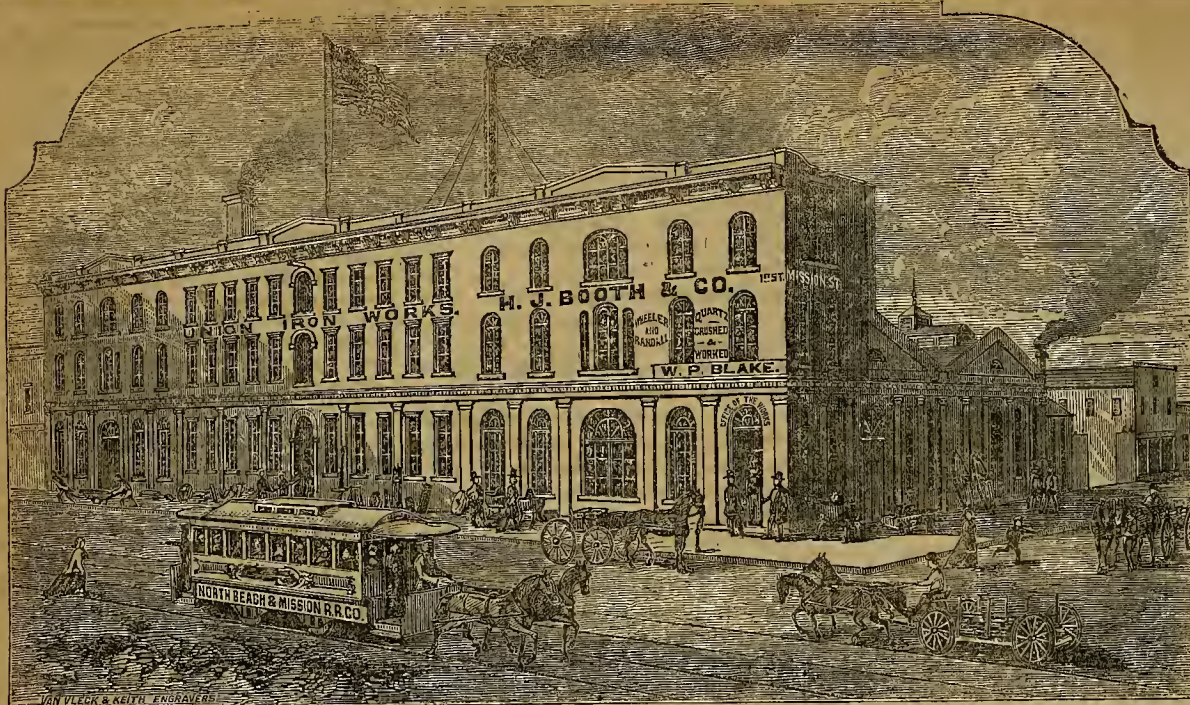
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**VOLCANIC ERUPTIONS IN THE ATLANTIC OCEAN.**—The attention of the French Academy of Sciences has been called to the continued shocks of earthquakes and volcanic eruptions which have occurred for some time past on the coast of Portugal near Lisbon. The most violent action has been between two small islands, Tesira and Graciosa. On the 1st of June last a submarine volcano forced igneous matter above the surface of the ocean, and a tongue of land thus formed is now connected with the Continent.

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THE SCIENTIFIC SCHOOL, at Worcester, Mass., the buildings for which are now in progress, is to be eminently practical, as well as scientific in character. This school, it will be recollected, was founded by the munificence of Mr. John Boynton, of Templeton, who gave \$100,000 towards it, about eighteen months since. The main structure will be three stories high, with a frontage of 150 feet, surmounted by a tower 85 feet high. Mr. Ichabod Washburne, of Worcester, is making preparations to erect and equip a large machine shop, to be connected with the school, where young mechanics can secure a practical, as well as a theoretical training.

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Observe firm name on each cork and fac similito of signature on label. Trade mark registered. This is the only exclusive Tea, Wine and Spirit Store on the Pacific coast. It is neither a saloon nor sample room (as no wines or spirits are allowed to be drunk on the premises), but a depot where selected Teas and Pure Wines and Spirits may be found, at wholesale and retail, for medicinal and family use. In this respect it is our aim to vie with Bininger & Co., of New York; Biglow & Davis, of London, and Cozzens & Co., of Washington, where every facility is offered to ladies, as well as to gentlemen, in making their own selections and purchases in quantities to suit. Our Treatise on Wines, Spirits and Teas may be had at our depot gratis, and will be mailed to consumers and dealers in the interior when requested.

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25v11qr

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Its preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. THE SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain Remedy for the Piles. Do not doubt this assertion, or delay testing the truth of it if you are troubled with the Piles—you will not be deceived in it.

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A. de LEO de LAGUNA.

[7v15-5m]

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Important to Californians.—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

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Have the Patent Right for the Pacific Coast to manufacture, sell and use

Ellery's Patent India Rubber Cement & Paint.

It is for all exposed surfaces; impervious to wet; will not rot, peel, blister or crack, in any climate. A superior Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, was in such bad condition it was about to be taken off ten years since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT, making a good tight roof. A coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Atlantic Lead Works use our Paint only.

NEW CLOTH ROOFS put on, cupolas and all seams cemented and saturated, then coated with the India Rubber Cement and Paint—the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others; the roofs of all the horse and steam cars, docks or steamboats, etc., around New York—for eight dollars per one hundred square feet. NEW OR OLD TIN ROOFS cemented and painted with the India Rubber Cement and Paint guaranteed, at from one cent to two and a half cents per square foot, according to size and condition of roof. Good men and the best materials used.

We have just completed and painted the roofs of Dr. H. D. Cogswell, Tubbs & Co., D. J. Oliver, etc., and the wood work of Sheriff Davis' building, 38 feet front, on Polson street, between Third and Fourth streets—only one coat. The work will speak for itself, how painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—one coat. See the above and further references at our office.

ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT is composed of India rubber and other gums, dissolved in linseed oil, mixed with the various coloring matters and ground in any color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—remains sufficient elasticity to give and take with the heaving and swelling of the roof, and is not blown off by the wind. It is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—remains sufficient elasticity to give and take with the heaving and swelling of the roof, and is not blown off by the wind. It is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—remains sufficient elasticity to give and take with the heaving and swelling of the roof, and is not blown off by the wind.

EPES & E. H. R. ELLERY are now prepared to make good roofs, and cement and paint new or old ones, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No asphaltum or coal tar used. Office, No. 226 Jackson street, corner Battery, San Francisco, Cal.

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Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.

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11v15-4m

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Business Cards.

NATHANIEL GRAY. R. M. GRAY. N. GRAY & CO., UNDERTAKERS, 641 Sacramento St., cor. Webb, San Francisco.

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We take occasion to inform our friends and customers that we have sold our entire stock in warehouse, also in store, to Messrs. N. P. COLE & CO.

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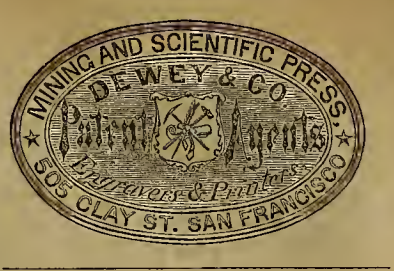
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National Mineral Land Law, Instructions. Blanks, Etc. Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office.

Professional Cards.



SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco. Will examine, survey and report upon mines, and consult and advise concerning investments in mining property.

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MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population.

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Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA. LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

The following Steamships will be dispatched on dates as given below: October 10th—MONTANA, Capt. E. S. Farnsworth, Connecting with HENRY CHAUNCEY, Capt. Oray.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. & Co., San Francisco, where they also have obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas.

MEUSSDORFFER, Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867, An Entirely New Style of Cloth Cashmere Hat "YACHT HENRIETTA,"

Which are the most dressy Hat ever introduced on the Pacific Coast. Call and see them.

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Chalk Mountain Blue Gravel Company.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Office, No. 5 Government House, corner of Washington and Sanson streets. oc12

George Washington Gold and Silver Mining Company.

Notice.—The Fifth Annual Meeting of the stockholders of the above named Company will be held at their office, No. 333 Montgomery street, San Francisco, Cal., on THURSDAY, the fifth day of November, 1867, at 12 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

A. G. WOOD, Secretary. San Francisco, October 10, 1867. oc12

Mount Tenabo Silver Mining Company.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oc12

Whitman Gold and Silver Mining Company.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Table listing names of shareholders, certificate numbers, shares, and amounts for the Whitman Gold and Silver Mining Company.

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

will be sold at public auction, at the office of the Company, Room No. 10 (2d floor), No. 402 Montgomery street, San Francisco, by Jones & Bondixon, Auctioneers, on Monday, the twenty-eighth day of October, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. oc12

Mining Notices--Continued.

Ancient River Channel Blue Gravel Company.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows: Names. No. Certificate. No. Shares. Amount.

And in accordance with law, and an order of the Board of Trustees, made on the second day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on Saturday, the nineteenth day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sanson streets. oc15

Chilpaneca Mining Company--District of Ures.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of September, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eighteenth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary. Office, 318 California street, up-stairs, San Francisco. sc14

Ethan Alca Gold and Silver Mining Company.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable on the fourth day of November, 1867, in United States gold and silver coin, to the Secretary, H. B. CONGDON, at the office of the Company, No. 629 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the fifth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary. Office, No. 629 Washington street, (Room 5) San Francisco. oc15

Great Central Mining Company--Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, or at the Pacific Bank.

Any stock upon which said assessment shall remain unpaid on the fourth (4th) day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary. Office, No. 302 Montgomery street. oc15

Gold Quarry Company. Location of Works: Placer County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment of twenty dollars (\$20) per share was levied upon the capital stock of said Company, payable, immediately, in United States gold and silver coin, to the Secretary, room No. 10, second floor, No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office 402 Montgomery street, (Room No. 10, 2d floor) San Francisco, Cal. sep21

George Washington Gold and Silver Mining Company--Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 19) of five dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, in San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the sixteenth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. G. WOOD, Secretary. Office, 338 Montgomery street, San Francisco. sc21

Gold Hill Tunneling Gold and Silver Mining Company--Location: Gold Hill Mining District, County of Storey, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of September, 1867, an assessment (No. 9) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, R. WEGENER, 415 Montgomery street, San Francisco, Cal., or to the Superintendent, H. Huguet, Gold Hill, Nevada.

Any stock upon which said assessment shall remain unpaid on Tuesday, the second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the nineteenth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. sc21

Hope Gravel Mining Company--Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment (No. 17) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. oc15

I. X. L. Gold and Silver Mining Company--Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or John S. Doolittle, Oakland.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourteenth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sep28

Kelsey Gold and Silver Mining Company, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1867, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, northeast corner Rallery and Clay streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. V. HERRERT, Secretary. Office, No. 407 California street, San Francisco. sc14

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that the Annual Meeting of the stockholders of the above named Company, will be held at Dashaway Hall, on THURSDAY, October 24th, 1867, at 7 1/2 o'clock P. M., for the election of a Board of Trustees to serve the ensuing year, and for the transaction of any other business that may come before the meeting.

B. P. WILKINS, Secretary, pro tem. San Francisco, Sept. 26, 1867. sep28

La Blanca Gold and Silver Mining Company, Location of Works: District of Ures, State of Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of October, 1867, an assessment of two dollars and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, northeast corner Front and Commercial streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

WM. SIEVERS, Secretary. Office, southeast corner Front and Commercial streets, San Francisco, California. oc15

Lady Franklin Gold and Silver Mining Company--Silver Mountain Mining District, Alpine County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of May, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Table listing names of shareholders, certificate numbers, shares, and amounts for the Lady Franklin Gold and Silver Mining Company.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at the office of the Company, 331 Montgomery street, San Francisco, on Tuesday, the fifteenth day of October, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. S. LUTY, Secretary. Office, 331 Montgomery street, corner of California, San Francisco. sep21

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. sc21

Neagle & Corcoran Silver Mining Company--Location of Works: Storey County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of July, 1867, the several amounts set opposite the names of the respective shareholders as follows: Names. No. Certificate. No. Shares. Amount.

Table listing names of shareholders, certificate numbers, shares, and amounts for the Neagle & Corcoran Silver Mining Company.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of July, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the second day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. P. OREEN, Secretary. Office, Room No. 11, 338 Montgomery street, San Francisco, California. au17

POSTPONEMENT--The above sale is hereby postponed until Wednesday, the second day of October, 1867, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. sep7

POSTPONEMENT--The above sale is hereby postponed until Saturday, the 12th day of October, 1867, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. oc15-lw

POSTPONEMENT--The above sale is hereby postponed until Friday, the first day of November, 1867, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. oc12-lw

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. sc14

Old Colony Silver Mining Company--Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of September, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary. Office, 523 Montgomery street, San Francisco. oc15

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the seventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPHI, Secretary. Office, 641 Washington street, San Francisco. sep28

Silver Sprout Mining Company--Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows: Names. No. Certificate. No. Shares. Amount.

Table listing names of shareholders, certificate numbers, shares, and amounts for the Silver Sprout Mining Company.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. sc14

POSTPONEMENT--The above sale is hereby postponed until Monday, the twenty-first day of October, 1867, at the same hour and place. By order of the Board of Trustees.

T. B. WINGARD, Secretary. sep28-lw

OLNEY & CO., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Cal. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 23v12 3m

PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical water-wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit.

THOMAS PATTINSON. 7v16-47

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 28 Second street, and 103 Jessie street. 14v16tf

E. O. HUNT, Prop'r.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Works Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 500 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, 9v15tf

San Francisco, Aug. 29, 1867.

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

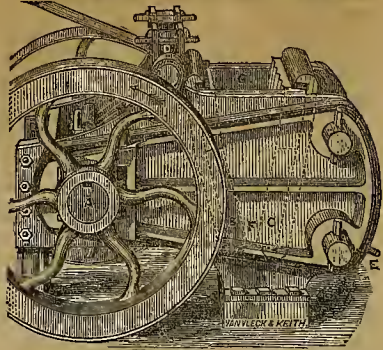
MACHINES OF ALL SIZES FOR SALE

—by—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 8v13tf SAN FRANCISCO.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms:

- No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600
No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour. 850
No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour. 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The cylinder is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866. JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

Those infringing the patent rights to the above improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

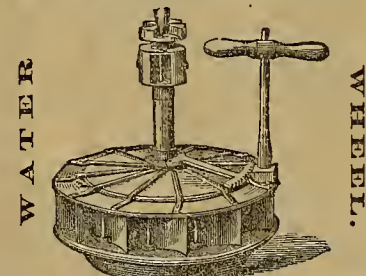
A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1865.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California, and Nevada. Diagram and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

BRODIE & DODDLE, Express Building, 402 Montgomery street, San Francisco. 12v13tf

LEFFEL'S

American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc.

CALIFORNIA REFERENCERS.—E. Stockett, Folsom; O. Simmons, Oakland (Mill at Clear Lake); Morgan Coyne, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California, 310 Washington street, San Francisco. 26v13-1yq

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn in any direction to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds, and is well known throughout the State. Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and for order. Water Tanks built to order. No. 28 Second St., and 103 and 110 Jessie St. 2v15qy San Francisco.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boiler Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 632 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 6-Horse Power, - - - \$140
One Engine with Boiler, 7-Horse, - 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port, 16-Horse, 1,200
One Engine, 40-Horse, - - - 1,200
One Iron Battery of 4 Stamps, - - - 500

Also, a great variety of

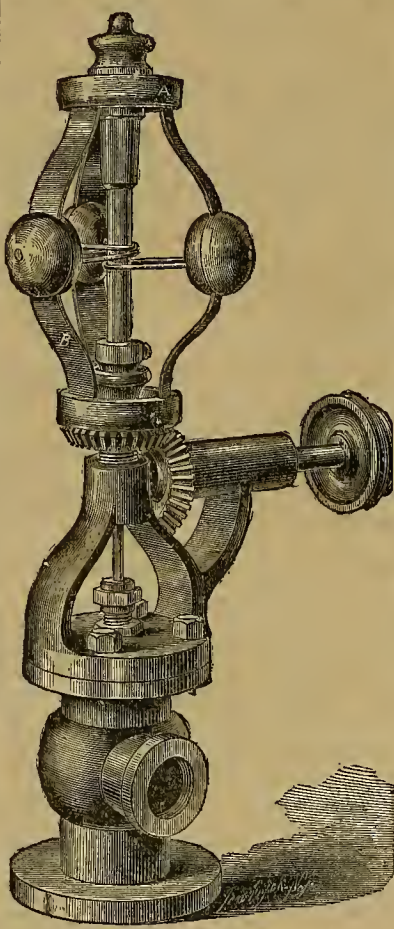
Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15qr

PICKERING'S ENGINE REGULATOR.



Warranted the Best in Existence.

Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2am1q

Notice to Miners, Well-Borers and Water Companies.

MR PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing, etc. M. PRAG, 8v13-1y Stove Store, No. 125 Clay street, below Davis.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND PLACER Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15 6m

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.

All About Sending Money by Mail.

RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20.....10 cents.
Over \$20 and not exceeding \$50.....25 cents.
No fractions of cents to be introduced in an Order. United States Treasury Notes, or National Bank Notes only received or paid.

To send over \$50, additional Orders must be obtained. Post Offices where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out: No. .... Amount .... Date, ...., 188 .....

MONEY ORDER.

Required for the sum of \$.... Payable at ....., State of ....., Payable to ....., Residing at ....., State of ....., Sent by ....., Residing at ....., State of .....

ENTERED IN REGISTER: ....., Postmaster.

The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands. For example: Mrs. Mary Brown must not be described as Mrs. William Brown.

Names of parties and places, and the sums, to be written in the plainest possible manner.

As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

Table listing money-order post offices in California, Nevada, and Oregon territories, including office names, counties, and locations.

"THE NATURAL WEALTH OF CALIFORNIA" is the title of a new work now in press by H. H. Bancroft & Co., of this city. The work will form a complete compendium of everything relating to the natural resources of the Golden State. The work has been written by H. C. Bennett and T. F. Cronise, both of whom have devoted much time, for several years past, in accumulating material for the work, and each of whom have enjoyed especial facilities for doing so. Mr. Cronise has been long and favorably known as a compiler of commercial statistics in this city, while Mr. Bennett is a journalist and scientific man of no mean attainments, and is thoroughly conversant with everything relating to the coast, having made a specialty of the collection of statistics and information, and having been engaged in the preparation of reports on the mineral resources of the coast ordered by the Government, and on other works of like nature.

Our Patent Agency.

THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the PRESS, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trust, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.



A CHEMICAL THEORY OF CELL FORMATION. Dr. C. Montgomery has written a very remarkable paper, read before the Royal Society, December 20th, 1866, on the above subject. The whole paper has a very particular interest, and his facts are well worth verifying by all who have an opportunity of doing so.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867. TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

The Commercial Herald

MARKET REVIEW Will be issued early on EVERY STEAMER-DAY MORNING. (TRI-MONTHLY).

Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

The Letter Sheet Market Review, Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

Weekly Stock Circular. Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

THE CENTRAL PARK OF THE PACIFIC.

Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, ZOOLOGICAL GARDENS.

ORANO INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SACRED MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

These Gardens are accessible by the Howard and Market Street Cars. Entrances on Mission and Valencia streets, between Thirteenth and Fourteenth. OPEN EVERY DAY.

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco.

N. P. LANGLAND, STAIR BUILDER. No. 49 Beal street, Between Market and Mission, SAN FRANCISCO. 10v14-ly

NEW YORK PRICES. WATCH REPAIRING AT NEW YORK PRICES. C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS. Illuminating, Lubricating, and PAINT OILS! CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets.

WM. H. KEITH & CO'S Proprietary Preparations. Florentino Tooth Wash; Saponaceous Tooth Powder; Rosemary and Castor Oil; Wine of Peppino; Oueolein; Devine's Pitch Lozenges; Verbena Water; Bay Rum; Cologne Water; Aurantine;

THE GREAT LIGHT. THE DANFORD Atmospheric Lamp. This Lamp burns coal oil, requires no chimney, gives a pure white and steady flame, uses thirty per cent less oil than any other Lamp in proportion to the amount of light afforded, and is absolutely indispensable in every house where gas is not used.

Pratt's Abolition Oil. FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Head-ache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lumbic Back, and all aches and pains. It is the poor man's friend, and the best family physician.

GOVERNMENT HOUSE, Corner of Sansome and Washington sts. SAN FRANCISCO, CAL. THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes.

WESTERN HOTEL, Nos. 43 and 45 K street, between Second and Third streets, SACRAMENTO. Board, per week \$4 Meals, 25 Cents. 12v16gr N. D. THAYER, Proprietor.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 122 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS. Illuminating, Lubricating, and PAINT OILS! CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

BLAKE'S PATENT QUARTZ CRUSHER. CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissuance of the Patent, bearing date January 9th, 1866.

California Steam Navigation COMPANY. Steamship CAPITAL.....CAPT. E. A. POOLE CHRYSOPOLIS.....CAPT. A. FOSTER. " YOSEMITE..... " " " CORNELIA.....CAPT. W. BROMLEY " JULIA.....CAPT. E. CONKLEIN.

LOWER CALIFORNIA Exploring and Prospecting COMPANY. This Company have procured the services of parties that are well acquainted with the country. This Company will also prospect for Mineral Lands, Water Privileges, Town Sites and Harbors, etc.

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New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions...

PATENTS RECENTLY ISSUED.

68,359.—AMALGAMATOR.—Henry A. Gaston, Nevada City, Cal.: I claim, 1st, The dies, E, in the bottom of the pan...

2d, The mullers, A, when constructed of a spiral form whereby they are made to spread or grind the pulp when rotated in one direction...

68,406.—FURNACE FOR ROASTING ORES.—John Agrell and John Klepzig, San Francisco, Cal.:

We claim a furnace for roasting ores, etc., provided with a rotating hearth with the fire acting on its upper surface, as described.

We also claim providing a rotary hearth with a door to discharge the ores or contents acted on by the fire.

We also claim mounting the rotating hearth of a reverberatory furnace and rollers, substantially as described.

We also claim providing the rotating hearth with partitions to hold the brick lining in place.

In combination with the rotating hearth we claim the stationary stirrers.

We also claim making the shaft which holds the stirrers hollow, for the purpose of supplying steam to the ores roasted on the hearth.

This invention consists of a reverberatory furnace, with a rotary hearth, the object being to provide an improved furnace for roasting ores, by the use of which much labor which is now necessary, may be dispensed with...

68,422.—MODE OF PRESERVING COFFEE.—August Eikrenkötter and Frank Silver, Searsville, Cal.:

We claim the process herein described for preserving coffee.

We also claim the product as herein described, as a new article of manufacture.

The nature of this invention is to preserve coffee in its natural strength and flavor, without deterioration in any climate, whatever, and without regard to the length of time it may be kept before using it.

68,430.—CAR COUPLING.—George Hardy Henfield, San Francisco, Cal.:

I claim the cam, F, operated by the lever, M, in combination with the jaws, D, closed as herein described.

I also claim the sides, A, jaws, D, spring, E, cams, D and F, and levers, E and N, together with the bar, I, the whole operating as a coupling, substantially as herein described.

The object of this invention is to provide an improved "shackle" or "car coupling," which is design to obviate many of the difficulties attendant upon the use of those of the present mode of construction.

serve to close these jaws, which are then secured by a clamp or clasp on the outside. The attaching bar from the other car is released, when desired, by means of levers, which open the jaws, the whole being easily operated, and with perfect safety.

68,475.—VINE TRELLIS.—Levi H. Whitney, Vallejo, Cal.:

I claim, 1st, The combination of the bearing wires, B, lateral wires, C, and vertical wires, D, for the purpose of forming a trellis, as described.

2d, The thimble loop, b, shown in Fig. 3, substantially as and for the purpose described.

3d, The perforated tag, G, shown in Fig. 6, in combination with the trellis wires, B, substantially as shown and described.

4th, The vertical wires, D, D, equally spaced and spread apart at their upper ends, and grouped together at their lower ends so as to be secured at a single stake at the hill, substantially as shown and described.

68,617.—IRONING MACHINE.—Patrick J. Flanedy, San Francisco, Cal.:

I claim, in combination with the lever frame, I, the cross-head, K, the ways, J, J, straps, K', K2, and frame, L, substantially as and for the purpose described.

I also claim the lever, M, in combination with the slotted arm, N, shaft, O, pedal, d, and spring, c, substantially as and for the purposes set forth.

This improvement consists in a combination of devices, by means of which the operator is able to traverse a heated polishing iron from and towards him, upon a polishing board or wheel. The modus operandi of working the machine is as follows: 1st, The wheel is to be covered with flannel or other suitable material; 2d, The piece to be polished must be placed on the wheel, which is then set in motion by an eccentric cam, and other devices, giving it a backward and a forward motion, by means of which the linen is drawn under the heated polishing iron.

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NOTICE TO CREDITORS.—IN THE PROBATE Court of the City and County of San Francisco, State of California. Estate of HENRY GAMMEL, deceased. Notice is hereby given by the undersigned, Administrator of the above named estate, to the creditors of, and all persons having claims against said deceased, to exhibit the same, with the necessary vouchers, within ten months from the first publication of this notice, to the undersigned, at his office, No. 23 Court Block, 656 Clay street, San Francisco. Dated October 3d, 1867. ANDREW D. SMITH, Administrator of the Estate of Henry Gammel, deceased. 14V15-1W

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SAN FRANCISCO, SATURDAY, OCTOBER 19, 1867.

VOLUME XV.  
Number 16.

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## Hooker's Patent Direct-Acting Steam Pump.

In this issue of the Press we present an excellent illustration of Hooker's Direct-Acting Steam Pump. Among the advantages claimed for this pump are the following: Its extreme simplicity, being composed of fewer pieces than any steam pump yet known, the working parts consisting simply of the steam and pump pistons, a plain cylindrical balance valve, and the pump valves, operating in their respective cylinders without any journals or other movable or intermediate machinery whatever. 2d, The steam valve is a plain cylinder, perfectly balanced in its movements, and is operated by the steam after it has completed its work

and any other information, address Wm. D. Hooker, inventor and patentee, Union Iron Works, San Francisco.

CALIFORNIA WOODS AT THE EAST.—Mr. J. D. Boyd, the well known artificer in California woods, has just shipped for New York a number of unsawed logs and manufactured boards of California laurel, consigned to Wells, Fargo & Co., for Mr. Fargo, at Buffalo. There were sent, also, a quantity of veneers, and samples of wainscotting and moldings of the same wood, finished and polished according to Mr. Boyd's method. There is, besides, an invoice of 10,000 feet of redwood boards for the same destination. Mr. Fargo designs using these woods in finishing the interior of some

## Contributed for Our Cabinet.

Under this heading we shall continue to mention and describe, according to merit, such specimens of ores, minerals, fossils, curiosities, etc., as may be presented, or forwarded to us by mail or express, prepaid. Each article will be numbered and placed in our cabinet, and recorded with the name of the donor, and the claim or location from whence it came.

179—Mr. A. S. Hallidis sends us the horns of a mountain sheep, a native of British Columbia. The animal from which these horns were taken was caught by an Indian, on a mountain near Fraser river. The horns are about ten inches long, very fine and sharp at the tips. They are evidently well calculated for fighting, and quite unlike the horns of the Rocky Mountain sheep.

We have received from our agent, A. B. Butler, now traveling in Nevada and Sierra counties, a box of very fine specimens, as follows:

180—Bircbville Co., Bircbville, Nevada county, shows gold distributed upon one of its faces in a very peculiar striated manner.

181—From same mine as above, also shows free gold, but not striated as in the one previously noticed. This ledge is owned by Thompson, Hyde & Co., who have just erected a 5-stamp mill.

182—Commercial ledges, Valentine Co. This ledge is very well opened for working, and this company has just started a 10-stamp mill, built by Booth & Co., of this city. This rock has a very fine appearance, and we trust, will fully realize the anticipations of its enterprising proprietors.

183—From the Black & Young ledge. This rock presents very much the appearance of No. 182. A pretty good evidence of the value of the ledge may be inferred from the fact that a portion of it has recently been sold for \$20,000. The company have a fine mill.

184—From the Banberry, or Rocky Glen ledge; Stacy & Co., proprietors. Somewhat honeycomb in character, showing considerable free gold. This is considered one of the finest ledges in the district, considering its size—a six-foot vein.

185—Is from the same ledge as above. Rock firmer—quite hard and white; shows free gold and a slight sprinkling of sulphurets.

186—From the Norfolk claim, Passamore; Booth & Co., proprietors. This specimen is very highly charged with sulphurets, which have every indication of being rich in gold.

187—From the same ledge, is a sample of the white rock, free from sulphurets.

188—From the liberty ledge, Dean, Stevens & Co.; a small specimen, but rich in free gold. This is said to be a very large vein, and quite well developed; a good grade of ore on the average, and paying satisfactorily.

189—Is a specimen from the same ledge, showing galena.

190—Is from a ledge owned by D. W. Snapp; shows free gold.

We have several other specimens from the same source, which will be noticed next week.

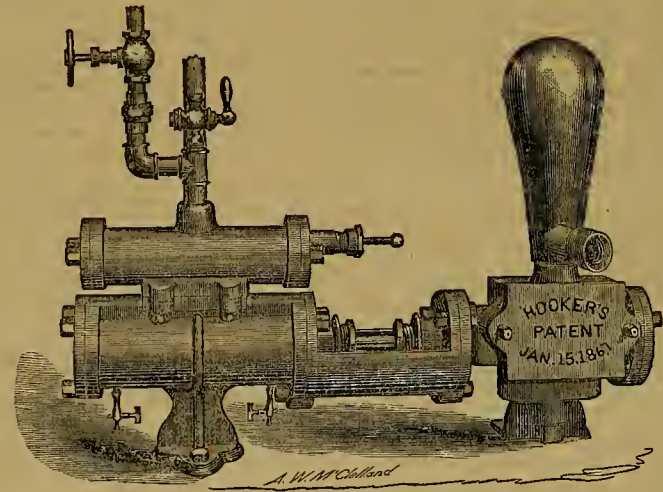
CHINA TEA CULTURE seems to be fast approaching a success in Georgia.

THE OREGON CENTRAL RAILROAD.—The prospects of this road are said to be encouraging. It is reported that the Secretary of the Interior has officially recognized the company's right to the Government subsidy of 12,000 acres of land to each mile of railroad built, which it is estimated will be worth \$1.75 per acre; in addition to this the State of Oregon guarantees the interest on the company's bonds at the rate of \$10,000 per mile for 100 miles. This will give the company about \$30,000 per mile for the first 100 miles, with which it is thought they will be able to build and equip the road for that distance. The farmers along the line of the road are taking stock quite liberally. The road, if built, will pass through one of the richest agricultural sections in the Union, the most of which is now comparatively worthless, on account of its distance from a market. It is to be hoped that this much needed work will be speedily put through.

FLOUR MILL FOR SAN BERNARDINO.—In addition to the machinery elsewhere noticed as in course of construction, at the Pacific Foundry, for the Fremont estate, we learned that these works have also on hand all the iron work for the machinery of a flour mill, to be erected in San Bernardino county, by Messrs. Pollard & Childs; as well as a large amount of miscellaneous work, jobbing, etc. Persons desirous of witnessing the mode of construction of the new quartz machinery which is said to be doing such extraordinary work in Mariposa county, would do well to take a look at that now in process of construction at the Pacific Foundry.

THE UNION WAR CHART.—An invoice of this useful publication was received by the last steamer, and is now being delivered by Mr. A. J. Doolittle, agent for this coast. We have already noticed this chart, and we doubt not it will find a large and ready sale. It is very convenient for reference, and is put up in book form or mounted on rollers.

MINING IN COLORADO.—Five veins of argentiferous galena are now being worked in Colorado. Considerable quantities of argentiferous zinc are found in the "Terrific" lode. Auriferous ores (pyritous or concentrated sulphurets, we presume,) averaging not less than \$30 per ton, are in demand at the reduction works of the Briggs and Gannell companies.



HOOKER'S PATENT DIRECT-ACTING STEAM PUMP.

and is ready to be exhausted from the engine—thus economizing the use of the steam to a great extent. 3d, The valves, both in the steam and water cylinders, can be removed and replaced in less than five minutes. 4th, It is claimed that its speed and capacity far exceeds any steam pump yet known; it will also operate as slow as one stroke per minute, and make its strokes with unerring accuracy.

It is peculiarly adapted to raising and forcing water from mines and shafts, steam being carried to the machine in protected pipes. As a steam fire engine, it is unsurpassed. It is claimed that it will surpass the Gifford Injector, as a boiler feeder, both as to capacity, cost, greater range and certainty of movement.

It was first exhibited at the State Agricultural Fair, held in Sacramento, September, 1867, and was awarded the first premium over all competitors, for its simplicity and rapid motions, and recommended for steam fire engines and general purposes. Several sizes of steam pumps and boiler feeders are in process of construction. The price of the six-inch diameter steam cylinder, with three-inch diameter water cylinder, and eight-inch stroke, is \$250; capacity, 5,875 gallons per hour; cost of other sizes, smaller and larger, in proportion. For circulars

and buildings he is erecting, he having heard them so highly extolled as adapted for such purposes. It is intended to have the furniture made from the same logs as the wainscotting is to be taken from, to produce uniformity of appearance. Our Eastern friends are beginning to appreciate the beauty of California woods.

HENDY'S CONCENTRATOR.—We understand that the North Star Company are putting four of Hendy's concentrators into their mill at Grass Valley; also that the Norridge-wock Company, of the same place, have decided to adopt them. Parties in Grass Valley, or those visiting that place, would do well to examine these concentrating machines, and carefully note their manner of operation. By reference to Mr. Hendy's advertisement on the ninth page of the present issue, a full description of this machine will be seen, also an important letter from Mr. S. W. Lee, Superintendent of the Empire Co's mill, of Grass Valley, addressed to Mr. Hendy, and expressive of the writer's satisfaction at the work of this concentrator.

CONCRETE.—They are making concrete bricks in Colorado ten inches long, five inches wide and four inches thick, by a machine which turns out 800 such blocks per day. They are building houses with these blocks.



## Communications.

In THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.)

## Formation, Distribution and Age of Igneous Rocks.

Continued from Page 210.

If there was a period during which metalliferous quartz was erupted in such quantities as the vast deposits of old red sandstone would seem to indicate, the origin and formation of these deposits of hematite ore may be readily understood. Large bodies of erupted quartz carrying sulphuret of iron coming in contact, while yet hot, with water, would greatly facilitate disintegration and decomposition. The waters of the eruptive era, metalliferous quartz or old sandstone period, must have been strongly impregnated with sulphate of iron, which was decomposed by the sulphuric acid combining with lime, the iron being precipitated as a peroxide. Peroxide of iron seems only to have been deposited as the coloring matter during the old red sandstone era. It was during this era that feldspathic granite was intruded in a plastic state along anticlinal lines forming cones and belts, frequently of great extent, and with the termination of the old red sandstone period, the intrusive granitic era may be said to have passed away.

The eruptive era of metal bearing rock ended with the beginning of the carboniferous era or fifth period, and henceforth only such rock as contained little or no metal is brought to the surface in a fluid state by volcanic action. The igneous rocks, intrusive and eruptive, of the carboniferous era, are all of the trap family. Trachytic trap is the eruptive rock, and is found interstratified, unchanged, with the formations of the carboniferous system. Of all igneous rocks, those of the trachytic type are the least destructible. They resist all ordinary chemical action, and owing to their refractory nature, they are the earliest of the igneous rocks which are found interstratified with the aqueous formation. The intrusive rocks are chiefly greenstone, serpentine, soapstone and other magnesian rocks, dykes of which pass indiscriminately through the old red sandstone, magnesian limestone, and coal measures, and are only found along some anticlinal axes of the carboniferous era. At the beginning of the carboniferous era the earth seems to have undergone a great change in its geological conditions. The erupted rock has now, owing to its power of resisting chemical action, very little to do in giving character to the stratified deposits of this system. The carboniferous era began with the deposition of an immense body of limestone which was held in solution, and had been accumulating in the waters. All of the carbon that afterwards became fixed, existed in the atmosphere as carbonic acid gas, and of course the water was strongly impregnated with the gas, thus rendering it capable of holding a large quantity of lime in solution. During the old red sandstone period, the capacity of the water for holding limestone in solution, was greatly increased by the carbonate of lime being attacked by the sulphuric acid contained in the sulphate of iron, which was so abundant, thus liberating a still larger proportion of carbonic acid. When the rank vegetation of the coal measures came into existence, this excess of carbonic acid in the water was appropriated, thus facilitating the deposition of the limestone.

As the disintegrated granite furnishes the feldspar, quartz and mica of the gneiss and mica schist system, and from them again, with the erupted feldspathic granite and magnesian rocks, were obtained the materials for the clay slate and silurian rocks, so from all these, together with the old red sandstone, were derived the material for the carboniferous system. Two new rock substances made their appearance among the strata of this system—namely, coal and ironstone. The iron of the old red sandstone

was disseminated through the mass as mere coloring matter—in the carboniferous formation it is principally collected in layers or in nodules. Bodies of sulphuret of iron, which were erupted during the old red sandstone period, and escaped decomposition by being submerged, were now upheaved together with contiguous deposits of limestone. The sulphuret of iron ore being exposed to the atmosphere, would decompose, and the soluble sulphate would be carried to the depressions in the limestone. The sulphuric acid, combined with the iron, would attack the limestone, liberating the carbonic acid, and the body of the limestone might pass away in solution to a new locality. Thus the reservoir in the limestone might go on increasing in breadth and depth, and the deposit of hematite ore would be limited in extent only by the supply of sulphuret of iron. On trying an experiment with a piece of marble and coppers, each the size of a filbert, the coppers being dissolved in water, I found the marble after being immersed a few hours, became so soft and friable as to be easily crumbled with the fingers, and the bottom of the glass was covered with a brown curly deposit. The formation of bog ore in our own era, occurs in the vicinity of mountains containing decomposing sulphuret of iron.

The intrusive era of metal bearing rock began with the sixth, or new red sandstone period. That some metallic veins are of comparatively recent origin, no one can doubt who is familiar with their general appearance. Some veins and cones of metalliferous quartz, appear to have been intruded so recently, that the geological features of the adjacent country must have been quite the same as they appear to-day. One vein of auriferous quartz which is five feet wide at the surface, gradually closes out to five inches in width in twelve feet, at which depth the country rock is schistose and solid, thus showing that the soil was nearly or quite its present depth at the time the vein was intruded in a plastic state. Sometimes one side of a vein of intruded quartz is striated, showing it to have been forced up in a plastic state. Profs. Rowlandson, Whitney, Blake and others contend that auriferous veins are found enclosed within walls of rock which contained molusca of the jurassic age. Prof. Rowlandson says there is a vein of cinnabar in the Coast Range that must have been formed as recently as the eocene period.

That there are two periods during which metalliferous quartz was brought to the surface by volcanic action, is a general truth which applies alike to all igneous rock. The original surface igneous rock, before water rested upon the earth, we know, was granite, because the earliest deposited aqueous rock is altered granite or gneiss. As the original granite was everywhere over the earth's surface, exposed to disintegrating agencies, the gneiss formation must originally have covered the whole earth with a stratum of varied thickness. Yet we not only find this deposit of altered granite, intersected by dykes of granite, but veins and cones of granite along anticlinal lines, intersect and overlie the two following geological ages up to and to the old red sandstone period. The clay slate system was deposited during the eruptive era of feldspathic granite, and veins of feldspathic granite intersect all the formations up to the carboniferous system. Veins of granite, from a few feet to many yards in width, are found intersecting the clay slates flanking the Sierra Nevada. Veins of porphyry and greenstone, and other magnesian rocks, also intersect deposits of altered porphyry, hornblende slates and other stratified magnesian deposits, and veins of metalliferous quartz intersect all the formations up to, and including the tertiary, and possibly later. I have seen auriferous quartz veins in such a position as to show most conclusively, to my mind at least, that they were very much more recently formed than the more ancient gold bearing gravel deposits. There is a cone of quartz belonging to a traceable vein situated near the junction of Slate creek and Yuba river, which, from its position and general appearance, seems to have been intruded in a plastic state at a period so recent that the geological features in its vicinity have undergone very little if any change since its formation. The channel of the Yuba, which at this point must be near 2,000 feet in depth, cuts an ancient auriferous gravel deposit, or old river bed, which caps the most elevated ridge in the immediate vicinity. This cone of quartz is situated at least 1,500 feet down the steep bank of the cañon and below the gravel deposit, and its peculiar form and the striations upon the quartz of other similarly situated veins, shows the vein matter to have been intruded in a nearly congealed state.

There is another vein of quartz situated on the bank of the north Honcut in Butte

county, which is only a few rods from the creek, and perhaps twenty feet above its bed. The Honcut cuts the blue cement deposit near Bangor, and the head of the stream is near 200 feet below it. The croppings of this vein appear to have displaced the loose surface soil, and at a greater depth, as the disintegrated schistose rock becomes solid, the vein decreased in width, then showing the soil to have been quite its present depth at the time the quartz was intruded. In another locality there is a flattened body of quartz, nearly circular in form, resting upon the surface of the red soil, which is some twelve feet in depth, and within a few yards of a ravine situated near the summit of an elevated ridge flanking the Sierra Nevada. The surface of this body of quartz dips at nearly the same angle as the bank of the ravine, and has every indication of having been intruded in a nearly congealed condition, at a period so recent as to show conclusively that even many of the little ravines upon the hillside remain unchanged. But for those who are acquainted with the appearance of quartz veins in the Sierra Nevada, there is no occasion to multiply instances of this character, which show that some auriferous veins are of comparatively recent origin.

(To be Continued.)

[From our Traveling Correspondent.]  
Mining in Nevada County.

**LITTLE YORK.**—There are two gravel mills in this place, owned by Messrs. Buckman & Curran. Their lead promises well, and doubtless when further developed, will afford a fair dividend to its proprietors. Mr. Gardner is running a hydraulic claim, which is said to pay very well. With the exception of these enterprises the town is rather dull; its citizens appear to be mostly engaged in quartz enterprises at Meadow Lake, the famous U. S. Grant claim, and other lodes having been discovered and located by citizens of this place.

**YOU BE** is running about fifty stamps, crushing blue gravel, and making times comparatively lively. The writer visited five mills, all in active operation, and apparently doing well. Messrs. Neece & West are working the lower end of the lead, while three mills, owned by Mallory, Brown and Hydellif, respectively, are working the upper end of the same channel. Mr. E. Williams also has a fine little mill, between this place and Red Dog, which is working beautifully and said to be paying very well. At Hunt's Hill, two miles above Red Dog, there are also two mills—Gouge Eye Co. and the Easton Co.—both at work, taking out and crushing some of the best looking gravel seen in the county, specimens of which are often found completely spattered with the precious metal.

**NEVADA CITY.**—The Manzanita mine, owned by Marcellus & Co. is quite extensive. It is a hill claim, and pays from "grass roots" to "bed-rock." It is worked by hydraulic, ground sluice and stamps. The latter consists of a 15-stamp mill, driven by hydraulic hurdy-gurdy power, crushing about eighty tons per twenty-four hours, at an expense not to exceed \$1 per ton, including the entire cost of mining and milling. The ore crushed consists of quartz gravel and boulders, taken from the lower strata of the mine. Many of these boulders are rich, showing the free metal and considerable sulphurets. The yield of the mine and mill appears perfectly satisfactory to the owners, as evidence of which they are not for sale.

**Star Spangled Banner Ledge, Tisdale & Co.**, are erecting new machinery to enlarge their crushing facilities. They have a first class mine, affording good \$30 rock, with prospects of realizing more as soon as they avail themselves of all the improvements in working sulphurets.

**The Wigham, Merritt & Co.**, San Francisco, Nevada Co's mine, and the Cornish mines are all evidently doing well and prospering. The California, Pattee & Co., also the Providence, Dingley & Co., are apparently good mines, with good mills attached. The California mill, especially, is a model arrangement of convenience and neatness, worthy the examination of any one contemplating the construction of crushing and hoisting works. Both these mines will doubtless resume operations in due time.

**GRASS VALLEY.**—This place, as every one knows, affords some of the best paying mines of the State. The Eureka, Watt Bros, part owners and exclusive managers, stands first, and is without doubt, as far as known, the "Ne plus Ultra" of a California

quartz mine. This mine runs a 20-stamp mill, and could run as much more if desired, crushing two tons per stamp, the rock averaging \$45 to \$50 per ton, and taken from a vein not less than four feet average width. The Watts are considered the most experienced and best practical quartz miners in the State; they know how to run the "machine."

**The North Star**, a San Francisco Co., W. H. Rodda, Superintendent, affords remarkably rich ore, and is considered a first class mine. It also cost a first class price, \$45,000. It employs a vast number of men and does a glittering business.

**The Ophir** is rattling away with its beautiful 30-stamp mill, apparently doing a fine business, and crushing good looking ore.

**The Wisconsin** is an extraordinary rich vein of quartz, varying from twelve to eighteen inches in width, showing large amounts of free gold throughout the entire "breast" of 100 feet on the line of the ledge. The ore is judged to be good \$90 rock. At present, the company only have machinery sufficient to work the mine; but will doubtless erect a 10-stamp battery in time for another season.

**The Lucky**, G. V. Barber & Co., have a fine ledge of from fifteen to twenty-four inches in width, supplying a 15-stamp mill (battery and blanket process), and crushing twenty-five tons per day, with an average yield of \$15 per ton.

**The Cambridge**, James Powning, Superintendent, is preparing to rush matters very soon. Mr. Powning expresses confidence that he has "got it," and will soon be able to "show it." There are numerous other mines that are being prospected with considerable vigor, some of which are presenting very favorable developments, showing clearly that Grass Valley and vicinity has not uncovered one-half of the rich mineral veins with which it abounds.

**Hydraulic Mining**, commencing at French Corral and extending in an almost continuous line through Birchville, Sweetland, Sevastopol to North San Juan, is here carried on with more thoroughness and enterprise than in any other portion of the State. There are quite a number of rich claims that have paid the present proprietors amply in piping off the top; but the owners are not, or do not feel themselves able to construct an outlet sufficiently low to work the bottom, the richest portion of their ground. Of this character of claims, many of them could be purchased in a body together, at very reasonable rates, affording in the judgment of many experienced miners the very best chances for investment of capital. There are some few of the present owners who have joined their means together, for the purpose of running a tunnel.—making an outlet sufficiently low to work their whole ground jointly. This range of ground is certainly well worthy of investigation by capitalists, having a view to extensive and highly remunerative investment.

Among the many paying claims that are now being worked, the writer will only mention two—the Buckeye and the American. The former, Gen. O. Evans, principal owner, recently made a clean up of \$22,000 from twenty-eight days run. The latter, owned by Brown & Co., have two mills on their claim, one crushing gravel—the other grinding and amalgamating sand from the "under current." This is called the most extensive, as well as the best paying mine in the whole range. From Columbia Hill via Humbug to Moore's Flat, the same complaint exists, viz., the want of capital to cut an outlet. Millions of money lie buried in these channels, which cannot be reached by individuals, or in any other way except by heavy organized companies, who are willing to expend from \$50 to \$150,000 in opening up a tract of mining ground that will unquestionably reward the adventurers with dividends heretofore unparalleled in the history of placer mining. By the way, it is reported that a New York company is about making an extensive purchase near Columbia Hill. Should this be effected, something interesting may be looked for, as the writer knows the parties purchasing—and whatever they undertake, is based upon sound practical judgment and experience. At Humbug, a San Francisco French Company have made a purchase, also made a very fair beginning; yet it is feared by many of the knowing ones, that they are not low enough in their main outlet to work all of their ground. Mr. Chas. Beaver is superintending, and doubtless knows what he is about.

At Moore's Flat, several extensive hydraulic claims are now being worked very successfully. The principal ones are Pinte and Eagle, Illinois, Pioneer, Paradise, Buckeye, Blue Banks and XIX. Mr. W. D. Long will favor the Press with statistics and items of this place from time to time. More next week. B.



## Mechanical.

## Machine Tools.

It is both interesting and instructive to mark the foot-prints of progress as they have been impressed, from time to time, in the creation of labor-saving machinery. In no department of human ingenuity have more happy or more important results followed than in that which has for its object the origination of mechanical appliances and tools for the accomplishment of the many difficult, and often very irregular kinds of work, which are called for in the machine shops. It is really wonderful to look back and note the gradual progress that has been made in machine tools. The practical details of this progress are worthy of the most careful consideration; this more so because they are not often set forth in such a manner as to render the details ordinarily available for instruction and further progress.

In machine tools, as in other kinds of machinery, the chief value of an invention depends upon the economy with which the desired work is accomplished, or in this amount of work which it will turn off, with the least requirement of power and attendance, and the least derangement and wear and tear of itself. It is not enough that the machine should simply do its work; but that in the completeness of its detail it must do it in the best and cheapest manner.

Many complicated pieces of mechanism are brought forward which, although they accomplish their work satisfactorily, are nevertheless so intricate in detail as to forbid their general introduction into use, on account of the skill required to operate them and keep them in order. It often happens that the first inventor of a machine loses the chief benefit of his invention from the above cause, which is remedied by a subsequent simplifying improvement, without which the original is of but little value. Simplicity and practicability are the great secrets of success in the inventions art.

The wonderful exactness, as well as the great beauty of finish seen in machinists' work of the present day, is almost if not entirely due to the employment of machine tools in the accomplishment of that work. Many of our readers can recall to mind the time when the "chipper" and "filer" made slow and expensive progress, at processes which are now done with great celerity and the utmost exactness by the planing, the shaping and the slotting machines. Time was when the "lathe-man" indifferently performed with hand tools what is now so accurately and more expeditiously accomplished with the "slide lathe." The ruder workmanship of former days was far more expensive than the costly, more perfect and elaborate work of to-day. True, there might have been more mechanical skill then employed than now; inasmuch as it required a much better mechanic to fit up a piece of work by chipping and filing, than it does by the mechanical operation of the various machine tools now employed in such work.

It is not, perhaps, claiming too much for machine tools to say, that without their aid the great advance now witnessed in the more intricate mechanisms of the present day could never have been accomplished. The sewing machine, the repeating pistols and rifles, the improved marine, locomotive and stationary engines, which we now have, could hardly have been turned out by the chippers and filers of forty and fifty years ago. Such machines may be said to be exclusively due to the recent introduction of machine tools, which have so economized and perfected labor as to reduce it to absolute mathematical exactness. What machinist, of either the past or the present, would have undertaken the construction of such cylinders as are now employed on our larger steamships, if it had been a condition of such construction that their interior sur-

face should have been performed by chipping and filing, as was the case in the construction of the cylinders of the Boulton and Watt engines, when those machines first made their appearance in England? Without the aid of machine tools a steam cylinder of 105 inches diameter and 12-foot stroke, would never have been called for; the modern locomotive would never have been thought of; the sewing machine would never have made its appearance in our dwellings, or at best its tedious and expensive construction would have confined it to the hands of a favored few; while the old musket and rifle and double-barreled shooters would have still continued our most efficient weapons of defence or attack.

## Evaporative Power of Steel over Iron Boilers.

A late number of the *Engineer* gives a detailed account of some carefully conducted experiments, made in November last, in the workshops of Messrs Fink & Elber, at Hagen, in Prussia, on the comparative evaporative power of steel and iron boilers. The experiments were made under the direction of M. G. Stucknholz.

For the purpose of conducting the experiments, two ordinary cylindrical boilers were constructed, the one of 0.5-inch iron, and the other of 0.33-inch cast steel, and set in separate furnaces; the area of the fire bars of each was twelve square feet. Both boilers were new, and each was filled with 712 cubic feet of water, at 35° centigrade. The fires were kindled and the temperature of the water raised to 100° C., with the man holes closed. The fires were then drawn and the cinders and ashes removed. The man-holes were then opened to allow a free escape of steam, while the fuel supplied was carefully weighed. The fires were so arranged that there should be an equal speed of escaping steam from each boiler. The escape was carefully measured by an anemometer, which showed 220° of List's scale. The temperatures of the escaping steam of each boiler, (measured six feet from the back of each,) ranged from 340° to 380°, C.

After 3,150 pounds of coal had been consumed in each boiler, the fires were drawn, the man-holes closed, and the following day the water remaining in the boilers was measured at a temperature of 35°, by means of a water meter. The iron boiler contained 337 cubic feet, while the steel boiler contained but 331. Assuming the evaporative power of the iron boiler to be 100, that of the cast steel was 117.26—showing an advantage of 17.26 per cent. of steel over iron.

A subsequent experiment was made in the same manner, but with the escaping steam kept at a slightly lower rate of speed, viz.: 195° of List's scale, instead of 220°, as in the previous trial. The result was 19.62 per cent. of evaporation of the steel over that of the iron boiler.

A third experiment was made in a different manner, as follows: A solution of salt was prepared and added in proportion to the quantity of water remaining in each boiler. After this had been well stirred and thoroughly boiled, the man-holes being closed, samples were taken for analysis. This trial, in which an equal quantity of fuel and water were used for each boiler, concluded the experiments. According to the analysis, it appeared that out of 100 cubic feet of water, the iron boiler evaporated 33.76 feet, and the steel boiler 40.81 feet—a difference in favor of the steel of 20.85 per cent.

The average of the above three experiments, gives 19.24 per cent. of evaporative power in favor of a 0.33-inch cast steel, over a 0.5-inch iron boiler. We presume that the strength of the thinner cast steel boiler is considerably in excess of the thicker iron, although no mention was made in the *Engineer's* account of that matter, or of the relative cost; both of which facts, as well as the relative durability of the two, are important considerations in calculating the economy of the one over the other.

## Scientific Miscellany.

ELECTRICITY is the science from which, above all others, men are now expecting great things. To it belongs the important scientific achievement of the age, the practical annihilation of time and space between the Old and New Worlds. Since it can do so much, why cannot it do more? Why not light our streets, heat our houses, drive our locomotives and steamships, and heal our diseases? Really, there is no saying what would be visionary in our anticipations of the future of this science; for it is still in its infancy. Now that the electric telegraph has been brought to perfection, or, what is the same thing, made as good as the world requires, the men who have addressed their skill for some years to the improvement of that one useful application of electricity to the wants of the race, will naturally investigate more fully the other, perhaps more wonderful, possibilities of the mysterious power. Already we find Mr. Wilde endeavoring, by his improved mode of generating electricity, to utilize this wonderful agent in the economic production of heat and light and power. The success which has already been accomplished in these directions is most promising for the future. The latest attempts to utilize electricity, is its application for the conversion of cast into wrought iron. We have chronicled whatever has been accomplished in each of the above mentioned experiments, and shall continue to keep our readers informed of whatever progress may be made in these important investigations. To investigate in science is to discover. The chief object of the *Press* is to spread discoveries before the people for the benefit of the masses. We shall endeavor to be ever faithful to our trust.

IMPROVED PROCESS FOR SEPARATING LEAD FROM SILVER.—In a factory at Holtrappel, in Germany, what is claimed to be an improvement has recently been introduced in the separation of silver and lead as follows:

The melted lead is poured into a crystallizing pan, and its surface covered with small fragments of coke, upon which a thin stream of water is permitted to run. The mass is slowly agitated with a circular motion, which insures the equal moistening and cooling of the whole surface. In about an hour the lead loses its fluidity, and forms a solid crust, which envelops the small pieces of coke. The stream is now turned off, the agitation stopped, and the unsolidified lead, rich in silver, is run off at the bottom. Before complete solidification takes place, strong iron hooks are inserted in the mass, and it is lifted by a crane from the pan, which is then ready for a second operation.

MAGNETIC PHANTOMS.—S. Mennier describes in the *Paris Cosmos*, a plan for preserving a representation of the curious figures produced when iron filings are scattered upon a sheet of paper placed over a magnet. His saturates the paper to be used with a warm solution of ferro-cyanide of potassium, and then dries it. For iron filings he substitutes pulverized magnetite or loadstone, which is placed upon the paper and submitted to the action of a magnet. After a beautiful combination of curves, called the magnetic phantom, have been made, pure hydrochloric acid gas is brought in contact with the paper and figures, and after a few seconds removed. The paper, being then freed from the loadstone powder, is washed very thoroughly; when dry a dark blue figure will show, with great delicacy of detail, the positions assumed by the pulverized ore under the influence of the magnet. The method is said to be more convenient and exact than the plan of covering the paper with a mixture of gelatine and starch, or paraffine and wax.

IMPROVED SYPHON FOR THE LABORATORY. M. Zaliwski-Mikorski has invented a new siphon, which he thinks likely to prove useful in the chemical laboratory. In using the ordinary siphon, it sometimes happens that noxious and even poisonous fluids pass into the mouth. The new siphon is not "set to work" by suction. One of its legs is provided with a small accessory tube, and by blowing through this latter the fluid moves along the siphon.

NEW APPARATUS FOR ILLUSTRATING WAVE MOTIONS.—Prof. Lyman of Yale College, has made an ingenious and simple apparatus, consisting of a white board about four feet long and three broad, in front of which and running lengthwise are two brass wires about one foot apart. Each is connected at short distances with a series of cranks by means of swivels. These cranks are connected behind the board by means of clock-work, so that all are set in motion by the revolution of one wheel, which is easily moved with one hand. The cranks are set at different angles to each other, and when put in action elevate or depress the wires, forming constantly varying curved lines, and thus representing the form of water waves. The lower wire shows the comparative decrease of motion at a depth below the surface having a fixed relation to the length of the waves. Prof. Lyman proposes to simplify his apparatus by dispensing with the numerous toothed wheels and substituting a simpler connection. When this is done, its cost need not exceed \$10 or \$15.

A NEW MODE OF PRODUCING ICE has been devised by Mr. A. A. Low, the celebrated aeronaut, of New York. It is a well known fact that the process of evaporating condensed carbonic acid gas absorbs an immense amount of heat and produces a corresponding degree of cold. Quicksilver is speedily frozen by this process, and the thermometer is said to show 275 degrees below zero. Mr. Low has invented a machine which is said to make this agency available for the manufacture of ice or the production of cold, and that, too, at a very limited expense. He thinks he can manufacture ice at three dollars a ton in any part of the world. The machine is so arranged that it economizes the material, and uses the same gas, with very little waste, over and over again.

A NEW METHOD OF PRESERVING THE DEAD.—There is on exhibition at the Morgue, in New York city, the body of a man that is being subjected to the experimental process of preservation. The body is that of a drowned person, and supposed to have been in the water three days prior to its recovery. It is inclosed in a metallic case, perfectly air tight, and, as yet, although forty days have elapsed since the commencement of the experiment, shows no signs of decomposition. On the contrary, the body hardens each day. The result is obtained by forcing the air from the case and supplying its place with a certain gas, which this discoverer claims contains the requisite preserving qualities. He even expresses the belief that the body in course of time will become as hard as stone.

MOVING PHOTOGRAPHS.—M. Clouet, by an adaptation of the Phenakistoscope—Thornatropie toy improved—has made moving photographs. The well known fact that the retina retains an impression a short but still appreciable time, and that a second impression being given a subtle mental action—possibly only physical—connects the two by supplying the "missing link," is the principle of the new arrangement. A portrait of a figure striking and of another receiving a blow, when rapidly opened and closed before the eye opposite which they are placed, take the appearance of actual motion in M. Clouet's process, which promises to be a popular and novel arrangement of the photographic art.

ANTIDOTE FOR CHLORINE INHALATION.—Prof. Malsch says that a direct antidote to the poisonous effects of the inhalation of chlorine is sulphureted hydrogen, the halogen combining instantly with the hydrogen, liberating sulphur. The professor has tried it himself after accidentally inhaling chlorine, and obtained immediate relief. The same remedy would doubtless be effectual in cases of bromine poisoning. The knowledge of this fact may be of service to persons employed in the works for the chlorination of gold in this State.

A NEW ALLOY has been introduced in Paris, under the name of *two-argent*, or trisilver. It is composed of 33 per cent. of silver, 25 or 30 per cent. of nickel, and 37 to 52 of copper. The compound is not homogeneous, but is rendered malleable by a secret process. In color it is similar to platinum, takes a high polish, is extremely hard, and is not affected by exposure to the atmosphere.

GRANULATED GUN COTTON is offered for military purposes, by a process which consists in reducing the gun cotton to a paper pulp, solidifying it by pressure, cutting it up and finally varnishing the grains with collodion. Or, the pulp is mixed with a small proportion of gum or collodion and agitated in a vessel until granulation results.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

68,978.—ORE CONCENTRATOR.—Lewis Goodwin and S. A. West, San Francisco, Cal.:

We claim, 1st, The concave rotary pan, A, A, with circular rifles, g, p, g, g, g, g, having an elevation toward the periphery of the pan, substantially as and for the purposes described.

2d, The discharge box, E, receiving the discharge at the periphery and discharging toward the center, having teeth or agitators attached to it for operating in the rifles and movable bar, L, to act on the pulp and water, and the gate, R, for cutting off the discharge, substantially as described.

3d, The plow, O, valve, 4, spring, 5, cams, J and K, or their equivalents, substantially as described for the purpose set forth.

4th, The stationary circular troughs, P, for receiving the sand and debris and G, for receiving the sulphurets, and the scrapers, N, attached to the rotary pan and working within the troughs, P and G, substantially as described.

5th, We claim the above described parts when employed separately or in combination, for the purposes specified.

The object of this invention is to provide an improved concentrator for concentrating sulphurets from their ores. It consists of a circular concave disk, with rifles or grooves, the machine having a continuous rotary movement. The ore or pulp, with water, is received at the center, and is carried by bent tubes to near the center, and from thence, by centrifugal force to the periphery of the disk, the heavier particles settling in the rifles in its passage; the sand and debris being separated by the current and constant agitation, are carried out by means of a trough or sluice, placed transversely across the disk to the center, and are discharged through openings into a stationary circular sluice or box below, while the sulphurets are discharged at the periphery of the disk, by means of a plow into another stationary circular sluice below.

Other devices have been employed, circular in form, with a groove for retaining the sulphurets, until the sand has become separated from them, and then discharged at the periphery; but these machines depend upon a cam or eccentric motion for separating the sand from the valuable portions, and oftentimes the machine must be stopped and assistance rendered, in order to proceed properly with the work.

69,025.—FURNACE FOR SMELTING ORES OF SILVER.—A. H. Richardson, Denver, Colorado:

I claim a smelting furnace having the blast supplied upon the ores in a furnace-box provided with an apron, in manner as above set forth, and furnished with three apertures at different levels, in manner and for the purposes substantially as above set forth and described.

## RECENT INVENTIONS.

A WRITING MACHINE.—A desideratum long sought for in the shape of a practical writing machine, it is said, has been invented by a Mr. Pratt, of Alabama. It is called a type writing machine, and has been exhibited before the London Society of Arts. It is said to print a man's thoughts twice as fast as he can write them with the present process. By a sort of piano arrangement the letters are brought in contact with carbonized paper, which is moved by the same manipulation. The machine is compact and simple, and can be made for \$15, with a handsome profit. Its feasibility is manifest. Legal copying and the writing and delivery of sermons and lectures, not to speak of letters and editorials, will undergo a revolution as remarkable as that effected in books by the invention of printing, and the weary process of learning penmanship in schools will be reduced to the requirement of the art of writing one's own signature and playing on the literary piano above described, or rather on its improved successors.

IMPROVEMENT TO THE DRILLING MACHINE. From the constant efforts which are being made in various parts of the world to drain and perfect a practical power drilling machine, little doubt need be entertained but that the desired achievement will be ultimately attained. The machine in use at the Mount Cenis tunnel, seems, indeed, to be

already a success; but either from its complexity and the skill required in operating and keeping it in order, or for some other reason, it does not yet seem to have been made applicable in small or individual operations—the place in which, after all, the machine drill is most needed.

One great difficulty which has been felt by most inventors of these machines, has been in making them self-adjusting, as regards the feed—and at the same time sufficiently strong. Professor Wood, of the University of Michigan, with his associate, Prof. Robinson, have, it is claimed, invented an arrangement which entirely overcomes the difficulty. If this be the case, a great point will have been gained; for the question of abandoning all attempts to perfect machines for this purpose, and resorting to hand drilling only, has been seriously discussed, in reference to the Hoosac Tunnel. The defect to which we have alluded, was the cause of such frequent breakage of drills, as to make it a very expensive matter to keep up the supply.

A DOUBLE-EYED NEEDLE.—Mr. Matteson, of the firm of Matteson & Williamson, of Stockton, have invented a double-eyed needle, for use on sewing machines. It is said to be quite simple and effective.

A NEEDLE MACHINE.—Dr. Crosby, of New Haven, the inventor of the machine for making pins, has perfected another machine which turns out a perfect needle without touch of human hand, except in the tempering of the wire. The American Fish Hook Company of that city, of which he is President, uses an invention of his which drops a hundred perfect fish hooks each minute into a pail at one end from a coil of wire at the other. Dr. Crosby is evidently an ingenious man.

NEW GUN LOCK.—We were shown yesterday, says the *Tulare Times* of Oct 5th, a gun-lock, that will prevent in future the many accidents happening by the premature discharge of fire-arms. The lock is set upon a plate as other gun-locks; it has no tumbler or dog, but has a safety key which prevents the hammer from falling upon the cap until the marksman is ready to fire. It is the simplest and safest thing of the kind ever offered to the public. The inventors are John Crabtree and J. Belden, of Tule River. They have taken steps to secure a patent, and we cannot doubt will be amply rewarded for their skill.

A NEW TEXTILE.—By a late patent, a species of nettle, which grows luxuriantly and spontaneously throughout the Mississippi valley, is employed in the manufacture of cord, rope, cloth, bagging and paper. The stalks, which grow from four to eight feet high, are gathered in the winter, and are ready for the break without any rotting process. The fiber is said to be exceedingly fine, strong and susceptible of high finish by dressing.

THE NEXT WORLD'S FAIR.—Although Vienna has been quite prominently spoken of as the locality for the next World's Fair, there seems to be a very strong disposition, on the part of the French and English, that New York should be selected. It is thought that the experience furnished by the Paris Exposition will be better utilized towards making a grand success, in New York than in Vienna. It seems to be conceded that no people grasp at an idea so quickly, or work it out with such practical vigor, as the Americans do. The most casual hint thrown out by a journal is often sufficient, in their hands, to give birth and material to a mighty design.

THE STATUS OF EUROPE.—Prussia and Austria, having settled their big fight, are acting like loving sisters; Russia seems to be getting into a bad fix with all the Great Powers, except the United States, which manifests an evident inclination to stand by her; Italy is in no decent order at all; France is looking quite perplexed; England ditto; and terribly nervous about Fenianism; Spain cannot look up at all, and never will; Turkey is very much ditto, and greatly in want of a main-spring; Sweden and Norway are looking decidedly healthy and contented, and give most encouraging signs of progress.

The last New York Legislature has passed a law requiring all railroad employes to wear a uniform—coat and pants of dark blue, a cap of light blue, with two bands of gold lace. Brakemen wear the cap only. Station-men are not uniformed.

NEW LAST FACTORY.—Mr. Levi Shepherd has just started a last factory at No. 10 Stevenson street, near First, in this city. He is now turning out 150 lasts per day, with the aid of four men. The California laurel is the wood which is being used at present, although it is the intention of the proprietor to experiment with several other kinds of woods, with the view of testing their qualities and value for lasts. The machinery used is of the most improved construction. The factory starts with excellent promise of a fine business. Several orders have already been received from Oregon and Nevada, and a large number from this city. This is the second last factory which has been started on this coast. We understand that the Oakland factory has been removed to this city, which seems to be the headquarters of all kinds of manufacturing business.

CALIFORNIA SEEDS FOR RUSSIA.—It appears that the Russian Minister at Paris was very anxious to purchase the fine lot of California seeds placed on exhibition by Mr. Perkins, of Oakland; but Mr. P. had already presented them to the French Government. Learning the desire of the Minister, Mr. P. has put up another collection, which he has presented to the Russian Government through its Consul, Mr. Wilkinson, at this port, and the Russian Minister at Washington. The seeds went forward by the last steamer. If they produce as large vegetables in Russia as they do in this State, they will give parties who see them there a good idea of the great productiveness of the soil and climate of California; but the difference in climate must prevent such a result to its fullest extent, although the product will, quite likely, be superior to that from the long used native seed.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

DISPATCH PRINTING AND PUBLISHING Co. San Francisco. Oct. 11th. Capital stock, \$7,000; seven shares, \$1,000 each. Trustees: James J. Ayres, Henry M. Biden, William Saunders, William H. Tobey, M. J. Edgar, John McFetrich and Peter Daley.

PERALTA HOMESTEAD ASSOCIATION.—Oakland. Oct. 15th. Capital stock, \$50,400; 350 shares, \$144 each. Trustees: George Barstow, Charles Main, R. H. Winchester, G. W. Dam, W. H. Howland, A. J. Gladwin and John M. Todd.

PACIFIC WOOLEN MILLS.—San Francisco. Oct. 17th. Capital stock, \$40,000; 1,000 shares, \$400 each. Trustees: James Roberts, Geo. F. Bragg and Donald McLennan.

JUDGMENT AGAINST A MINING COMPANY. In the Fifteenth District Court, on Thursday, in the case of G. D. Roberts vs. The Mammoth Gold Mining Company, judgment was ordered in favor of the plaintiff on defendant's default, for the sum of \$19,326 38, with interest and cost.

"WHAT Some of our Miners are Doing," will appear next week.

Mineral Land Law Blanks  
FOR SALE.

We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866:

- I. Applicants' Declaratory Statement.
  - II. Diagram, Description of Diagram and Boundaries, and Notice.
  - III. Register's Order for Publication—with Notice.
  - IV. Deposition that Notice has been Posted.
  - V. Application for Survey Etc.
- PRICES.—Single blanks, 10 cents; 75 cts per dozen; \$4 per hundred—postage paid.
- Pamphlet containing the Law and the Instructions of the General Land Commissioner, post paid, 25 cts. Address DEWEY & CO., Mining and Scientific Press, San Francisco.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

Changing the Address.—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. ... at ... P. O. ... County, ... State, to Mr. ... at ... P. O. ... County, ... State. .... 186-"

## Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!

## REASONS WHY.

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, be in no nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium at State Fair

## Opinions of the Press and others in regard to Bussey's Combination Lock.

The Bank of British Columbia ordered the first one of these locks introduced in this city, and the following recommendation has been received by the inventor:

BANK OF BRITISH COLUMBIA,  
San Francisco, May 24, 1868.

Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor and in every way meet our fullest approval.

They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We deem the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable.

As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it.

WM. H. TILLINGHAST, Sub-Manager.

We do hereby certify, that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and impossible to be picked. We have applied several to Vaults and Safes, to entire satisfaction to parties interested.

KITTREDGE & LEAVITT,  
Pioneer Iron Works, cor. Fremont and Market sts.

SAN FRANCISCO, May 6, 1867.

I do hereby certify, that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safe and Vaults in every other respect as good as any other improved combination lock which I am acquainted with.

JOHN R. SIMS,  
Vault Manufacturer, Oregon street.

JACKSON, April 27, 1867.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons:

1st.—Because it is impossible for either burglar or expert to pick it.

2d.—The lock being constructed without a key-hole, it cannot be blown to pieces by powder.

3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making.

R. COSNER.

Attested by J. C. SHEPMAN, County Clerk.

JACKSON, April 27, 1867.

The undersigned, Treasurer of Amador County, do hereby certify, that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any bystander gaining a knowledge of the set of the combination when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it.

OTTO WALTHER.

Attested by J. C. SHEPMAN, County Clerk.

CALIFORNIA LOCK AHEAD.—A special premium was awarded Mr. W. C. Bussey, for his superior Combination Powder and Burglar-Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been confirmed since by its practical use. We feel an interest in this California invention, and wish to see it specifically meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.—(Mining and Scientific Press, Sept. 29, 1868.)

They are the only SAFE lock ever invented. Every State and County treasury vault, and every bank and business place should have one.—(Amador Ledger.)

This is a lock in which a series of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts, whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which he was awarded a special premium at the State Fair.—(Sacramento Union.)

We, the undersigned, practical Locksmiths, unhesitatingly pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed.

F. MARKE & C. FLEISHEL,  
No. 18 Post street.

## REFERENCES:

R. COSNER, Sheriff.  
O. WALTHER Treasurer.  
W. JENNINGS  
O. H. INGALLS, } Supervisor.  
L. McLAINE, }

Any good locksmith can put this lock on safe doors. Boxed or single old locks removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—(See page 30 in Pacific Coast Directory.)

A deaf or blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination.

10v14my11&13.lam



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, }
October 19, 1867.

Money Market.

The money market continues to be abundantly supplied with capital, and business requirements are freely met at rates long current—1 1/4 per cent. per month, prime first-class paper being mostly negotiated at the inside figure. Upon mortgage, re-payable in instalments, loans continue to be made at 10 per cent. per annum. The amount of available capital in the various savings societies continues large; however, the demand upon these and the other numerous sources of supply, especially for the purchase of real estate and improvements thereon, continues unabated. Trade generally is quite active, and altogether we note a very favorable degree of prosperity in most branches of business.

The receipts of Treasure through Wells, Fargo & Co.'s Express from the interior and coastwise since the 1st inst., have been as follows: Northern mines, \$1,890,824; Southern mines, \$179,534, and coastwise, \$136,000—showing an aggregate of \$2,206,358. The demand for Bullion is very fair, Gold Bars ranging from 890 to 900—most sales being effected at the outside rate. Silver Bars are in ordinary supply, selling from 4 1/2 per cent. discount to 1/2 per cent. premium, choice lots commanding 3/4 per cent. premium.

Exchange ruled as follows at the close of business yesterday: Currency Bills on the Atlantic cities, advanced to 40 per cent. premium on Gold; Sight Drafts, payable in coin, 2 per cent. premium; Telegraphic Transfers, 2 1/2 per cent. premium; Sterling Exchange, for best bankers' bills, 4 1/2; Commercial do, 4 1/4 @ 4 3/4; 5 fra for 30-day bills on Paris.

Telegraphic advices from New York of the 17th, quote Gold 144 1/2; at 3 P. M., an advance of 1 1/2 over the price at which it opened in the morning. Sterling, 109 @ 109 3/4. Five-twenties sold at 111 1/2, and 7-30s at 104 1/2.

A considerable amount of Legal Tenders was sold during the past week in the Board, mostly at buyers' option, ranging from thirty to ninety days, at 70 1/2 @ 71 cents.

The duties paid at the Custom House in this city since Oct. 9th, and previously this year, have been as follows:

Table with 2 columns: Date and Amount. Rows include October 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th, 18th, 19th, and totals for October to date and previously this year.

The shipments of Treasure from October 1st to date have been as follows:

Table with 2 columns: Date and Amount. Rows include October 7-Per California to Victoria, October 10-Per Montana to New York, October 14-Per China to Hongkong and Japan, October 14-Per Idaho to Honolulu, and totals for October 1st, previously this year, and since January 1st.

City Stocks.

We have to report continued apathy in this class of stocks, holders, for the most part, showing no disposition to enter the market. Insurance stocks are apparently in better favor than for some time past, though the public offerings are very light. Since our last reference the California and National companies have concluded to disburse their usual quarterly dividends, the former paying 6 per cent, and the latter 3 per cent. The Fireman's Fund and Union have placed their earnings to the surplus fund, deeming it proper not to declare a dividend at this time. The Spring Valley Water Company paid its usual dividend of 1/2 per cent. per month on the 10th inst. This stock sold at \$69 @ 68 50 during the past week. The California Steam Navigation Company paid a dividend of 1 1/2 per cent. per month on its capital stock on the 15th inst. This company has not disbursed any dividend since January last, when it paid 2 per cent. Sold at 74 @ 73 1/2 per cent. within a few days, closing at 73 1/2. North Beach and Mission Railroad is in better favor, selling a few days ago at \$53 per share. All the city railroads, owing to repairs and other heavy expenses, have passed their usual dividends for the present month. At the close we note sale of twenty-five shares Sutter St. Railroad Co. at \$20 per share, and San Francisco Gas at \$68.

Mining Share Market.

During the past week the shares dealt in at the Board exhibit considerable improvement, though the market may be stated to have been comparatively quiet. Since the market has acquired more steadiness under decreased speculative operations and other influences, a better feeling seems to prevail, the general opinion being that stocks have about "touched bottom." It is somewhat singular as well as unfortunate that all the companies on the Comstock Lode are simultaneously required to carry their operations to greater depths, in order to obtain pay ore, which fact greatly accelerated the recent depression, and is now in some instances requiring assessments where dividends were looked for. Crown Point—sold rather freely during the period under review, opening at \$690, advancing to \$775, receding to \$700, and closing yesterday at \$796. The drift from the 700-foot station toward the ledge progresses slowly, on account of the presence of a large body of water; distance made, 89 feet. At present the 500-foot level is producing considerable ore of a good quality. The product of the whole mine averages nearly sixty tons per day, and it is believed that the average yield for the current month will be about \$40 to the ton. The haulion returns from the 1st to the 14th inst. foot up \$17,000. An

assessment of \$25 per share, or \$100 per foot, was levied on this stock on the 12th inst.

HALE AND NORCROSS—is in better favor, advancing from \$550 to \$750, receding to \$650, and closing at \$700. We are informed that the ore on the 175-foot level is fifteen feet wide, and will mill from \$20 to \$35 per ton on the 300-foot level the ore is six feet wide, valued at \$20 @ 25 per ton. The opinion prevails that the ore found on the 175-foot level is a different strata from that obtained on the 300-foot level, and it is thought will improve in quality so soon as operations will be carried under it. It is ninety feet further north where they have penetrated the vein on the 800-foot level than the point at which work is now prosecuted on the 175-foot level.

CHOLLAR-POTOSI—has been actively dealt in at a decline, receding from \$216 to \$185, improving to \$192 50, then selling at \$184, and closing at \$190. We have no material change to note in this mine within the past week. During the week ending October 11th the new Santa Fe station produced 320 tons of ore, the old Santa Fe 400 tons, and the Potosi shaft, north and east, yielded about 40 tons per day. The amount sent to the custom mills during the same period was 1,439 tons. The drift running to the south and east from the third station passed over the extreme end of the southern drift of the old Chollar lowest level, and the ore found there is said to assay \$30 to the ton.

SAVAGE—has been less active than for some time past, opening at \$124 @ 123, declining to \$117, rallying to \$119, receding to \$115, and at the close selling at \$115 50. During the week ending October 12th, 1,873 tons of ore were extracted, showing an approximate assay value of \$72,170, or an average of \$38 55 to the ton. The north mine, on the seventh station, produced 829 tons of the above amount, and the north and south mines, on the third level, 885 tons. The Potosi chimney continues to look well, and is now said to have a fine body of ore. Both north and south on the third level the main breasts show some improvement over the previous week. It is thought that a good body of ore will be found in the north Potosi chimney, to which point they are now carrying a drift. The north winze from the third station, it is said, again shows good ore. The fifth station, which is now being opened, is 750 feet from the top of the shaft, and 920 feet below the surface of the old shaft.

KENTUCK—under considerable sales, advanced from \$245 to \$260, fell to \$234, and closed at \$236. We have nothing of especial interest from this mine. The receipts of haulion at the office in this city from the 1st to the 14th inst., amounted to about \$25,000.

YELLOW JACKET—sold within a range of \$360 @ 405, and at the close realized \$430, seller 5. An assessment of \$100 per share was levied on the 12th inst.

OVERMAN—improved from \$35 to \$42, then sold at \$39, and closed at \$50. They are taking out about 100 tons of low grade ore per day, which pays but a small profit over expenses. It is believed that better ore will soon be obtained. On the 16th inst. nearly \$3,000 in bullion was forwarded from the mine.

GOULD & CURRY—opened at \$310, receded to \$285, advanced to \$295, and at the close \$285 was bid. All the ore this mine at present produces is taken from the chambers between the D street level and the Long Tunnel, and a larger amount is obtained than was anticipated. IMPERIAL—steadily rose from \$114 to \$139, declined to \$122, then sold at \$137 50, and closed at \$133. The haulion product from the 1st to the 11th inst. amounted to \$13,863, a trifle less than during the same time in September. The mine is said to look more promising.

OPHIR—was in the market to a limited extent at \$40 @ \$34, closing yesterday at \$38. The hoisting works are nearly completed. The Superintendent advises that they will be started up on Monday, the 21st, and that they will be of ample capacity to keep the shaft clear of water. Sinking will be resumed at once. The foundation for the pumping machinery is being put down, and haulings over the shaft are going up. Some ten tons a day of about \$30 ore are being taken out by contract from the old upper levels. The contractors expect to increase the quantity when they have completed a tunnel to connect with the Union Tunnel.

GOLD HILL QUARTZ—meets with little inquiry; at the close we quote it at \$95 bid and \$100 asked. The mine shows no change and the supply of ore continues good. During the week ending Oct. 14th the ore averaged \$30 60 to the ton—an improvement over the previous week of more than \$5. The receipts of haulion to date amount to about \$5,100.

CONFIDENCE—a few feet sold at \$35. We have nothing of importance from this mine. The third annual meeting of the stockholders of this company will be held on Friday, the 8th of November next.

ALPHA—sold at \$550 @ 520. EMPIRE MILL realized \$130 @ 155. BELCHER was in limited request at \$90 @ 95. Assessment of \$15 delinquent on 21st inst. BULLION sold at \$16 @ 19, and at the close \$18 is bid. SIERRA NEVADA sold at \$11 @ 11 50, assessment of \$10 delinquent. JUSTICE and INDEPENDENT at \$2 50 @ 2 75. An assessment of \$10 per share will be delinquent on the 23d inst. EXCHEQUER sold at \$8 per share; and SEGREGATED BELCHER at \$4 50 @ 5. DANNEY was in the market, at the close, at \$10 @ 8.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last amounted to \$7,000. The sales in the open sessions, from the 1st to the 17th inst., inclusive, amounted to \$1,505,600, showing a combined aggregate to date during the current month of \$5,067,186.

MEUSSDORFFER, San Francisco Market Rates. No. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867, An Entirely New Style of Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dressy Hat ever introduced on the Pacific Coast. 8v14

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, and DAY OF ASSESSMENT. Lists various mining companies like Ancient River, Belcher, Belcher, Baldwin, Abner, etc., with their respective details.

Latest Stock Prices Bid and Asked.

Table with columns: MISCELLANEOUS STOCKS, RAILROADS, BANKING INSTITUTIONS, INSURANCE COMPANIES, and MINING STOCKS—WASHOE DISTRICT. Lists various stocks and their bid/ask prices.

Table listing various goods and their prices, including Coffee, Costa Rica, Do. Rio, Tea, Japan, Do. Ceylon, Hawaiian Rice, China Rice, Canned Goods, etc.

Table titled 'Retail Prices' listing items like Butter, California, fresh, do. pickled, do. Oregon, do. New York, Cheese, Honey, Eggs, etc., with their prices.

San Francisco Metal Market.

Table titled 'PRICES FOR INVOICES' listing various metals and goods like Tin Plates, Copper, Sheet, etc., with their prices.

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

THE GOLDEN ERA. Rates of Subscription. (Invariably in advance.) One year, \$5.00; Six months, \$3.00; Three months, \$2.00. TERMS TO CLUBS: Three copies one year, \$12.00; Five copies one year, \$18.00; Ten copies one year, \$35.00. An extra copy free for one year to the person sending a club of ten subscribers. Send money to our office in registered letter, or by Express, Address, BROOKS & CAPP, San Francisco. Boiler Makers Wanted. WANTED—GOOD BOILER MAKERS, (THAT ARE NOT W. Society men) to whom steady employment will be given. Apply to COPPEY & RISDON, Boiler Works, Bush and Market streets. 13v16-w American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Calaveras County.

*Chronicle*, Oct. 12th: The Mokelumne Hill and Campo Seco Canal and Mining Co. who have been engaged for a number of months past in extending their ditch to Cat Camp, have nearly completed the work. The section of country around Cat Camp which has been prospected sufficiently to warrant the Water Co. in making the large outlay which the extension of their ditch necessarily involved, is extensive, and will afford a profitable field for mining enterprises for years. A large number of claims have already been located; in fact, nearly that whole section of country is now taken up. When the water arrives, work will be immediately commenced, and a large body of idle men transformed into producers. The activity and enterprise exhibited by the water company, and the promptness with which they afford every facility in their power for the development of the mineral resources of the county, are deserving of the highest praise and commendation. Had they not have taken hold of the matter, and but for their abiding faith in the extent and durability of our mines, the rich placers of Cat Camp would never have been compelled to yield up their golden treasures. Calaveras now offers superior inducements to those wishing to engage in mining pursuits, either as laborers or capitalists. Although the placers are exhausted in many localities, hydraulic mining is yet in its infancy. The entire county is covered with a net work of ditches and flumes, from which water can be obtained at reasonable rates. Water is furnished those who wish to prospect, in this vicinity, gratis. Untold wealth lies hidden between the walls of numberless quartz ledges which only require the aid of capital to become inexhaustible treasures—national banks upon whose bills there is no discount. Capital is the key which can unlock the doors of these vaults, and but few years will elapse before it is brought into requisition.

A quartz lead was discovered by some Mexicans a short time since, near the Junction, which bids fair to prove one of the richest in this vicinity. A shaft has been sunk upon it to the depth of 25 or 30 ft. and a lode three ft. in width, all of which prospects handsomely, disclosed. Parties who have the means to develop it thoroughly are trying to purchase it, and if successful, we have no doubt but they will become the possessors of one of the most valuable ledges in the county. Its discovery has created quite a furor among quartz miners in this vicinity.

Messrs. Sheldon & Cole, the gentlemen who leased the celebrated Old Shields quartz lead, at Rich Gulch, are progressing rapidly with its development. Hands are at work night and day, sinking the shaft. The rock taken out is hauled to the French mill and crushed; it pays handsomely. The lead is a very wide one, and promises to prove valuable.

## Kern County.

*Havilah Courier*, Oct. 12th: The new El Dorado Dist. in the southern portion of this county, is proving to be one of the richest in gold quartz ledges of any of the mining districts heretofore discovered in Southern California. Upon a late examination, we were shown rock from a dozen different ledges in the district—upon which the different proprietors are now busily at work developing—which were exceedingly rich, literally flocked all over and spangled with gold.

The St. John Mining Co's mill is running 12 stamps day and night. It has been steadily at work since its completion. The St. John mine is now fairly opened and prospected; the ledge is what is termed flat—having a dip of not exceeding 15° from level, making it very easy for working purposes, and as yet requiring no hoisting machinery to raise the ore from the shafts, it being wheeled or run out on cars. There are several shafts run in upon the ledge. These shafts are from 50 to over 100 ft. into the ledge; a level is then run from the extreme shaft along the ledge for a distance of between 200 and 300 ft. The vein of quartz thus exposed is quite regular, and averages 20 or 21 in. in thickness. There is now in sight from 4,000 to 6,000 tons of quartz. The first crushing of 100 tons at the mill yielded \$40 per ton. On Sunday last, Supt. Taylor opened one of the batteries, after running six days to give us a peep therein; the sight was pleasant to behold—half a peck or less of amalgam met our covetous vision. It is confidently believed this run of the St. John rock will pay at the rate of \$50 per ton.

There are many other mines in this district which are confidently believed to be equal to the St. John; indeed it is claimed by experienced miners that there are several mines in the district that have a greater body and richer ore. Before the 1st of January we may expect several more mills in operation in the new El Dorado Dist.

The Delphi mine continues to pay as of old. Mr. McKeadey crushed 20 tons last week which paid some \$40 per ton—the ore being mixed with considerable refuse stuff and granite. Mr. McKeadey states that he has but some 15 to 20 ft. further to strike the Delphi at a depth sufficient to furnish rock for his mill for a year to come.

## Mariposa County.

*Mail*, Oct. 12th: Mr. Mark Brummagin, President of the Mariposa Co., in a statement recently made of the condition of the company's property, states that since the property has come under the present management, the Bear Valley mill has been changed into the Eureka process for saving gold. With this mill the company have recently worked some 800 tons of quartz from the Josephine mine. The lowest yield at any clean up was \$31 per ton; the highest was \$173 per ton; giving an average of \$40.53 per ton. In the greater portion of this quartz, not a particle of gold could be discerned before crushing.

The same paper says that steps have been taken to reorganize the Mariposa and Merced South Fork Canal Co. upon a permanent and practical footing for the purpose of supplying water to extensive and rich placer mining districts, hitherto unproductive for the want of water.

The Mariposa mill and mine will at an early day be placed upon a basis for profitable operations.

A Chinaman, while scraping about in a vacant lot in the neighborhood of Chinatown, on Monday last, picked up a piece of gold which proved to be worth \$507. There was great rejoicing in the camp of that celestial.

## Nevada County.

*Gazette*, Oct. 11th: The machinery of the new hoisting works on the Dromedary mine works admirably. The work of pumping out the old shaft has progressed without interruption, and the water has been lowered to the depth of 150 ft. The shaft is 275 ft. deep, and before many days will be entirely relieved of water. It is the design of the company to commence taking out ore from the second and lower levels as soon as they are accessible.

A lot of 150 tons of rock from the Harvey ledge, near Wood's Ravine, was cleaned up yesterday at the Nevada mill, and yielded \$20 per ton.

Oct. 14th: J. A. Pierce, one of the lessees of the mill and mine of the Star Co., in Washington township, states that they have put the mill in running order, and for some days have been engaged in crushing. They started a tunnel on the ledge, and have run it about 40 ft., and are now taking out about 15 tons a day, which is sufficient to keep the mill running. The rock is paying \$18 per ton.

Mr. E. S. Hugill, the discoverer of the Birchville ledge, near Eureka, has sold out his interest in the mill and mine, to the other members of the company, for \$4000. His interest was one-tenth.

Oct. 15th: In Washington district there are seven or eight companies at work in gravel claims—all doing well.

Messrs. Harroun, Randolph, Goodrich & Wilkinson, on Rocky Bar, have one of the richest gravel claims in the county, and will realize a fortune this fall.

Mr. J. D. White, our Assemblyman elect, owns the adjoining claims, and another year will realize a handsome fortune.

Mr. Woolsey, at the Tecumseh mill, Fidelity mine, is taking out a large amount of ore, which gives good returns.

Mr. Arrington is working several ledges, which, from several crushings at the Tecumseh mill, gave highly satisfactory results, paying from \$30 to \$50 per ton. This is the result obtained from undeveloped mines, giving evidence of the richness of ledges in this section.

The Mary Etta, recently purchased of Spring & Co. by a San Francisco company, is being thoroughly developed, the company expending a large amount of money. They have a large quantity of ore in sight, showing free gold and rich sulphurets.

The Star mine, leased by Pearce & Jones, is now being worked in a thorough and judicious manner, which will undoubtedly give good results.

An old mine and mill, worked years ago, situated below the Star on Cañon Creek, is now being resurrected by a party of Cornishmen, who are sanguine of making it pay.

Lower down on the creek is the New Discovery, having a fine ledge five feet in width and containing rich ore. The parties have

refused \$10,000 for it. Still lower down, near the mouth of the creek, the Lindsey Bros. have a fine ledge, containing a great amount of free gold and very rich sulphurets.

The construction of the mill of the Norridgewock Co. is now well under way, the foundations having been excavated, the frame put up, and most of the machinery and timbers for the battery being on the ground. The mill is to have ten stamps, and will be run by a powerful steam engine, which will also be used for running the pump. The work of running levels and drifts in the mine is still continued, and by the time the mill is ready for crushing it is calculated that the mine will be in a condition to keep the 10 stamps employed. The incline shaft is down 300 ft., from whence levels have been run north and south along the ledge. We are informed by the superintendent that they have a five-foot ledge in the north level, the rock being of good quality. The quartz resembles very much that in the Wigham mine, and the ledge is in the same range.

Grass Valley Union, Oct. 13th: At Eureka there are three steam quartz mills running. The Commercial is a 10-stamp mill, having two of Heudy's Concentrators. The Birchville is a mill of 5 stamps. Both of these companies are crushing rock from their own ledges, and doing well. Black & Young's is a mill of 10 stamps, having several of the Knox pans. This is an excellent mill, and during the season has been engaged in doing custom work. A run of 160 tons of rock from the Banberry & Young ledge has just been completed, and yielded \$20 per ton. The Sweet ledge is again being worked, and is looking well. A San Francisco company, owning a series of ledges, is engaged in extensive prospecting to open their claims, and are confident of opening valuable mines. They are running a tunnel by which they will cut several ledges, and have large bodies of ore above the drift. A new ledge has recently been discovered and located by Messrs. Black & Co., on Roscoe Hill. The ledge is large, and the locators consider it the main or mother ledge of the district.

EXCELSIOR.—Meadow Lake Sun, Oct. 5th: The editor has paid a visit to the famous Green Emigrant mine, and says the rock looks splendid. Seeing a horu near the shaft a gentleman who was with us horned out a small quantity of rock which he had partially reduced in a mortar, and from this he obtained the finest prospect we have ever seen in the country. We were shown by Mr. Connell some sulphurets from the rock which assays over \$1,000 per ton. These sulphurets are to be sent below for working.

The Enterprise Co. are now busily engaged sinking the main shaft on their mine, and are making some fine developments. The ore looks better than at any other time since the company commenced work. A fine mill is in course of erection, and will soon be completed. The furnace for the roasting of sulphurets will soon be in working order.

The Star Co. are now at work on their mine day and night, and are showing some very fine ore. The ore is desulphurized and contains much free gold.

The Grant Co. are driving the work of developing their ledge with great vigor. Fine developments are constantly being made. The company now employ a large force, night and day, upon their mine.

The Kentucky Co. are driving their tunnel (from the flat by the lake) ahead in fine style. This tunnel will tap the ledge at the depth of 100 feet. The upper tunnel is also being pushed ahead, and a fine body of ore has been disclosed.

The Green Emigrant Co. have at last obtained a sufficient depth on their ledge to find its proper bearings. They have a depth of about 30 feet struck a well-defined ledge nearly eight feet in width. The ore is better than any heretofore taken out of the claim. The work is being pushed forward night and day, and in less than three weeks the company will have another 100 tons of ore worked.

The Excelsior Co. are engaged in running the old tunnel ahead, and good developments will be made in their quartz ere long. They intend to have some five or six tons of their ore worked at the California mill, as a test.

The Golden Run Co. are engaged in packing rock from their mine to the Mohawk and Montreal mill.

The Mohawk and Montreal Co. are pushing the work ahead on their mine with a greater vigor than formerly, and the rock is paying finely. The Mohawk is one of the best claims in the district.

Across Phoenix Lake lies the Camp Co's claim, Shooting Star ledge, one of the best defused ledges of the district.

One mile north of the last mentioned

claim lies the Eclipse, one of the richest prospecting claims yet opened. Hardly a piece of ore can be found but what shows free gold in considerable quantities. They are getting out quite a quantity of ore for crushing.

Oct. 12th: The owners of the Union mine, at Relief Hill, in this county, are about firing off a blast which will burn no less than 750 kegs of power. This will be the biggest blast ever set off in mines of this State.

## Placer County.

Auburn Stars and Stripes, Oct. 9th: Several extensions, some reaching as far towards town as O'Brien's place on Rock Creek, have been discovered, of the black lead discovered by McGonigle & Co., on Quartz Prairie. All seem rich, and McGonigle's constantly improves.

Dutch Flat Enquirer, Oct. 12th: Messrs. Kidder & Co. are opening their claims on quite an extensive scale, and will be ready to make their first run on or about the 1st of November.

Herald, Oct. 12th: The quartz in the neighborhood of Auburn seems to be still attracting considerable attention. Within the past week parties have been up from San Francisco, and have made liberal offers to invest in the Green Emigrant.

Quartz claims generally in the neighborhood of Auburn are looking up.

## Plumas County.

Quincy National, Oct. 5th: Compton & Wiles, of Round Valley, commenced operations in the old Round Valley mill, the first of last week, crushing quartz from their ledge near that place. Their first clean up, after a week's run, yielded \$8 per ton. They are preparing winter quarters for their ledge hands, and intend running the mill throughout the winter.

Batchelor & Viette, of Dixie Cañon, are crushing rock from their ledge at the head of Cherokee, and taking out an average yield of \$10 per ton.

A very rich quartz ledge has been recently discovered in Argentine Mining Dist., about a quarter of a mile above Sherman & Bros' mill. The ledge is about three ft. wide, and prospects enormously rich.

## Shasta County.

Courier, Oct. 12th: Robinson & Co. are energetically at work sinking a shaft on the Bullion ledge, at South Fork, and have struck rock which is pronounced richer in gold and silver than anything yet discovered in the district. After running a cut into the mountain side, a shaft was commenced and is now sunk 12 ft. The ledge at that depth is four ft. thick, well defined, and in many places contains native silver, spangles and threads of which are plainly visible to the naked eye.

## Sierra County.

Downieville Messenger, Oct. 12th: Anderson, of Chandlerville, has made a good thing this season. The Campbell claims, also, have paid fine dividends. The Barnes Co. have at last turned out beyond the expectations of everybody.

The El Dorado tunnel, of the Hawkeye Co., is being pushed ahead rapidly. Through their old tunnel they are working front ground that pays moderately.

In the Pittsburg claims they are taking out no pay as yet, but are driving tunnels to reach front pay, and expect to find paying dirt shortly.

The Monumental Co. has its timber and dump houses, shop and other outside fixtures complete in good shape, and in a short time will be operating on excellent "grit."

The Empiro Co's ground is being opened through the Monumental tunnel, of which they own a part. Other companies are doing well.

A company consisting of A. K. Bishop and others, of Alleghany, E. M. Purinton, Dewey & Vaughn and others, of Downieville, was organized at this place one day last week for the purpose of working a quartz ledge at Alleghany.

The castings and mill machinery for the Doelle Co. are on the ground. In the mine a tunnel is being run at a depth of about 150 ft. below the foot of the present incline to connect it for the purpose of getting ore ready for the mill. The rock in the incline continues to improve in richness, but water is coming in freely, and work will perhaps soon be suspended. A tunnel is being run on the adjoining ground, owned by Bovee & Co., and the second extension, (Johnson & Co.) is paying, as formerly, large dividends from a hand mortar battery, the rock in which no gold is visible to the eye paying at the rate of a bit per pound.

Meadow Lake Sun, Oct. 5th: The mines in and about Milton, in Sierra county, are paying very well. The claims of Holmes & Co., on the Middle Yuba, is paying very largely. Messrs. Cole & Beazely, of Meadow Lake, have a good claim near the last mentioned one. The water in the river is now



so low that there is no difficulty in working the river and bank claims.

#### Tulare County.

Visalia Delta, Oct. 9th: Almarin B. Paul, Mr. Wingard, the Broders and others at Independence, are working energetically to develop their mines, and although it seems to be a long time in coming, we all believe that the "good time" will come.

The Spanish Camp still attracts a large amount of attention, and considerable metal is being taken out, but divided amongst two or three hundred miners makes but little show. Mr. Dorr has gone to the city to prepare for more extensive operations and some tons of ore from 13 different lodes have gone to the city for practical working.

Mr. J. D. Carter, Supt. of the Philadelphia Co's mines at White river, reports the mines all looking well and the rock rich.

A. J. Malthy recently made a run of 30 tons from the Eclipse mine, which yielded \$95 per ton.

#### Yuba County.

Marysville Appeal, Oct. 10th: The Brown's Valley correspondent writes that the Big Rattlesnake Co. have extracted and had crushed at the Dannebroke Co's mill, 200 tons of rock, which yielded a little more than \$6.50 per ton.

#### ARIZONA.

Miner, Sept. 20th: Noyes & Curtis are taking some excellent ore out of the Montgomery mine. Pard Pierco is confident that the ore already mined out will pay \$200 to the ton.

#### COLORADO.

Denver News, Oct. 2d: The correspondent in Ward Dist., writes: The Columbia is the king of lodes in all the northern mining region. The Ni-Wot Co. were the first to commence its development. In their mine the rich ore in mass chanced to come near the surface. Their 50-stamps are now discovering the miner's music day and night. They produce from the bulk of unassorted ore \$3,000 per week, and from selected ore would yield \$1,000 per day. The machinery for working the mine is complete, but not the full reduction works. Mr. Davidson, the agent, proposes the immediate adoption of some process for saving the copper, and the large percentage of bullion that escapes the stamp mill.

East of the Ni-Wot, on the same vein, DeLand & Co. have developed a wide crevice, which is yielding well by the stamp mill. For their rich iron and copper pyrites, they propose introducing the desulphurization works of Reese, Krause & Bruckner, called the California process.

The same paper, speaking of the Live Oak Yankee Reduction Works, thus describes a new cylinder invented by Mr. Collins, of Central City. The cylinder in use is four feet in diameter by eight feet in length, lined with fire brick, and having a partition of fire tiles running from the back part to within 12 or 15 in. of the front opening, being so arranged that the flame passes on both sides of the partition. No iron is exposed in the interior. The wheels around the cylinder, which run on the friction wheels beneath, are cams, or rather one side oval. These wheels are placed diagonally around the cylinder, thereby making the center lino diagonally through the cylinder. This cylinder, in our judgment, possesses many advantages over any now in use here, from the effectual intermingling of the ores which naturally results from a lateral as well as a forward motion. One other advantage is the total absence of iron, or any other oxidizing substance in the interior of the cylinder.

We saw to-day 13 bars of bullion, whose combined weight was 691 24-100 ozs. They would coin on an average \$17 per oz., which would give a total value of \$11,661.08. The lot belongs to the different banks.

At the Colorado National bank, there is, (besides the two bars from the Cameron mine, and the one from Cherry Creek dust), six bars of bullion, whose weight and fineness was as follows: 15 43-100 ozs., fineness .769 $\frac{1}{2}$ ; 9 14-100 ozs., fineness .666 $\frac{1}{2}$ ; 25 31-100 ozs., fineness 885 $\frac{1}{2}$ ; 35 7-100 ozs., fineness .765; 48 57-100 ozs., fineness .767 $\frac{1}{2}$ ; 43 36-100 ozs., fineness .860. Their total value was about \$3,000 in coin. In addition to these bars was a large quantity of dust, which, with the nine bars of bullion, was valued at not less than \$18,000 in coin.

The development of leads in La Plata Dist., progresses rapidly and favorably, but will probably wind up in a week or two, so that the miners may get out before the snow storms set in.

The gulch mining in the neighborhood of Boulder is nearly ended for the season.

#### IDAHO.

World, Oct. 5th: The 25-stamp quartz mill of Classon & Co., at the Pioeuer ledge on Granite Creek, was put in operation one day during the week, for a trial of the ma-

chinery, and in every part the mill worked entirely satisfactorily. The engine and machinery runs wonderfully smooth, and exhibits strength and perfection throughout. In a few days the mill will commence operation on the ore.

At Bernsteil's there are some pieces of ore from the Archer ledge, Banner Dist., which are very rich in black sulphurets of silver, and one or two pieces show richly in gold.

#### NEVADA.

##### Humboldt.

Unionville Register, Oct. 5th: A connection between the Arizona and the Manitowoc works is now being made, which will thoroughly ventilate both mines for a long time to come. For several months past the Pioneer mill has been supplied and kept running on ore from these mines, while the process of development and opening out the mines for more extensive operations were going on. At the Arizona works there are in sight 100 tons of ore that will pay \$40 per ton; in the Manitowoc, considerably more than that amount, that will yield about \$100 per ton. As they gain depth, the ledges increase in size and the ore becomes richer.

The De Soto mine, in Star Dist., is now said to be a "big thing." The ledge in the lower level is about eight ft. in thickness almost solid ore of the finest quality of Sheba. The mine is being worked under the management of James Hendra, who has been with it since work on it was first commenced, but never saw it looking half so well at any time before.

Capt. J. S. Phillips is now superintending Mr. Torrey's furnaces. He has remodelled them and put things in shape generally. Mr. Torrey has out an immense amount of ore, and the supply is apparently inexhaustible. The furnaces were started up on Monday last. About \$20,000 worth of ore is broken up and ready for smelting.

The Oreana furnaces are now in full blast. Judging from the silver bricks piled up by the cord, from the capacity of the smelting works, and the thousands of tons of ore in sight at the mine, we have no hesitation in saying the Trinity and Sacramento Co. has one of the most valuable properties on this continent.

The Dun Glen correspondent writes that John Upham has refitted the small quartz mill owned and built by David Melarky. Upham and Melarky own the Jefferson ledge, in Gold Run Dist., and they expect to be able to crush a good quantity of rock daily from that ledge. The owners of the first south extension of the Black Hawk ledge, known as the Ward Co., in Gold Run Dist., have made arrangements to develop their mine. Everything looks very favorable, and the company expect to find plenty of pay rock from the start. They will commence work immediately.

##### Reese River.

Reveille, Oct. 7th: Three bars of bullion from the mill of the Belmont Co., arrived this morning on the stage from the east; also 3,000 ozs. of crude bullion from the mill of the Social and Steptoe Co., in Egan Cañon, arrived this morning on the stage from the east.

Oct. 8th: The operations of the Manhattan Co. are well calculated to establish confidence in this as the most valuable district in the region. For the two weeks ending the 5th inst., the 20-stamp mill of the company reduced 180 tons of ore obtained from the North Star mine, which produced 46,500 ozs. of bullion—at the rate of about 250 ozs. to the ton. As far as we are able to learn the mill has been producing largely for several months.

Last evening, seven bars of bullion, weighing some 6,000 ozs., were brought into town by Russell's stage from Cortez.

Oct. 9th: Since the opening of the Metacom mill, it has been conducted with the finest success. It is by far the most powerful 10-stamp mill in the Reese River section. The weight of each stamp exceeds 800 lbs., and drops 90 times a minute. There are six large barrels in the amalgamating room, and there are four reverberatory furnaces, but both departments are greatly behind the capacity of the battery, the power of which is wonderful. In a test of its capacity last week, it is claimed that it crushed 10 tons of ore in 12 hours. Several lots of ore from the Diana mine on Lauder Hill have just been reduced at the mill with handsome results.

Oct. 9th: We were shown yesterday by Chas. W. Harker, who just arrived from Silver Peak Dist., a number of samples of good quartz from the veins of Red Mountain, which are gold bearing. In several of the compact and firm pieces of quartz little points of gold were visible to the eye; but a yellowish decomposed article, of which there is an abundance on the surface, is said to be the richest in the world.

Yesterday afternoon the first lot of bullion produced by the mill of the Old Dominion Co. at Hot Creek was brought into the city. It amounted to 6,000 ozs., and was obtained chiefly from ore of the Old Dominion mine belonging to the company. The mill was put in motion before the buildings were covered, and the work was retarded greatly by the occurrence of heavy rains, otherwise the production of bullion would have been greater. The mill works satisfactorily, and its various departments are under the charge of experienced men. From present appearances there is likely to be more than sufficient custom ore to supply the mill, and already the owners of mines in Hot Creek and the adjoining districts are urging the addition of 10 stamps. The Old Dominion mine is improving daily in appearance and in the quality of its ore, although it is scarcely opened below the surface, and it is believed that it could fairly supply ten stamps.

Oct. 11th: Ten tons of ore from the Buckeye mine has been packed to the mill of the Twin River Co. in Ophir Cañon, for the purpose of being tested. A further test will be made at the mine, where a small smelting furnace is nearly completed. It will hold several hundred pounds of ore—quite sufficient to determine whether or not it can be reduced in that way with economy.

Yesterday a pack train arrived at the Metacom mill with two tons of ore from the Eclipse ledge in Summit Cañon in the North Twin River Dist. The ore was sent in for reduction by the superintendent, because it was believed to be worth the experiment.

The ore from the Diana mine on Lauder Hill has improved greatly. Thirty-two and a half tons have just been reduced at the Metacom mill, the assay of the pulp of which was at the rate of \$271 per ton.

Matters are progressing very quietly but encouragingly in the Mammoth Dist., as we are informed by G. W. Emerson, who returned from there a few days ago. Captain Knapp was steadily developing the property of the Mt. Vernon Co., through shaft and tunnel. The tunnel, which was projected to cut upwards of 20 veins in the length of 1,000 ft., has been pushed in the hill 700 ft., in the course of which several veins have been cut. A good working shaft has been sunk to the depth of 150 ft., intersecting the tunnel at the depth of 65 ft. One ledge of the width of 23 ft. has been cut through in both shaft and tunnel. It produces a good quality of ore, samples of which were shown to us in the assay office of David Lundbom. Some of the pieces showed a good tint of ruby. Mr. Emerson examined the ledge where it was developed in the tunnel, and observed mineral in the mass, but several strata of fair width would produce ore, he thought, that would yield \$100 silver per ton. What is still better, in his judgment, the entire vein would produce ore within the present milling range. The grade of ore developed in the lower drift of the shaft had greatly improved, and Mr. Emerson was favorably impressed with the systematic management, no less than with the property of the Mt. Vernon Co. Another company, of which a Mr. Ferguson is superintendent, was preparing to resume work. One of the ledges owned by the company is well known as the American Flag, and has been opened 150 ft. by incline, along various points of which it shows a good class of ore.

##### Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, Oct. 12th: A subscription has been raised in Dayton towards having 100 tons of selected ore hauled from Como to Dayton, for reduction at Birdsall & Carpenter's mill.

Wells, Fargo & Co. shipped during the past week from their offices in Gold Hill and this city, 6,037 lbs. of assayed bullion, valued at \$157,597.76.

Oct. 13th: The south shaft of the Yellow Jacket mine is now sunk to the depth of 630 ft., and it will be prosecuted with great energy 100 ft. deeper. The last hundred ft. was sunk in 27 days.

#### OREGON.

Jacksonville Sentinel, Sept. 28th: Mr. Devins has discovered a large bed of superior chalk, on Lost river, about 100 miles from this place.

Yreka Union, Oct. 5th: Quartz has been taken from a ledge on Grave Creek, Jackson county, Oregon, which yields about \$20 to the ton. If further tests will warrant it, a mill will be erected on it.

NEW HAMPSHIRE GOLD MINING.—The quartz mill which has recently been put in operation at Lebanon, N. H., cleaned up for the first week in September \$300 from ninety-six hours run, from thirty tons of ore. A pretty satisfactory result.

(Written for the Mining and Scientific Press.)

#### Letter from Kearsarge.

EDITORS PRESS: As I have not yet made my visit to Lone Pine, I will give you a few particulars from this section. The Kearsarge mill has just cleaned up over \$5,000 from 43 tons of ore, being fully 80 per cent. of the assay of the pulp made in Virginia. The ore was worked raw, in Wheeler pans, after having been put through a preparatory course of treatment by Mr. Low, the superintendent. Ore assaying \$300 per ton has been struck in the lowest works of this company's mine.

A small quantity of ore is daily packed from the mines of the Silver Sprout Company to their mill; of its quality I know nothing. The poor results formerly obtained from the Silver Sprout ores of good quality, appear to have been at least in great measure due to the system of working them then pursued, which was to grind the ore in Wheeler pans, with steam to heat the pulp, and to afterward amalgamate in Wakelee pans, the object being to avoid injury to the mercury by the severe grinding action of the Wheeler pans. The plan did no answer; on the contrary, better results can be got with Wakelee pans alone than with this combination.

As the explanation of this may be useful to some, I will give it. The silver in the ore is in a mineralized state, that is, chloride, carbonate, sulphide, etc. In order to amalgamate, it must be set free by chemical action, which is done directly or indirectly, by the iron of the pan. If the ore is put at once into Wakelee pans, with mercury, the chemical action by which the mineralized silver is brought to the metallic state, takes place in immediate contact with mercury, which takes up the released silver; for, as the sides and other parts of pans where there is no friction, are always covered with rust, or other impurities, this action is almost wholly confined to the bottom, where the mercury, in a Wakelee pan, mainly rests. But when the ore is first ground in a Wheeler pan without mercury and with heat, the reduction of the silver takes place therein, and it passes to the Wakelee pan in a metallic state, but almost infinitely divided and mixed throughout the mass of pulp, in which condition the Wakelee pan is not a sufficient good mixer to catch it. It is worse than the finest flour gold. Perhaps barrels might do better to follow grinding pans in which no mercury is used.

The amalgamation in the Silver Sprout mill is now done in the Wheeler pans, the others being used only as separators. The superintendent tells me he is getting good results. I myself purchased one ton of the Silver Sprout ore of the same quality, which worked in the manner described, yielded only \$50 or \$60 per ton. I had it conveyed to Mr. Wood's arastra and ground, and afterwards amalgamated it in a very imperfect barrel apparatus, by a process of treatment which I have found to be excellently adapted to these ores, and obtained \$128 in silver, and \$10 in gold. By this process I can get the bullion .900 fine, or even finer; but it cannot be done so well in iron pans. At some future time, I will give you the details; with these ores 80 per cent. can be obtained. It is also adapted to the milling ores of Lone Pine, of which I expect to tell you something soon. CHAS. H. AARON.

Kearsarge, Sept. 25, 1867.

A GOLDEN WEDDING.—The fiftieth anniversary of the marriage day of Lowell Mason—so well known in musical circles—was celebrated on the 3d ult., at Orange, New Jersey. Both of the bridesmaids who officiated on the original occasion, Sept. 3d, 1817, and one of the groomsmen, were present; making five out of six of the bridal party of half a century ago, who were met to celebrate that event, and to exchange recollections of the many friends who in the course of these years have passed away.

THE Government of Prussia is conducting itself in a most flatteringly friendly manner toward the United States at the present time. Especial honors have been paid to our Minister, Mr. Bancroft, and to Admiral Farragut. Recent events have not set us down much in the estimation of our big brothers on the other side of the Atlantic.

COMMODORE VANDERBILT has hailed and paid for one hundred steamships.



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

O. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 16, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

San Francisco:

Saturday Morning, Oct. 19, 1867.

## Notices to Correspondents.

PONTIAC—IRON BRIDGES.—In our last week's notice on this subject, an error of a century occurred—1855 ought to have been 1755. Franklin was the party who first induced Paine to visit America, who, after taking a prominent part in the controversy and eventual contest with the mother country, settled in Philadelphia, in 1787, when it was proposed to construct a bridge over the Schuylkill without river piers, as the stream occasionally, in the spring freshets, was apt to become choked with ice. Paine holdy offered to meet the difficulty by building an iron bridge with a single arch of 400 feet span. In the same year he submitted a plan of his bridge to the Academy of Sciences, whose opinion was decidedly favorable. A copy of the design was sent to Sir Joseph Banks, in order that it might be submitted to the Royal Society. He subsequently visited the Rotherham Iron Works, Yorkshire, to have his models cast. It formed a segment of an arch of 410 feet span, composed of framed iron panels radiating toward the center in the form of vousssoirs. An American named Whiteside had advanced the projector the requisite means on the security of his (Paine's) property in the United States, which enabled him to complete the castings. When finished, the whole were forwarded to London, where they were put together on a howling green at Paddington. When completed, this bridge was visited by great numbers and landed as a success. At this critical period Paine's attention was drawn towards replying to Burke's celebrated letter on the French Revolution, which elicited from him *The Rights of Man*. Simultaneously his friend Whiteside became bankrupt, whose assignees arrested Paine, but he was liberated by two other Americans becoming bail for him; after which he became intermixed with the French Revolution, in the course of which he was imprisoned eleven months, and, by a fortunate mistake for him, evaded the guillotine. He eventually escaped to the United States, and in 1803 presented to Congress a memoir on the construction of iron bridges, accompanied by several models. From what has been stated it will be seen that owing to his political occupations he failed to finally erect his bridge. In the meantime, however, the bridge exhibited at Paddington had made a practical impression. The manufacturers agreed to take it back as part of the debt due to them, and the materials were employed in forming the noble structure which now spans the Wear at Sunderland, England, where it was erected in 1796, and was long esteemed as the greatest triumph of the art—its span being 236 feet, exceeding that of any stone arch, having a rise of only thirty-four feet, the springing commencing at ninety-five feet above the level of the river, thus allowing vessels of 300 tons burthen to sail underneath without striking their masts.

CONTINENTAL Life Insurance Company,  
302 Montgomery street, corner of Pine.

## The New Quartz Working Process on the Fremont Estate.

Passing through the Pacific Foundry, a few days since, we noticed, among other work in progress there, two of Lundgren's pulverizers and Ryerson's superheated-steam amalgamators in process of construction. This machinery is designed for use at the mines on the Fremont-Mariposa estate, now under the management of Mark Brumagin as President of the company, whose headquarters are in New York; Jacob Brumagin, agent for the estate, and Henry J. Hall, a practical and experienced quartz miner, superintendent of mills and mines. One set of this machinery has been operating, at intervals, as water could be obtained for motive power, for over a year. The working of this experimental mill was so satisfactory that a second one was put up the past summer, which is run by steam; and now we learn that two more sets are nearly ready for transportation to the same estate, which will be put up at the Benton mill, which has a capacity of sixty-four stamps, and which is now being rebuilt, to receive this machinery.

The process by which the rock is now reduced and the gold extracted from it, is called by the company the "Eureka Process, and is a process for treating the ores dry. The *modus operandi* is as follows, and was first substantially described on this coast in the MINING AND SCIENTIFIC PRESS, October 27, 1866: The rock is first crushed by rollers, stamps or any other means, which will reduce it so that it will pass through a No. 12 or 14 wire screen; it is then placed in a "Lundgren pulverizer," which consists of an iron cylinder about five feet in diameter and three feet through its axis; into this cylinder is first placed 2,400 pounds of iron balls, weighing one ounce each, and with them about 800 pounds of quartz, first reduced as above. This cylinder is then set in motion at the rate of twenty-four revolutions a minute. The mass of iron and quartz is thus mingled together, and an almost inconceivable amount of crushing and friction produced, which results in a most extraordinary pulverization of the ore. The usual time of reducing a charge is one hour, which includes the time of loading and discharging. A single machine requires from four to five-horse power to drive it, and will reduce from eight to nine tons in twenty-four hours to the fineness of superfine flour, or so fine that it will pass through a wire screen of "100"—being 10,000 meshes to the square inch. About 1,200 pounds of the quartz thus pulverized is then placed in a close, cylindrical, upright hoiler-shaped retort, or amalgamator; superheated steam is then applied for about thirty minutes, which has the effect to drive off from the particles of gold all impurities which tend to check amalgamation, and produce a partial decomposition of the finely divided sulphurets. Quicksilver is then introduced, which, by the action of the steam, is partially vaporized and violently agitated with the mass of the pulverized material containing the gold, by which means a rapid and thorough amalgamation of the quicksilver with the gold is effected; when the steam is condensed and the quicksilver, with the gold it may have taken up, thrown down, by means of cold water, applied to the upper and outer portion of the apparatus.

A small "manhole" is then opened from the under portion of the amalgamator, through which the mass of quartz, quicksilver and gold falls into a reservoir, from which it is washed by hydraulic hose into an ingeniously constructed shaking-table of copper, about twenty feet long, and supported on a wooden frame, with rifles of a peculiar formation, which gives to the water and pulp the same kind of agitation as that of the ocean surf with an undertow. As the mass falls upon the table, the amalgam, from its great weight and the peculiar ac-

tion of the table, is soon cleared from the debris and collected in rifles for removal. This amalgamator and table will work as much ore as two of the crushers can reduce to the requisite fineness. The company employing this mode of working have called it the "Eureka Process," which is in fact a combination of the Lundgren crusher with Ryerson's amalgamator and shaking-table.

With the second mill, now in operation, the present management, according to the report of the President, has crushed some 800 tons of quartz from the Josephine mine. The lowest yield, at one clean up, has been \$31 per ton; the highest, \$173—giving an average of \$43.53 per ton. In the greater portion of this quartz, says the report, not a particle of gold could be seen before crushing. The average yield of the Josephine mine, by ordinary process, has hitherto been less than \$10 per ton. It is pretty generally understood that the ore which is now being taken from the mine is better than the average of past years; but how much of the increased yield is due to the better quality of the rock, has not been determined, so far as we are aware, by any comparative experiment, such as delivering alternate car-loads to any ordinary stamp mill to be worked by the old method, and putting the balance through the "Eureka Process." It is claimed that the increased yield by the latter process is mainly attributable to the ore being pulverized dry, and kept dry until it enters the superheating steam amalgamator—no washing being allowed until the amalgamation is perfected. The gold on this estate is so fine it is estimated that not more than thirty per cent. of its assay value can be collected by the ordinary wet process. This is true to a greater or less extent with all gold-bearing quartz.

We may here add that we have understood that a few weeks since some 20 tons of rock was hauled to Bear Valley from the Princeton mine, run with the ordinary wet battery and plates, which yielded from \$14 to \$16 to the ton. At Bear Valley, where the company is using the "Eureka process," this same rock, of what is considered a fair average ore, yields \$35 per ton.

The company, as is inferred from their report, is perfectly satisfied with the results as obtained by the new process, and probably do not care to be to the cost, trouble and loss of further experiments. It is to be hoped, however, for the cause of science, and with the view of definitely satisfying the world in this important matter, that some arrangements will soon be made to institute a series of careful comparative experiments, under the joint observation of the managers of the Mariposa property and a committee of disinterested experts. The matter of comparative cost of working, as well as increase of yield, should be carefully noted. We understand that such an experiment has been recommended to the company by an experienced engineer of this city, who was recently employed to make a report upon the condition and prospects of the company's property.

Every person at all acquainted with working auriferous quartz knows that much, very much, of success depends upon the degree of fineness to which the rock is reduced, and the intimate manner in which the particles of gold contained in the pulp are brought into contact with the quicksilver; as well as the care which is employed to see that no gold or quicksilver is lost, by being washed away in the water which may be employed to aid in the process of amalgamation. The inventors of the process above described appear to give all the desirable conditions to their fullest extent, as well as avoid all possibility of loss from water, by holding everything in a close vessel until thorough amalgamation and a full concentration of the amalgam has been obtained.

If this new process is really all that it is claimed to be, we ought not to be surprised at a most extraordinary increase of yield; and we trust the management of the Mariposa estate, having, to their own satisfaction, wrought out what appears to be a most important economical problem in the working of our gold mines, will not hesitate, at the proper time and in a proper manner, to give to the world a practical demonstration of the superiority of their process. So much money has been spent upon mere theories and new processes, that people are now exceedingly slow in adopting anything novel until it has been fully understood in their own minds and practically demonstrated to their own vision.

## New Steamer for Panama Bay.

A new steamer for the use of the Pacific Mail Steamship Company, in Panama Bay, was launched on Saturday last, from the ship-yard of Henry Owens, at the Potrero. A large number of ladies and gentlemen were present at the launch, which was conducted under the immediate supervision of the company's superintending engineer, Mr. James Pollock. As her keel struck the water, she was duly christened the "Ancon" by Miss Katy Huhhard, a young miss of eleven summers, who was selected to perform that ceremony. The liberality of her builder, Mr. Owens, was displayed by the generous donation to each workman who had been engaged in her construction, of a day's wages extra, for the promptness and skill which they had displayed in hurrying up the work, which was done in an unusually short time, in order to enable her to make the passage to her port of destination before the setting in of rough weather in the Gulf of Tehautepec. The steamship company also displayed their usual liberality on the occasion, by spreading a bountiful collation of choice viands and beverages for the invited guests and workmen, in token of the company's satisfaction at the manner in which the work has been done. The name selected for this boat is the designation of a mountain peak overlooking the city of Panama, more generally known to Americans, however, by the name of Bolivar's mountain. She is to act as a steam tender in the Bay of Panama.

The boilers for this boat were built at the Miner's Foundry. They are two in number, low pressure, with eighteen flues, the direct flues being 15½ inches in diameter, and the return flues 12 inches; the grate surface 45 square feet in each boiler, with a heating surface of 1,369 square feet. They are built of the best American charcoal iron. We learn from the makers that the iron was of a very superior quality. The weight of the two boilers is about thirty-six tons, apart from their fittings. They are of the internal fire-box description, with water hot-toms; there are two furnaces in each boiler. Their length is twenty-six feet each, by nine feet in diameter; steam domes ten feet high, with the chimney passing through their centers, for the purpose of drying the steam.

STATE AGRICULTURAL FAIR—POSTPONEMENT OF AWARDS.—The committee to make awards of gold medals to the most valuable industries, which was to have met at Sacramento for awarding the same on Thursday last, have postponed their meeting until the 1st of November. This has been done probably on account of the election on the 16th inst., which it was thought might prevent some of the members attending, and also that more time was necessary to admit of exhibitors at the Fair to make statement of claims to the award of the gold medal in their respective departments. We are informed that quite a number of statements have already been received at Sacramento, and it is believed that when the committee meet to make the awards, that they will have a mass of practical information as regards the manufactures and other industries of California presented to them, the dissemination of which will prove of great benefit to the people of the Pacific coast.

Y. M. C. A.—The Young Men's Christian Association has published, in a neat pamphlet, a report of the proceedings of its last annual meeting. It consists of the annual reports, addresses by Rev. Drs. Scudder, Stone and Eells, the by-laws of the Association, etc. This Association is accomplishing much good among the young men of this city, and is eminently worthy of encouragement. The rooms of the Association are on California street, opposite the *Alta* office.

CORRECTION.—In noticing the rubber cement and paint exhibition at the State Fair, we inadvertently wrote the firm name of "Eppes & Ellery," instead of EPES & E. H. R. ELLERY, which should have been written.



**FOOTE'S PETROLEUM BURNER APPLIED TO A STEAM FIRE ENGINE.**—The utility of petroleum as a steam fuel has been still further tested in Boston, by being applied to one of the steam fire engines of that city, Eagle, No. 3, from the Amoskeag Work, was fitted up for this purpose. The form of the apparatus, as employed upon the Palos, was materially modified, to enable it to be adjusted to the steamer's furnace. The first trial took place on the 26th ult., and, according to a correspondent of the New York Times, was a complete success. Water was taken from a hydrant and forced through 400 feet of hose in half the time it would be required to have done the same by the use of coal. In working the engine there was an entire absence of the cinders and smoke which usually gives the smoke-pipe of the steam fire engine, when in operation, the appearance of a miniature volcano in most violent eruption. The feasibility of holding steam was especially noted; and it was the impression of those who ought to know that there was a large saving in expense of fuel. Chief Engineer Damrell expressed himself as highly pleased with the result of the trial, and ventured the opinion that petroleum, by the use of this apparatus, was decidedly superior to coal for use in steam fire engines, both in convenience and economy.

**BUSSEY'S BURGLAR-PROOF LOCK.**—We would call especial attention to Bussey's keyless burglar-proof lock, the advertisement of which will be found in our columns to-day. This lock attracted much attention at the late State Fair. In our notice of it last week the printer made us speak of it as the invention of W. C. Barry, instead of W. C. Bussey, as written. This lock is fast gaining the reputation as being the best and safest lock yet invented.

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTT, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**JACOB SHEW, Photographer,** 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tf

**SECRETARSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15tf

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**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kenny streets, makes a specialty of filling the tans of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty. 5v15qr

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**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler—repairs alone. One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v14ly

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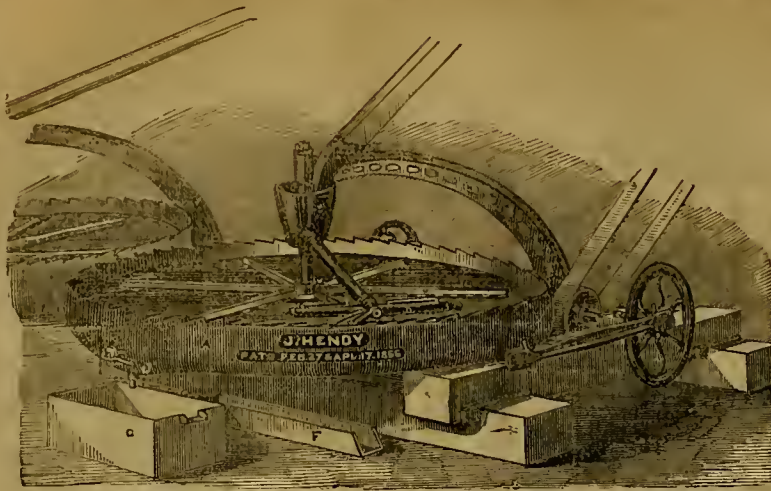
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With Revolving Stirrers and Rotary Distributor.

This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands, and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.

The principle upon which HENDY'S PATENT CONCENTRATOR is constructed, is the only true and mechanical one for the purpose of concentration.

**CENTRIFUGAL FORCE AND GRAVITATION,**

Combined as they are in this machine, CANNOT FAIL TO ACCOMPLISH the object sought.

Many certificates from proprietors of mills, who have this Concentrator in use, can be had, if required, giving the most flattering accounts of its efficiency. A most substantial evidence of its worth is the fact that the proprietor is receiving repeated orders from those who are using them, and who have tested their merits.

The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. THEY ARE WARRANTED TO WORK SATISFACTORILY.

**Directions for Operating Hendy's Concentrators:**

- FIRST—Set the Pan, A, level, by its inner rim.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets. [See Figure 2, marked S.]
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

**References:**

- Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:
- EMPIRE MILL (6 Concentrators).....Grass Valley, Nevada County.
  - NORTH STAR M. & M. CO. (4 Concentrators).....Grass Valley, Nevada County.
  - NORRIDGEWOCK MILL (2 Concentrators).....Grass Valley, Nevada County.
  - VEATCH, VALENTINE & CO., Commercial Mill (4 Concentrators).....Nevada County.
  - HUMBOLDT CANAL CO. (1 Concentrator).....Humboldt County, Nevada.
  - ROBINSON & McALLISTER M & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.
  - PLYMOUTH ROCK MILL CO. (2 Concentrators).....Calaveras County.
  - MIDAS MILL CO. (4 Concentrators).....Virginia, Montana.
  - GOULD & CURRY G. & S. M. CO. (3 Concentrators).....Virginia City, Nevada.
  - VULTURE CO. (4 Concentrators).....Prescott, Arizona.
  - NOYES & CO'S MILL (2 Concentrators).....Prescott, Arizona.
  - GUADALUPE & SACRAMENTO G. & S. M. CO.....Sinola, Mexico.
  - EL TASTE CO. (2 Concentrators).....Souora, Mexico.
  - LUCY MINING CO. (3 Concentrators).....Owyhee District, Idaho.
  - B. F. BROWN (1 Concentrator).....Melbourne, Australia.
  - MOREY & SPERRY (1 Concentrator).....New York.

And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:

SAN FRANCISCO, October 10th, 1867.

J. HENDY, Esq.—Dear Sir:—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,

S. W. LEE, Supt.

SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. Co., }  
VIRGINIA CITY, Nev., Sept. 17, 1867. }

JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours, very truly,

LOUIS JANIN, JR.

The bill was presented in accordance with the above request, and duly paid.

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."

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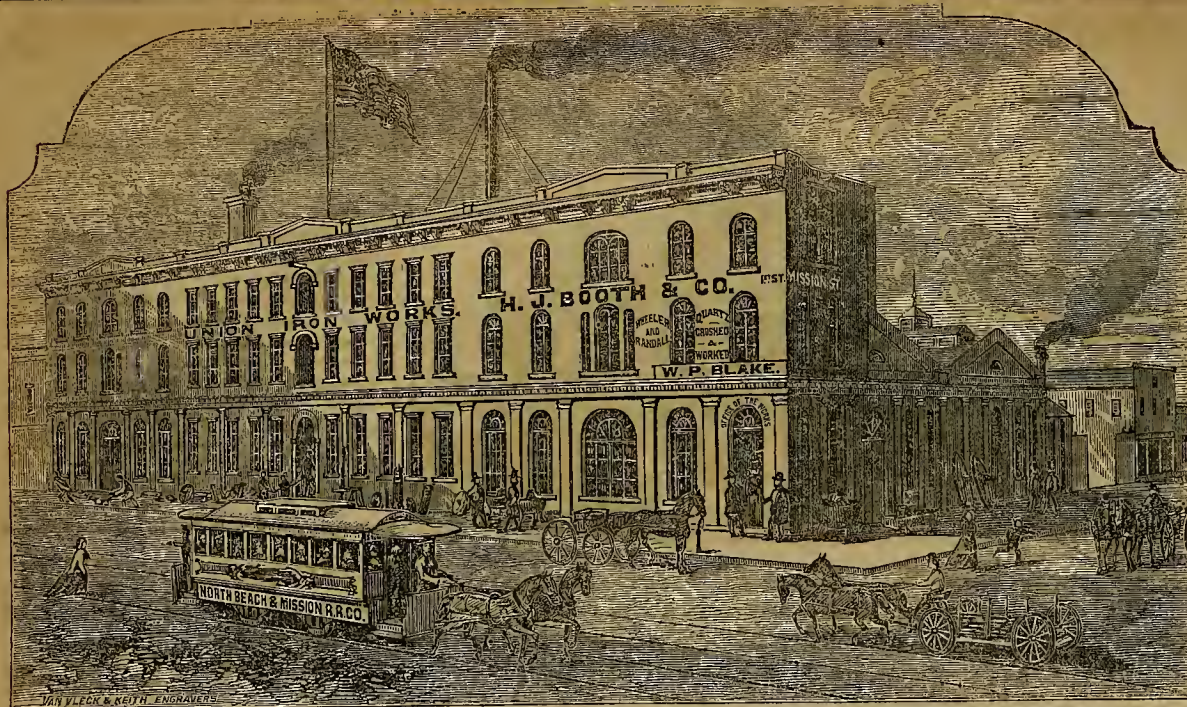
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**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Oil-Oil Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

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**OIL BORING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

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24v12

OHIO has just now two mining excitements; one is a gold mine discovered in Richland county, the other a silver discovery in Washington county. The former locality has been visited by a Cincinnati scientist who reports extensive deposits of gold ore, the best specimens being found near Bellville on the borders of West Virginia.

**A BIG CONTRACT.**—Hon. Oakes Ames, of North Easton, Mass., has contracted to build nearly the whole of the remaining portion of the Union Pacific Railroad—some 600 miles, passing through the Rocky Mountain region—receiving therefor over \$47,000,000. This is the largest private contract ever made.

**EXTRAORDINARY COINCIDENCES.**—The diameter of the earth, multiplied by 108, gives the diameter of the sun; the diameter of the sun, multiplied by 108, gives the mean distance of the earth from the sun; and the diameter of the moon, multiplied by 108, gives the mean distance of the moon from the earth.

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Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.  
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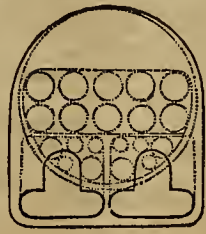
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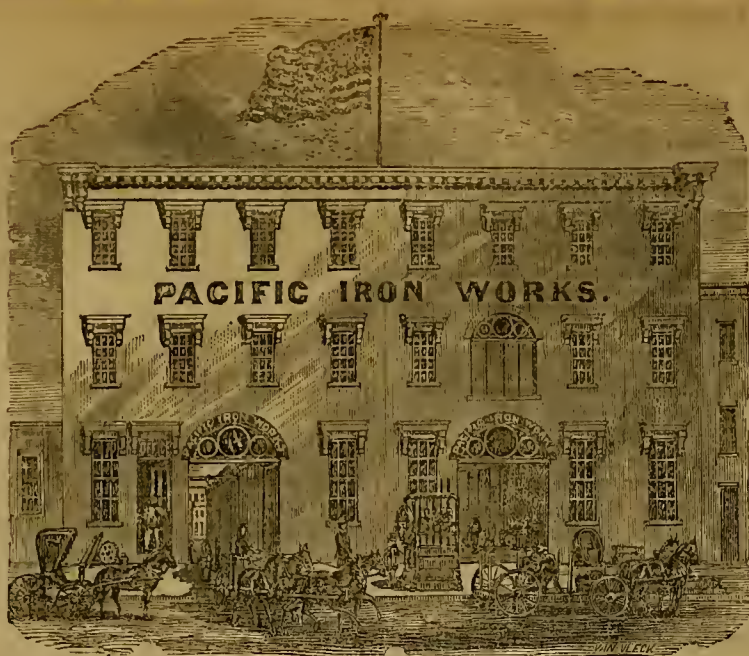
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RADICAL CURE —OF— RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 624 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets. He has no connection with any Agency. 24v14-11ptf

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND OHINA. LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPINWALL for NEW YORK.

On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 19th or 19th connect with French Trans-Atlantic Co's steamer for St. Nazaire, and English steamer for South America. Departure of 10th connects with English steamer for Southampton and South America, and P. R. Co's steamer for Central America.

The following Steamships will be dispatched on dates as given below: October 10th—MONTANA, Capt. E. S. Farnsworth, Connecting with HENRY CHAUNCEY, Capt. Gray. October 19th—GOLDEN CITY, Capt. W. F. Lapidge, Connecting with the RISING STAR, Capt. Comer. October 30th—SACRAMENTO, Capt. Parker, Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attend ance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship CHINA, Capt. E. W. Smith, will be dispatched October 14th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics a paper of inestimable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—Frederick Union.

Metallurgy.

BOALT & STETEFELD'T, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, —AND— CENTRAL CITY, COLORADO. 19v12-ly

G. W. STRONG, ASSAYER AND WORKER OF ORES, SAN FRANCISCO FOUNDRY, Fremont street, near Mission, San Francisco. 14v15qr.

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware, Photographic Stock, Etc. 512 and 514 Washington Street, SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERT LINO (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORIES, etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast.

MOSHEIMER'S PIONEER MINING SCHOOL —AND— Metallurgical Works. Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches:

- 1. Assaying of ores, metals and other mineral substances. 2. Technology, or Chemistry, as applied to any special branch of manufacturing. 3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc. 4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed. 5. Concentration. Dressing of ores. 6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology.

My lately invented Roasting Furnace has the following advantages: A Furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$340. It requires half a cord of wood per ton of sulphurets. The total expenses of roasting are not over \$5. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine gas or quicksilver when amalgamated. A large size furnace in successful operation may be seen, by permission of Mr. Maltman, in his works in Nevada City. Several others are in progress of building. Charges for assaying gold or silver ores.....\$3 00 Copper ores..... 5 00

Office, No. 328 Montgomery street, San Francisco, Cal. 6v15-3ms

ENLARGEMENT OF THE American Journal of Mining Volume III, Commencing March 3.

In consequence of the remarkable success that has attended this Journal, the proprietors feel warranted in increasing its size to Twenty Pages, Thus making it the LARGEST and most COMPREHENSIVE Mining Journal on this continent, representing the Gold, Silver, Copper, Iron, Lead, Coal, Slate, Oil, and in fact all the Mineral Interests of America, containing beautiful engravings, illustrating the latest improvements in mining, milling and metallurgical machinery. The Journal has won the encomiums of the press of the entire country and Europe, and numbers among its contributors more eminent scientific men than any other weekly publication in America. The reports of the markets in stocks, metals, minerals and ores, carefully corrected weekly, are an important feature of the Journal.

Subscriptions: \$4 per year; for six months, \$2.25—in advance; single copies, 10 cents. Specimen copies sent free. Address, WESTERN & COMPANY, Publishers, 37 Park Row, N. Y. Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay St.



A Word to Readers in the Atlantic States.

Much complaint has reached us, through various sources, at the general lack of knowledge at the East, with regard to mining and other operations on this coast, and the frequent impositions practiced upon the public there, in consequence, by irresponsible persons passing off upon unsuspecting victims worthless mining stock, or persuading them, by false representations, to organize companies and advance moneys upon worthless ground, or ground which oftentimes has neither value or locality. If our friends at the East, who are still anxious to engage in the laudable venture of mining enterprise, would do so intelligently, let them subscribe for and carefully consult the only journal on the Pacific coast where every mining enterprise that is worth naming is, from time to time, noticed, as its merits may warrant. A mining enterprise on the Pacific coast, which is not referred to in this journal, in some way or other, as often as once in three or four months, is certainly one which people in the Atlantic States should beware of. Our advice to people at the East is never to venture small amounts in mining. If you must start small, let a number of such club together, so as to make the aggregate amount to be invested, such as may be worth your while to inquire into. Jan. 1, 1867.

Blanks, Blank Mining Books, Constitution and By-Laws

Mining and Prospecting Companies

Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press.

New Mining Advertisements.

George Washington Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Alldorfer, Geo., Alton, John H., Berry, Geo. E., etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of September, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the fourth day of November, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. O. WOOD, Secretary. Office, 338 Montgomery street, San Francisco. oct19

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of October, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the twenty-first day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the fourth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN F. LOHSE, Secretary. Office, 118 California street, San Francisco, Cal. oct19

Mining Notices.—Continued.

Ancient River Channel Blue Gravel Company Nevada County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the second day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like A. P. Moore, Benj. F. Jewell, Caroline Haug, etc.

And in accordance with law, and an order of the Board of Trustees, made on the second day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, on Saturday, the nineteenth day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINOTON, Secretary. Office, No. 5 Government House, corner Washington and Sansone streets. oct5

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary. Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINOTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansone streets. oct5

Ethan Allen Gold and Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable on the fourth day of November, 1867, in United States gold coin, to the Secretary, H. B. Congdon, at the office of the Company, No. 620 Washington street, San Francisco. Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-first day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary. Office, No. 620 Washington street, (Room 5) San Francisco, Cal. oct5

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Borel, Francois Am., Borel, Francois Am., etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oct12

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 18th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco. Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oct21

Oxford Betn Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine. Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. oct14

Old Colony Silver Mining Company.—Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of September, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary. Office, 523 Montgomery street, San Francisco. oct5

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, or at the Pacific Bank. Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary. Office, No. 302 Montgomery street. oct5

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertisements are repeatedly appearing in the Supplements of daily papers, to inquire into the legality of that class of advertising.

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment (No. 17) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco. Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDEB, Secretary. Office, No. 533 Kearny street, corner of Sacramento and San Francisco, California. oct5

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slaven, at Silver Mountain. Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sept28

Kelsey Gold and Silver Mining Company, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth day of September, 1867, an assessment of twenty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, D. C. Baxby, at his office, northeast corner State and Clay streets, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. V. HERBERT, Secretary. Office, No. 407 California street, San Francisco. oct4

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that the Annual Meeting of the stockholders of the above named Company, will be held at Dashaway Hall, on THURSDAY, October 24th, 1867, at 7 1/2 o'clock P. M., for the election of a Board of Trustees to serve the ensuing year, and for the transaction of any other business that may come before the meeting.

B. P. WILKINS, Secretary, pro tem. San Francisco, Sept. 26, 1867. sept23

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Borel, Francois Am., Borel, Francois Am., etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oct12

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 18th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco. Any stock upon which said assessment shall remain unpaid on the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oct21

Oxford Betn Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine. Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. oct14

Old Colony Silver Mining Company.—Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of September, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary. Office, 523 Montgomery street, San Francisco. oct5

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the twenty-third day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the seventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPH, Secretary. Office, 641 Washington street, San Francisco. sept28

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of August, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like F. H. Aberding, F. H. Aberding, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of August, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. oct4

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Ainsworth, J. C., Alexander, Henry M., Atkinson, J. H., etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. oct4

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Name, No. Certificate, No. Shares, Amount. Lists names like Ainsworth, J. C., Alexander, Henry M., Atkinson, J. H., etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Thursday, the twenty-sixth day of September, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. oct4



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired. This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed. Mill men are invited to examine these pans and sellers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS For Steam Engines.

Giffard's Injectors, For Feeding Boilers.

STODDART'S IRON WORKS, Beale Street, San Francisco, 23 1/2 St

PATTINSON'S HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. THOMAS PATTINSON.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order Built and on hand at No. 23 Second street, and 103 Jessie street 17v15fr E. O. HUNT, Prop'r.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, 9v15fr

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

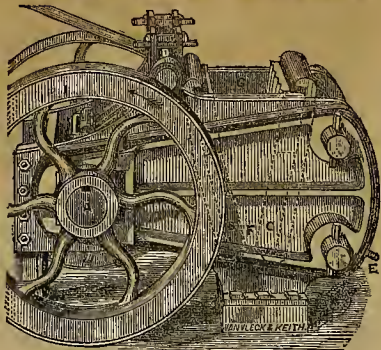
MACHINES OF ALL SIZES FOR SALE

— or —

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 8v13fr SAN FRANCISCO.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms: No. 1—10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600 No. 2—12-inch Crusher, capable of similarly crushing through five to six tons per hour, price, \$850 No. 3—18-inch Crusher, will in a similar manner crush from seven to eight tons per hour, price, \$1,200

EXPLANATION OF THE ABOVE SPECIFICATIONS. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Baywide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne county: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866. JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

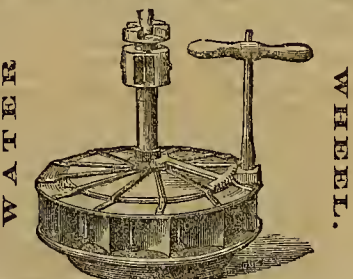
Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

BRODIE & RADCLIFF, Express Building, 402 Montgomery street, San Francisco.

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED in the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.—E. Stockton, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. E. McMillan, Lexington, Santa Clara County. For Circulars, etc.

KNAPP & GRANT, Agents for California, 310 Washington street, San Francisco.

E. O. HUNT, Manufacturer of Windmills, Horse-Powers Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn always to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SWAY-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State. Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Second St., and 103 and 113 Jessie St. 2v15qr San Francisco.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boiler Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 6-Horse Power, \$140
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One Iron Battery of 4 Stamps, 500

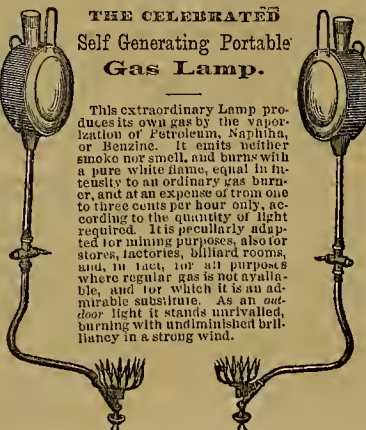
Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15qr



THE CELEBRATED Self Generating Portable Gas Lamp.

This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for many purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed. A small needle, bent at the point and fixed in a holder, may be occasionally required to clean the main jet through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower plate to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off; the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18v14-3m-8

Notice to Miners,

Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-ly Stove Store, No. 125 Clay street, below Davis.

DR. BEERS' PATENT

WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to crush the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15 6m

NELSON & DOBLE,

AGENTS FOR Thomas Firth & Sons' Cast Steel Files, Etc., Shear, Spring, German, Plow, Bilster and Toe Calk Steel; manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 10v14qr

ASPHALTUM

For sale in any quantity to suit, by the

Pacific Asphaltum Company,

No. 533 Kearny street, corner Sacramento, San Francisco.

This Asphaltum is the purest to be found in the market, being free from rock and clay, or other impurities. Sidewalks laid and Roofing done at shortest notice.

15v15qr NEVAL & CO.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

INDIA RUBBER AND ITS USES.—The employment of india rubber or gutta percha, as it is called, in the arts and manufactures, is rapidly increasing. From the time that sulphur was first discovered as an ingredient for hardening the gum, it has been the study of artists and inventors to combine and utilize this article in the objects of their conceptions. Before, however, the hardening process was discovered, the product was principally confined to over-shoes; but now not only hoots and shoes are made, but almost every article of clothing, hats, coats, pants, vests, hoots, collars, cravats and gloves, until the outside is truly an india rubber man walking fearlessly in the pelting storm.

Even the horse is made a recipient of this discovery, and humanity has found the means to clothe the beast and protect his sleek coat from the storms of winter, by a covering made of this useful gum.

The government has lent its aid and patronage in the use of many articles made of rubber, and now forwards important documents through the tropics and across the oceans in envelopes manufactured from gutta percha, made water-tight and impervious to moisture.

The elephant is no longer laid under tribute to give up his shiny tusks, their use having been almost entirely superseded by rubber in the manufacture of combs. Ornaments and toys are extensively made of this article, and almost everything in the arts and trades for the use of man and the amusement of children, is incorporated with it, and which would fill a long catalogue to enumerate.

The New York Rubber Company, of which Mr. Joseph Fraser, of this city, is the gentlemanly agent, have published a long list of articles manufactured by them, and to which they are making constant additions, being determined to keep pace with the increasing wants of the people. As illustrative of the above article, a perusal of their catalogue would be very instructive to all.

A REMARKABLE SPRING.—Much has been said and written about a remarkable spring, reported to exist at Gettysburg, in the immediate neighborhood of the locality where the great battle was fought. The existence of this spring has long been known to the residents of that vicinity, and by many believed to possess wonderful healing properties. Even the traditions of the Indians have ascribed to it the power of prolonging life and curing disease; but as it has no uncommon taste, and has the appearance simply of very pure water, the accounts of its medicinal qualities have generally been considered fabulous and imaginary. The effects which it was known to sometimes produce upon the healthy human system, were even regarded as evidences of its unfitness for domestic purposes.

Immediately after the preliminary battle on the 1st of July, several of the wounded dragged themselves to this spring, merely to satisfy the ordinary cravings of thirst; its peculiarly invigorating and life-sustaining influence at that time, struck many with marked surprise, and caused much talk at the time; which appears to have finally attracted the attention of some scientific gentlemen, who immediately instituted a thorough analysis of its waters. This analysis, it is said, developed the fact that it did possess most remarkable properties—in fact that it is one of the most remarkable medicinal springs known in the world.

Its peculiar properties are due to the lithia which it contains, in solution, and which is found in no other spring on this continent. Lithia is a recently discovered alkaline substance found in certain minerals, especially in petalite. It is the basis of the metal lithium, and is known to possess very remarkable medicinal qualities. The account of the wonderful properties of this spring, it is said, have recently been quite fully verified by medical testimony, and the sick, the lame, the halt and the blind in great numbers, have sought and found relief at this modern fountain of health, during the last two or three years. The Board of Health of the city of New York, according to the New York Evening Post, have become so impressed with its value, that they are about making experiments to more fully determine its value.

NICHOLSON, the owner of the patent for the wooden block pavement, has obtained judgment against Chicago for \$30,000, for the unauthorized use of his pavement.



OF INTEREST TO QUARTZ MINERS.—In cleaning up in quartz mills, says the Alta, a lot of scraps of iron are always found, consisting of fragments from shoes, dies, shovels, picks, hammers and drills; and these lumps are knocked about in the mortar till numerous particles of gold are driven into their interstices.

MORE GOLD DISCOVERIES IN NORTH CAROLINA.—Two more gold mines have been discovered in Rowan county, North Carolina. Several specimens of quartz ore, exhibited to the editor of the Salisbury Banner, were speckled with the yellow ore, many of the little particles being half as large as a grain of wheat.

CALIFORNIA WINE FOR THE EAST.—Mr. Bruckman, of Stockton, has just shipped one thousand four hundred gallons of wine to parties in New York. This wine was the product of a vineyard near Chinese Camp, Teholmne county, and was said to be a very fine article.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

THE SEVENTEENTH ANNUAL SESSION of this College will commence on August 28, 1867.

TERMS.—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Lights, Baths, etc., per session of ten months, \$350.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschl, St. Ignatius College, Market street, San Francisco.

5v15-lm REV. A. MASNATA, S. J., President.

The Commercial Herald

MARKET REVIEW

Will be issued early on EVERY STEAMER-DAY MORNING, (TRI-MONTHLY).

Office—South west corner Washington and Battery streets, Opposite Post Office and Custom House.

THE HERALD will contain full and reliable commercial details, and elaborate articles on the monetary affairs of the Pacific Coast.

The Letter Sheet Market Review, containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper.

Weekly Stock Circular.

Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

THE CENTRAL PARK OF THE PACIFIC.

Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, ZOOLOGICAL GARDENS.

A GRAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SACRED MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

GOVERNMENT HOUSE,

Corner of Sansome and Washington sts. SAN FRANCISCO, CAL.

THE STREETS CAR PASS THIS HOUSE IN every direction, every ten minutes.

WESTERN HOTEL,

Nos. 43 and 45 K street, between Second and Third streets, SACRAMENTO.

Board, per week, \$4 Meals, 25 Cents.

N. D. THAYER, Proprietor.

Advertisement for N. P. LANGLAND, STAIR BUILDER, No. 49 Beal street, San Francisco.

Advertisement for C. E. COLLINS, AMERICAN WATCH FACTORY, Superior Watches, In Gold and Silver Cases.

Advertisement for HAYWARD & COLEMAN, IMPORTERS AND REFINERS of Illuminating, Lubricating, and PAINT OILS.

Advertisement for Golden City Chemical Works, LABORATORY, Corner of Seventh and Townsend Streets.

Advertisement for WM. H. KEITH & CO'S Proprietary Preparations, including Florentine Tooth Wash, Saponaceous Tooth Powder, etc.

Advertisement for J. R. MEAD & CO., Fine Custom Made Clothing, Gents' Furnishing Goods.

Advertisement for Quartz Mill Construction and Superintendence, THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent.

Advertisement for Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS-SULPHATE of Iron.

Advertisement for Dr. Hufeland's Swiss Stomach Bitters, THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand.

Advertisement for Pratt's Abolition Oil, FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, etc.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street.

Advertisement for Blake's Patent QUARTZ CRUSHER, The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights.

Advertisement for California Steam Navigation COMPANY, Steamer CAPITAL, CAPT. E. A. POOLE.

Advertisement for LOWER CALIFORNIA Exploring and Prospecting COMPANY, This Company have procured the services of parties that are well acquainted with the country.

Advertisement for It is a Fact, That BOWMAN'S AMERICAN WASHING COMPOUND is the best article for Washing and Cleaning yet discovered.



**CALIFORNIA SHIPMENTS.**—It is mentioned, as an important and suggestive fact, by the San Francisco financial correspondent of the Sacramento Union, that we have at this time about seventy large ships "traversing every sea," laden with wheat and flour from this port, the aggregate cargoes of which exceed five millions bushels of the former, and 100,000 barrels of the latter; with a fleet of nearly thirty ships now loading or waiting to load, which will take nearly another million bushels of wheat, besides a large quantity of flour! It is also stated by the same correspondent that the extent of our grain shipments, at the present time, is seriously affected by the lack of wharf accommodations for loading—vessels having to wait in the stream for their "turn" at a proper berth for loading. These are important facts with regard to the commercial progress of this city.

**ELI TAYLOR—WHO KNOWS OF HIM?**—We have before us a letter addressed to "Eli Taylor, Esq., California." Said letter has been written in behalf of the family of said Taylor, by a nephew, named W. H. Bayne, of Washington, D. C. It would appear from the letter before us that Mr. Taylor has been in California quite a number of years, and his friends are especially anxious to hear from him if alive, or of him if dead. Any person knowing of him will confer a favor on an afflicted family by addressing a line to this office.

**THE MONTGOMERY STREET EXTENSION** has received its quietus at the hands of our excellent Mayor Coon. The resolution for its extension was vetoed at the last meeting of the Supervisors—the Mayor giving his reasons in a concise and comprehensive manner.

**To the People  
Of the Pacific States,  
And Especially those Engaged in Mining.**

Gold is the attractive element which has brought more than half a million people to this coast. Every one who comes here wishes to have his share out of Nature's treasure box as quick as possible. The laws of the land are liberal. They say you are welcome to all the gold you can find or dig out, and it depends only on you to know or to learn how to do it.

That our mines are rich beyond calculation, is plainly proven by the thirty millions of gold we annually produce, and which is still on the increase, in spite of the many failures and the imperfect mode of working, by which more than fifty per cent of the precious metals is lost.

The days of placer mining—where only physical strength was required—are gone, and we have now to resort to Practical Chemistry and Metallurgy for working the ores of our mines. Not every miner can be a Chemist and Metallurgist, as such an acquirement requires years of study; but what they want, and what pretty effectually meets the case, is a place where, in a few lessons, they can obtain a practical knowledge of how to treat certain classes of ore; and for this purpose, to make mining in the future more reliable, safe and profitable. With this end in view, I have endeavored to bring within the reach of every one the necessary practical knowledge of how to be successful in mining; and for this purpose I have now established the first and only Practical METALLURGICAL AND MINING SCHOOL in the United States, where gentlemen can learn more in a few practical lessons than by years of book study without practice.

I have also the only METALLURGICAL WORKS in California, where I undertake to assay and work ores of every description.

Many eminent gentlemen have, within the past year, taken lessons and graduated from my establishment, and all of them will bear testimony that they were perfectly satisfied with the amount of information they obtained, and that it was so obtained in half the time they expected.

For further particulars apply at my office, 325 Montgomery street, San Francisco.

6v116-tf J. MOSHELMER.

**BEAN'S  
HISTORY AND DIRECTORY  
—OF—  
NEVADA COUNTY,  
CALIFORNIA.**

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN.

Price, \$5—For sale at the office of the Mining and Scientific Press, San Francisco.

**CHICKERING & SONS'  
PIANOS**

Received the FIRST PREMIUM (Gold Medal) And Decoration of Legion of Honor, at the Paris Exposition.

**KOHLER, CHASE & CO., Agents,**  
257 1/2 Montg. St., San Francisco.

**PREMIUMS AWARDED AT ALL THE FAIRS.**

We beg leave to call your especial attention to the

**EXCELSIOR**

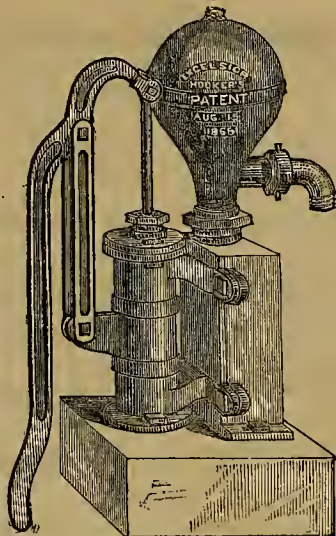
**Double-Acting Suction and Force Pump.**

Hooker's Patent, Aug. 15, 1865.

This Double-Acting Suction and Force Pump, the best in use, is more simply constructed, more durable, and has larger and more direct ports for receiving and discharging water, and is warranted to furnish more water, than any other Pump of equal caliber. It has Puppet Valves, faced with vulcanized rubber, which cannot be wrongly placed in the Pump. The valves can be changed without disconnecting air-chamber, suction or discharge pipes.

In case of necessity, the Pump can be run at any high rate of speed, and will furnish water proportionately. The Excelsior Pump is equally adapted to use for surface and deep wells or shafts. It can be run by windmill or horse power for irrigating purposes; also by hand or steam power on steamers and ships. For domestic use, no better Pump can be found.

Fig. 3.



By simply loosening the nut seen at the base of the Air-Chamber, the discharge nozzle may be turned, thus making a right or left-hand Pump.

Fig. 4.

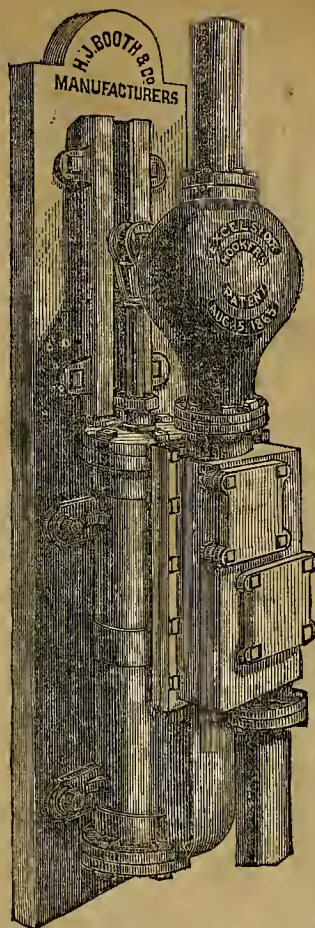


Fig. 3 represents a Hand Pump, which works very easy, and with even power. Fig. 4 is a 6-inch Mining Pump, showing adjustable honnet of the valve chest.

For Circulars, or further particulars, inquire of or address J. W. BRITTAN & CO., Agents 120 Front street, San Francisco; H. J. BOOTH & CO., Union Iron Works, First street, or

**CUSHING & HOOKER, Prop'rs., San Francisco.**  
16v15-11p

**DEWEY & CO.  
PATENT AGENTS,  
ENGRAVERS AND PUBLISHERS  
Mining & Scientific Press.  
CIRCULARS FREE.  
SAN FRANCISCO.**

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Can get their Printing done cheaper and better by **TRUEDEL, DEWEY & CO.,** Than at any printing establishment in the city.

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Can get their Blank Books and Blanks cheaper of **TRUEDEL, DEWEY & CO.,** Than of any other printing house in the city.

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Who wishes to save money and get good work, see **TRUEDEL, DEWEY & CO.,** Who are always ready to receive and fill orders.

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Can get their Printing well done at low prices, by **TRUEDEL, DEWEY & CO.,** Who are now prepared for all kinds of Printing.

**TRUEDEL, DEWEY & CO.**

BOOK AND JOB **PRINTERS,**  
MINING & SCIENTIFIC PRESS OFFICE  
**505 CLAY STREET,  
SAN FRANCISCO.**

**IN THE PROBATE COURT OF THE CITY AND COUNTY of San Francisco, State of California**—In the matter of the Estate of **HENRY GANABL**, deceased. Order to show cause why Order of Sale of Real Estate should not be made. It appearing to the said Court, by the petition this day presented and filed by Andrew D. Smith, the Administrator of the Estate of Henry Ganabl, deceased, praying for an order of sale of real estate, that it is necessary to sell the whole of the real estate to pay the debts, expenses and charges of the administration of said estate. It is therefore ordered by the said Court, that all persons interested in the estate of said deceased, appear before the said Probate Court on **MONDAY**, the eighteenth day of November, A. D. 1867, at ten o'clock in the forenoon of said day, at the Court Room of said Probate Court, at the City Hall, in the City and County of San Francisco, to show cause why an order should not be granted to the said Administrator to sell so much of the real estate of the said deceased as shall be necessary. And that a copy of this order be published at least four successive weeks in the Mining and Scientific Press, a newspaper printed and published in said City and County. **M. C. BLAKE, Probate Judge.**  
Dated October 17th, A. D. 1867. 16v15-5w

**NOTICE TO CREDITORS.**—IN THE PROBATE Court of the City and County of San Francisco, State of California. Estate of **HENRY GANABL**, deceased. Notice is hereby given by the undersigned, Administrator of the above named estate, to the creditors of, and all persons having claims against said deceased, to exhibit the same, with the necessary vouchers, within ten months from the first publication of this notice, to the undersigned, at his office, No. 33 Court Block, 636 Clay street, San Francisco. Dated October 3d, 1867. **ANDREW O. SMITH,** Administrator of the Estate of Henry Ganabl, deceased. 16v15-4w

**FARMERS' AND MECHANICS'  
BANK OF SAVINGS.**

225 Sansome street, near California.  
Incorporated under the Act of the Legislature of California, approved April 11th, 1862.

**CAPITAL STOCK, : : : : \$150,000.**

**DIRECTORS:**  
N. C. Fassett, George M. Condee, Reuben Morton,  
G. H. Wheeler, Isaac E. Davis, James Laidley,  
Henry Dutton, B. H. Freeman, Samuel L. Palmer,  
G. H. WHEELER, Cashier. N. C. FASSETT, President.

Deposits received in gold, silver or currency, payable in like kind, at sight. Funds may be sent by express, or in registered packages by mail. Receipts will be promptly furnished.

We will receive Gold Dust and Bullion, for refining or assay; make advances on the same, and return proceeds promptly.

Bankers' Drafts, on all parts of the world, furnished at lowest rates, by addressing us. Write names plain. Checks of all banks taken.

Money loaned only on first-class security, safety being our first consideration.

The Highest Rates of Interest paid on Gold Deposits.

DEPOSITS RECEIVED IN SUMS OF \$1 AND UPWARDS.

We will keep safely all bonds deposited with us; collect and remit the interest to our friends in the country, as may be directed. For further particulars, address **FARMERS' AND MECHANICS' BANK,** San Francisco.

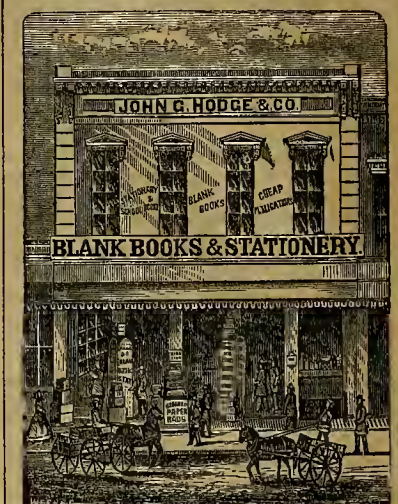
2v15-6mcov

**Delays are Dangerous.**—Inventors on the Pacific Coast should bear in mind that by patronizing our Patent Agency they can sign all necessary papers for securing patents almost immediately, thereby avoiding the three month's delay requisite in transacting business through Eastern agencies.

**W. T. GARRATT,  
City  
BRASS AND BELL FOUNDER.**

Cor. Mission and Fremont sts.,  
SAN FRANCISCO.  
Manufacturer of Brass, Zinc, and Anti-Friction or Babbet Metal Castings;  
**CHURCH AND STEAMBOAT BELLS,**  
TAVERN AND HAND BELLS AND GONGS,  
**FIRE ENGINES, FORCE AND LIFT PUMPS,**  
Steam, Liqueur, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, **HYDRAULIC PIPES AND NOZZELS**

For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."  
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comprehend the unphilosophical nature of the principle on which this device works, as applied to the purpose intended, if it will look at it simply in the light of a rotating pendulum, which it is—that and nothing more.

The defects of this contrivance were early seen, and many attempts have been made to remedy them by producing a more direct action on the throttle-valve. One very sen-

England, which consisted of an upright spindle, upon which was wound a spiral feather. A single ball was so attached to the spindle as to slide up and down, while it turned upon its axis at the same time. To the ball was fixed a kind of propeller wheel, which, by its impingement on the air, would lift the ball when the speed of its revolution was materially increased. It may readily be conceived how a lever at-

easily sustained at one point as another—most desirable arrangement, and which cannot be attained by any possible arrangement of the ordinary ball governor.

This invention has been very properly termed an "hydraulic governor," from the fact of the power being obtained by a spiral-bladed wheel, resembling a screw propeller, of which Fig. 3 is a detached view, rotating in oil contained in the cylinder, shown arranged above the valve in the principal figure. It will be seen that the principle of this device is something like that already noticed as patented by Mr. Hicks; but in its detail altogether superior. This propeller is affixed upon the central vertical shaft, and by its rotation in the oil, a direct-acting motive power is obtained for raising the lever which connects with the vertical shaft at its upper terminus. The lower end of the said shaft works in a long bearing or step within the base of the cylinder, at which place, connecting the interior of the cylinder with the space beneath the shaft, there is an opening, more or less closed by turning a cock (not, however, seen in the illustration). By this device, any degree of sensitiveness in the governor can be obtained, so much so that by its use it is said that an engine will run no faster with a steam pressure of seventy pounds than when only thirty pounds is indicated.

The horizontal driving-shaft is connected by a series of gears, as seen in the principal figure, with the vertical propeller-shaft; and as it is set in motion in the usual way from the main shaft of the engine, the propeller mounts upward in the oil, and of necessity raising the vertical shaft, the upper lever, and the valve-lever therewith connected by the long brass rod seen on the left of the figure. The most trifling variation in the velocity is followed by an immediate movement of the valve; and, as the case may be, it either allows more or less steam to pass. Fig. 2 represents the kind of valve employed; and Fig. 4 represents the cap and follower of the stuffing-box of the valve-spindle.

It will be readily seen that in the mechanism of Mr. Huntton's invention the weight is readily sustained with the same velocity at one altitude as at another, necessarily causing the engine to which this governor is attached to run at a uniform speed.

This invention has received much attention from the leading mechanical minds at the East, who have expressed themselves in terms of the highest approbation of its performance.

It is almost unnecessary to allude to the benefits obtained in point of economy by the Huntton governor after the preceding discovery, for it is evident at once that it is a steam-saver.

The patent, which was granted December 4, 1866, to Reuben K. Huntton, of Boston, Mass., is the property of the inventor and Mr. J. Augustus Lynch, of the same city. Their office is at No. 62 Kilby street. They will correspond with any parties addressing them. The invention was first illustrated and described in the *American Artisan* of April 17th, 1867.

## Steam Cut-off Movements.

Among the many inventions relating to steam as a motive power, those having for their object the regulation of the steam to the varying amount of work to be done, are not the least important. If the load on an engine be materially lightened, the supply of steam must be immediately reduced, or the speed of the engine may be dangerously increased. For some purposes, an engine may be regulated by the attendant workman. In general, however, the proper manipulation of the throttle-valve is impracticable with any degree of vigilance and skill which could be expected from the attendant. Hence, before the steam engine could be successfully employed in those cases where great uniformity of velocity was required, it was necessary that means should be devised for enabling the engine itself to properly manipulate its valve, without any care whatever from the attendant workman. Various devices have been contrived for this purpose. The conical pendulum was the earliest, and is still the one most universally employed. The disadvantages of this mode of regulating the supply of steam to an engine is, however, universally acknowledged. They are quite as apt to be themselves controlled by the steam, as to perform the office of "regulators"—in such cases becoming mere weathercocks, instead of acting as "governors."

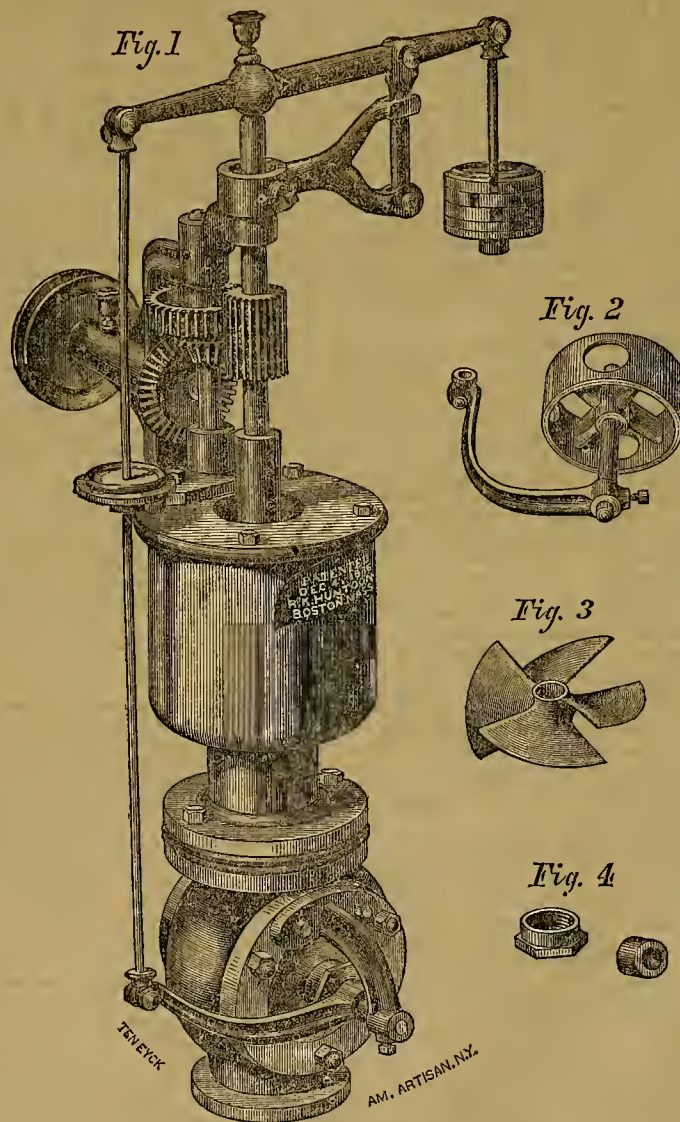
It must be evident to every engineer that any ordinary ball or centrifugal device for the purpose under consideration, requires a greater speed to maintain the balls, flying from the center as they rotate at an angle of 45°, than when sustained at an angle of 60°; hence the engine must run at a high speed, in order that the valve shall be partly closed. Therefore, while there is comparatively little work to be done, the engine must run fast enough to insure the balls flying asunder sufficiently to partly close the valve. Now, in the event of some resistance being brought to bear upon the engine, and the speed being thereby to some extent checked, the balls necessarily approach each other, and the engine, while the resistance remains, must continue to run slower, that the valve may be sufficiently open to allow the necessary steam to pass which is required to overcome the resistance. No mechanical mind can fail to

sitive device employed was a cylindrical bellows, worked by the engine, and furnished by an orifice cock, which would exhaust a given amount of air, proportioned to the desired rate of speed. It is evident that if this speed should be increased, the top or floating part of the bellows would rise; hence, if a vertical rod should be attached thereto, connected by a lever with the throttle-valve, a very sensitive governor would be obtained.

Another plan for a governor was devised some years ago by a Mr. Hicks, of Bolton,

attachment could be thus brought to bear very directly upon the throttle-valve.

Each of these devices, and particularly the latter, would seem to be superior in principle to the use of the ordinary ball governor. A still better device than either seems to be a still later invention of Mr. R. K. Huntton, of Boston, an illustration of which is given herewith. In this, as well as in the two other devices previously noticed, the centrifugal or ball principle is entirely abandoned, the weight being raised in a vertical line, and the valve lever as



HUNTON'S PATENT GOVERNOR FOR STEAM ENGINES.



## Communications.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California

## THE IRON AND STEEL OF THE EXPOSITION.

In proposing to make the iron and steel of the Exposition the subject of a letter, I did not think sufficiently of what was before me. It is almost impossible to see, much less possible to describe, all that is shown in this department. Nearly every country has sent something that claims attention, and Great Britain, France, Prussia, Austria and Russia make overwhelming displays of iron in all its stages of manufacture, from the rough ore to the pig of all grades; bar and plate iron; steel in ingots, bars, or rolled out or drawn into wire. Each iron producing country seems to vie with every other in the exhibition of the strength and fiber of its wrought iron and steel. Cases upon cases are filled up with bars of various sizes that have been bent, twisted and broken so as to display the grain to the best advantage. I should weary you with dry details if I attempted to describe these specimens. It is sufficient to say, once for all, that wrought iron rods and bars and railway axles have been tortured and twisted into every imaginable shape. Great round bars as thick as a man's leg are tied into knots; railway iron is twisted until it looks like a long screw, and all without a crack or parting a fiber.

It is a satisfaction to know that the scientific and practical discussion of this subject has fallen into the hands of Mr. A. S. Hewitt, of New York, one of the commissioners, who has a very complete and valuable report in preparation for our government.

In the exhibition of ores, Sweden takes the lead, not only in bulk of specimens, but in the richness and purity of the ore. Prussia exhibits a splendid suite of evenly trimmed specimens of the various kinds of ore used, chiefly brown iron ore and spathic iron (the carbonate). The United States, though not by any means fully represented in this department, has a very creditable display for variety, and for purity and practical value. There are some large masses from the Iron Mountain of Missouri, and some from Lake Superior, and a few masses of the magnetic and specular ores of Northern New York. The specular ore of Sierra county in our State, is also found in the exhibition, and it is as pure and excellent in quality as any. The Peninsular Iron Co., of Detroit, Michigan, sends a suite of specimens of Lake Superior charcoal pig iron, No. 1 suitable for foundry purposes; No. 2 rolling mill iron; No. 3 car wheel iron; No. 4 mottled, for malleable purposes; No. 5 valuable for making malleable iron, and for rolling mill purposes.

The Franklinite ore and metal is shown in connection with the zinc ores and products of the New Jersey Zinc Co. The hard white iron made from this ore has already been imported and used in California by the Union Works.

## SWEDISH IRON.

Sweden sent samples of her magnetic ores in such masses that some had to be left in the yard. They are about three feet long, and must weigh a ton or two each. I counted ten of these, and there is, in addition, in the machine gallery, a grand pyramidal stack of iron and steel bars standing upon a foundation of blocks of ore from the various Swedish mines. The various pig irons are arranged in a tier just above the ore, and above this tier the steel and iron bars of all sizes and shapes are stacked up. The iron ores received the gold medal, the steel has a silver medal, and the iron a bronze medal.

Messrs. Park and Brother, of the Black Diamond Steel Works, Pittsburgh, Pa., make a fine exhibition of cast steel in bars, round, octagonal and flat, made at their works. It is accompanied by beautifully finished edge tools made from their steel.

## KRUPP'S STEEL.

But the most extensive, and probably the most costly display by any individual in the whole exhibition, is the array of steel, raw and manufactured, sent by F. Krupp, of Essen, Rhenish Prussia. The jury have awarded him the grand prize. Krupp's works and manufactures are world renowned, and I have obtained some statistical data in regard to them, which may be interesting.

The establishment has been in existence for the last forty years, and has been gradually developing and increasing, until at the present time, the works cover continuously a surface of about 450 acres (English), 200 of which are under roof. In these works 8,000 men are employed, in addition to 2,000 more

at the blast furnaces, and iron pits on the Rhine and in Nassau. These works produced in 1866, manufactures of steel of the aggregate weight of 61,000 tons by means of 412 smelting, reverberatory and cementing furnaces, 195 steam engines, from two to 1,000-horse power each, 49 steam hammers, 110 forges, 318 lathes, 111 planing machines, 61 cutting and shaping machines, and many others of less consequence. No less than 120 steam boilers are required to keep the engines in operation, and they evaporate 150,000 cubic feet of water in 24 hours.

The yearly production is valued at over \$7,500,000, and the various objects manufactured are distributed all over the world.

The representation in Paris consists of some twenty or thirty large objects, of which the most prominent is a cylindrical cast steel ingot weighing forty tons, fifty-six inches in diameter, and standing nearly 12 feet high. It is forged at one end into an octagonal shape, and is intended for a marine crank shaft. This huge block of crucible steel is the largest that has yet been made. In the first London Exhibition a block of 2½ tons weight, was regarded with wonder, and received the only Council medal in the department of steel products. At the former Paris Exhibition a block of five tons was shown, and to the London Exhibition of 1862 one of 20 tons was sent. This shows the rapid progress made in the scale of Krupp's operations with large masses of steel. The upper end of this monster ingot of forty tons is broken across so as to show the grain. One-half of this broken surface has been ground down and polished as bright as a mirror, without developing the least defect or flaw. Not content with this proof of the density and uniformity of the ingot, they have cut a gash in the side about half way up, and have taken out a chip about as large as one man can lift, and have polished it with satisfactory results. [The production of such large masses of entirely homogeneous steel is the great achievement of Krupp, equaled only by his handling and forging the ingots into the various objects for which they are designed.] To shape this great ingot a hammer weighing fifty tons is used. All the cast steel productions of the establishment, with the exception of disk centers for car wheels, are made from ingots of a greater or lesser weight, and with a round or square section.

The large ingot stands upon a semi-circular platform, and serves as a center piece for a group of pieces of shafting, highly wrought, for locomotive wheels and tires, for guns and gun carriages, and many other objects of wrought and unwrought steel. Opposite all this is the monster gun, also made of cast steel, and weighing fifty tons. It is intended for coast defence against the attacks of iron clads. It consists of an inner tube upon which are shrunk cast steel rings, which were made like railway tires and without welding. The diameter of the bore is fourteen inches, and as it is a breech loader, the perfection of the bore and rifling may be seen by looking through the gun at the muzzle. It has forty rifle grooves. This gun was in process of manufacture day and night for sixteen months without interruption. The railways had no cars strong enough to transport it to the Exposition, so the establishment was obliged to construct its own car, which was made entirely of cast steel, and has twelve wheels. It weighs twenty-four tons. The gun is for sale, and will cost only \$108,750.

Cast steel railway tires form a very considerable portion of the manufacture of this establishment. They make about 40,000 a year, over a third of which are for English, Indian and American railways. They are made out of one piece of steel without welding, and in the following manner: Large ingots are forged out into flat lengths, from which are cut rectangular pieces corresponding with the height of the proposed tire. These pieces are then split down the center to within a certain distance of each end, wedges are inserted, the slit opened out, so that the bar is gradually, under the hammers, converted into a ring, which is at last formed into a tire between powerful rollers.

Among the many other objects worthy of note, are the "angle rings" for steam boilers. These are made after the same method as the tires, and are very perfect specimens of machine forging. One, with a diameter of ninety-six inches, weighs 483 pounds. They are sold at the works at 225 francs per 100 kilos, and any size will be made to order. Cast steel railway bars are also one of the chief objects of manufacture of the works. They are made from steel of second quality, and are afforded at a comparatively low price, about half as much more as the cost of an iron rail. The durability is greatly superior. Krupp can now supply such rails at forty francs the kilog, but I have heard that there is a new process by which the cost is to be much reduced.

## BOCHUM CO.—STEEL PRODUCTS.

Next to the exhibition of Krupp, which may be styled as princely, the display made by the Bochum Co., of Westphalia, Prussia, has most interested me. This company also make large objects of cast steel, and exhibit railway tires, shafts, axles, and some remarkably large hells, one of which is nearly ten feet in diameter, and weighs 14,750 kilogrammes. One of the most striking objects is a string of railway car wheels, twenty-two in number, all cast together at one operation, the junction being from hub to hub, and by one single connecting sprue at the bottom. When they are taken out of the sand, they are centered and mounted in a lathe as one piece, and then turned up on the edges.

It is claimed by this company that its cast steel wheels will run on an average 57,000 kilometres without requiring any repair. One of the railway companies certifies that the puddled steel tires suffer a wear of one-sixteenth of an inch in running 12,000 kilometres, while the cast steel wheels of Bochum Co. will run 39,248 kilometres before they are worn to an equal extent. It would be interesting to know how they compare with our chilled face car wheels. I have not seen any of this kind of manufacture in the Exhibition.

The French exhibit of iron and steel is very fine. Their largest steel ingot, however, weighs only 25,000 kilogrammes. It is broken across and shows a very homogeneous fracture. Some of their cast steel tires made without welding upon Krupp's method are twelve feet in diameter. A cast steel cannon weighs sixteen tons, and is turned up and polished all over. They show sheets of rolled cast steel that are twenty-two feet long six feet wide, and half an inch thick.

## ACCURATE GAUGES.

In the display of ordnance and munitions of war made by Whitworth, of England, there are some very interesting longitudinal sections of guns and rifles which show the remarkable perfection of the bore and rifling. This distinguished mechanic is known to produce some of the most accurate of gauges, and a few specimens are shown to illustrate them. A stout steel ring is handed to you through which you can pass a polished steel cylinder about half an inch in diameter. The fit is so perfect that it requires a little pressure to pass the cylinder through from end to end, and this pressure must be applied in the line of the axis, the least pressure upon the sides of the ring appears to bind upon the cylinder. You next take a second cylinder, apparently exactly the same size as the first. This passes through the ring with perfect ease, and, compared with the other, it is a very loose fit. Now the difference in diameter of these two cylinders is the 5-1000th part of an inch. Two perfectly plane surfaces of cast steel are shown. One of these slides about over the other upon a thin film or cushion of air. If by a little effort the air is excluded, the plates are inseparable by a direct pull. One may be lifted by the other.

## FORGED IRON.

In forged iron, for ornamental and decorative purposes, the exposition is very rich. There is a long line of gates and sections of fence placed between the Exposition grounds and the reserved garden. Some of them are beautiful in design, and wonderful in their sharpness and accuracy of finish. The peculiar construction of French dwellings, with an inside court shut out from the public streets or avenues, makes a demand for highly ornamental and somewhat costly entrance gates, which does not exist with us.

## ORNAMENTAL CASTINGS.

The use of cast iron for ornamental purposes has evidently made great progress. The substitution of iron for bronze in artistic productions, is of comparatively recent date, yet the visitor who sees the results in the present exhibition is compelled to acknowledge that iron will in the future be substituted to a great extent for the alloys of copper, in the production of large ornamental or monumental works. As an evidence of this, we have the splendid monumental fountain and groups of figures of animals, on one side of the grand entrance to the Park, from the foundries of Durenne, and inside the building, extensive displays of statues, busts, vases, stag's heads with antlers, and a variety of tablets and smaller objects. From another establishment, we find a splendid series of figures and groups of life size, most of them Scripture subjects for the adornment of churches. One group, for example, represents the crucifixion, with the Saviour and the two thieves of life size. The form and spirit which the sculptor gives to the model is rendered perfectly in the rigid iron. Almost all of these objects are shown as they came from the mold. The surfaces are perfectly smooth and even, and the founder is amazed at the accuracy

with which the different parts of the mold were brought together. The suture lines are sometimes hardly visible, again they appear as thin films rising from the surface, so that they may be dressed away without injury to the figure. They are all cast hollow, and the cores are supported by iron rods or wire.

I do not see in the Exposition any evidence of an extensive application of cast iron to architectural decoration. It is true that the building is in great part made of iron, but there is little or no attempt at ornamentation. I have not seen any "iron fronts" in Paris, and in fact I doubt if the material is tried anywhere in Europe, as freely and to such good purpose in building as with us. Their railway stations, generally, are marvelous structures of iron and glass, but there is little attempt at artistic display. A section of one of our iron front buildings, such as are made in the foundries on First street, would have attracted great attention here.

Paris, Aug. 27, 1867.

## What Some of our Mines are Doing.

A correspondent sends us the following, which he assures us is correct to the letter—even to the one inch wide of solid gold! The locality mentioned is well known as one affording very rich placer mines. We give the manuscript as we received it:

Without going across the mountains or into adjoining Territories to look for rich claims, we will here mention one of our cement or gravel claims and its yield. In a little obscure place called Bath, in Placer county, is a mine called "The Paragon," the owners of which were but recently all poor men, having no capital except their own labor and perseverance. Some years since they commenced running a drift into the hill, and have kept steadily at work, until now they employ fifty men and run a 20-stamp mill, crushing this cement. The length of the lower tunnel, for draining, is now 2,250 feet, while the upper works are being drifted or breasted some 1,200 feet, having shoots and dumps at various points for discharging the cement from the pay streak above, down into the main tunnel below, some twenty-five feet. This drains the works above, where the men can work comparatively dry. The claim itself is 8,000 by 800 feet. The work done thus far is the best and most systematic in the State; is thoroughly tested, and there is half a million dollars in sight. Ahead of their work the gold can be distinctly seen in every drift by the light of a candle. The company consists of four men, who are dividing the sum of over \$6,000 every month regularly, and the mine can be made to pay more than twice that amount by adding 20 stamps more; which would give them at least \$150,000 per annum over all expenses. They have now on hand 40,000 timbers and logging, 1,300 cords of wood, cut and housed, with a tract of timber land containing thousands of cords more, and a large dwelling-house. The working department is complete, with twelve or more cars, good rail tracks, over 300 picks, and all the necessary working apparatus.

This may, perhaps, be called one of the very best mines of its class in California. The strata now being worked is not on the bed-rock, but from twenty-five to forty feet above. It is very even, having a gradual incline toward the front of the hill, and, unlike many others, does not form a basin toward the center. The gravel, however, is richer in the back part. That the cement is richer on the bed is proven by the adjoining claims, which are about forty feet below, and are yielding some very heavy gold. It is supposed that at least three pay streaks exist in this deposit. The whole hill will pay, from top to bottom, say 300 feet. When it is all worked millions of dollars will be realized. The fall from the bed-rock to the cañon below is some 600 feet; so that altogether it is as if nature designed this spot as one that will furnish us with the precious metal for half a century to come.

Adjoining the above are other claims belonging to individual companies, all of which pay well when worked. Mr. Rausch has a very rich hydraulic claim, which has been washed off some 200 feet back, the gravel being about 100 feet deep thus far. The same gentleman has also struck a quartz lead excellently in richness anything ever seen in California, there being a pay streak of one inch wide of solid gold through the pay quartz, which is two feet or more thick. This is not in the gravel claim, but about a mile distant. The claims called the "Rough Gold" and the "Golden Gate," both cement claims, are good paying ones, so that there is not a single failure of any mine at the locality of Bath, in Placer county.



## Mechanical.

## The Philosophy of Chimney Construction.

To construct a chimney which will carry smoke, has been found in practice one of the most precarious objects of mechanism. So little is the theory of smoke and draught understood, that if a chimney is constructed to draw well, it is generally a matter of accident. Very few mechanics seem to have any rule for constructing chimneys which will insure a good one. The true philosophy of smoke and draught is, that cold atmospheric air tends to the center of gravity till it meets with some obstruction, which gives it another direction; that heated or magnified air is exactly vertical in motion; that hence the flue to carry it off should be perfectly vertical, and in no place of smaller dimensions than at the bottom or first inlet. It matters not how many inlets there be to it, provided the area of a cross section of the flue be equal to those of all the inlets combined; it may be greater, but it must never be smaller. If, therefore, you start with a single flue from the cellar, you must regulate the size to cover the area of all the contemplated inlets from bottom to top. Carry it up, all the way of the same size, in exact perpendicular direction; the wall need not be more than the width of one brick in thickness. Wherever you want a fire-place, attach jambs of the usual shape, leaving the common perpendicular wall of the flue for a back, throwing the arch across, at the proper place, in the usual form, covering it tight to the back wall. Immediately opposite, or below the covering of the arch, leave a horizontal aperture in the flue the whole width of the fire-place, from jamb to jamb, in size according to calculation previously made, and according to the height of the arch; which for jambs from twenty-four to thirty inches high, must not be less than three inches perpendicular in the opening.

There is philosophy in this theory; and practice, so far as tried, proves that there is truth in it as well. It should be generally adopted by builders.

We have before us a very excellent plan for the construction of a chimney with a multiplicity of grates, devised by Mr. Henry Antis, of England, which appears to answer well the purpose of draught and cleanliness. It reads as follows:

Beneath each grate, fitted in a fire-place, is an opening left, which descends obliquely into the flue. In this opening, on a level with the hearth, is a fire-grate fixed, through which the ashes descend from the grate above. And such is the effect, that while a strong current of air is produced, by the heat from the fire in the grate, through the horizontal aperture above, a moderate draught is also maintained in the oblique one below, which carries off all the dust; so that from a coal fire not a particle of dust escapes into the room. Mr. Antis affixes a valve to each inlet, hung in such an ingenious manner, that the mere pulling of a small brass knob closes it entirely; and thus, in case the chimney should take fire, all the currents of air may be stopped in a moment, and the fire dies at once. Not a particle of soot can ever enter your room or your fire-place; for that, as well as the ashes, all descend to the bottom of the flue in the cellar, where an opening, with a sheet-iron door, is constructed, from which these articles can be taken, and through which a sweep may enter and perform his duties, without disturbing the business or amusements or quiet of any part of the family. Where necessary, he also carries up side flues in the jambs, by which air can be introduced, to regulate the temperature of your room or the force of your draughts.

The advantages of the improvement are:

- 1st. Fewer materials are used, which cheapens the work.
- 2d. Less room is engrossed by dead brick-work.
- 3d. No annoyance from soot or ashes in your rooms—not even when a sweep ascends to clean out your flue.
- 4th. Power to regulate the temperature of your rooms, without opening doors or windows.
- 5th. Perfect security against smoke, in every room in your house.

**TRANSPORT OF EDIFICES.**—The transport of edifices from one point to another, is probably more extensively practiced in San Francisco than in any other city in the world. These edifices, however, are usually of small dimensions and constructed of wood. Perhaps the most remarkable transport of an edifice on record is that which was accomplished at Crescentino, a Piedmontese city, in 1776. An ordinary brick mason, named Serra, succeeded in taking down a brick heltry from the walls of one church and transporting it to another, at a considerable distance, without any injury to itself or to the walls of the church from which it was removed. While it was being moved through the streets of the city, a man was employed inside the structure to ring the bells at intervals. A model of the apparatus employed in this work was deposited in the library of the Royal Institute.

Perhaps the heaviest mass ever moved to any considerable distance, was the granite pedestal of the statue of Peter the Great, which is forty-two feet long and twenty-seven feet high, and of proportionate width. This immense mass of granite was transported from the Bay of Finland to the city St. Petersburg.

**SUPERIOR CONDENSING APPARATUS.**—As long ago as 1831 it was stated in the *United Service Journal* (English) that a Mr. Humphreys had actually used the same water over and over again, for three years, in the boiler of a steamer between Southampton and Cowes.

There is nothing in print, so far as we know, about the practical working of surface condensers. According to the best information we can get, the proportionate loss of feed-water, *i. e.*, the quantity required to be obtained by distillation or from an outside source, varies very greatly in different cases; and even with the same engines and boilers, the loss varies greatly under different circumstances. It is estimated at from a very small fraction up to one fourth.

**SUPERIORITY OF AMERICAN GLASS.**—It is an interesting fact, and one we believe not generally known, that the glass-makers of the United States excel those of all other portions of the world in the quality of the glass they produce. The first premium for the best quality of glass was awarded to an American firm at both the last Loudon World's Fair and at the recent Paris Exposition. In an English year book of Science and Art, now before us, published in 1832, we find the following paragraph, which is especially interesting in the above connection:

*American Glass.*—On July 21, Mr. Peyps brought to a meeting of the Royal Institution a very beautiful piece of American glass casting. It was a small plate, the upper surface smooth, but the under surface covered by a beautiful design of scroll-work, etc., in very high relief, so that as the plate stood upon a table, the reflection of light from it was of the most brilliant and metallic kind. The plate had been cast—the wheel had never touched it; yet the surface looked as well almost as if cut; and the pattern was so rich and full, and of such kind, as to preclude any imitation of it by cutting.

**GLASS HONES FOR RAZORS** were made and much approved some thirty years ago. The faces of the glass hone were "rough-ground or frosted by any of the usual means, and a grain differing in fineness was thus given to the respective sides." The hone may be moistened with either oil or water. A trial of a razor upon any slightly roughed, even surfaced piece of glass will show the efficacy of that material for such a purpose.

If you have a screw rusted into wood, or a nut or a bolt that will not readily turn, pour on it a little kerosene and let it remain. In a little while the oil will penetrate the interstices so that the screw can be easily started.

It is said that more than one eighth of all the steel now made in the United States, is from the iron ores of Lake Superior.

It is said that there are but three manufacturing of wire in the United States, one of which is in this city.

## Scientific Miscellany.

**COMPRESSION OF FLUIDS.**—The compressibility of quicksilver is very little in excess of one-millionth part of its volume for every additional atmosphere.

The compressibility of sulphuric ether is three times as great as that of alcohol, twice that of sulphide of carbon, and once and a half that of water.

Water which contains salts in solution is less compressible than pure water. The lower the temperature of water, down to the freezing point, the more compressible it is. Pure water at 30° F. is one-tenth more compressible than when at 55°. At a still higher temperature its compressibility still further decreases, but in a less degree than between 30° and 55°.

The compressibility of fluids up to 70 atmospheres is proportional to the pressure.

Up to a pressure of 48 atmospheres no perceptible degree of heat is developed in water; above that degree of pressure heat is developed.

(The experiments from which we condense the above were made many years ago. We presume that with the extremely delicate instruments now in use heat would be perceptibly developed in the compressibility of water from the start of the pressure, although less rapidly under a low degree of pressure than under a high degree.)

The compressibility of glass is very small, much less than that of quicksilver.

**ELECTRICAL CURRENTS.**—If a slender, sharp-pointed instrument—a needle, for instance—be made to revolve rapidly while piercing a card, it produces an elevation or "bur" around the opening on each side of the card. It has also been observed that the electric discharge produces the same appearance; hence it has been inferred that the electric current moves with a rotary as well as forward motion. This bur around the hole made by the electric current being on both sides of the card, was formerly attributed to a double current—that is, a discharge was supposed to take place from both the negative and positive poles, each discharge making its bur on the side of the card opposite the pole from which the discharge proceeded. The needle experiment, however, showing that a rapid revolution will form a bur on both sides, although the perforating instrument is moving in one direction only, does away with the necessity of supposing a double current to account for the phenomenon of the electrical bur, and the rotary motion and single current is the theory now adopted.

**A NEW THEORY.**—Herr Schultz, of Berlin, announces to the French Academy of Sciences the theory that the electricity of the tissues of the human body results from the action of common salt, which is abundantly distributed through the system. He has found that the electricity is much more abundant when the proportion of salt present is large, than when it is small. He describes numerous experiments he has made confirming this theory. Thus animal electricity, or animal magnetism as it is generally called, is excited or generated by the introduction of salt into the system, and the quantity or power of this electricity is regulated by the quantity of salt used. In other words, our bodies are electrical batteries, and common salt is the proper agent to excite them to action. Herr Schultz supposes that we may have not only the key to the mysteries of animal magnetism, but one that, in the future, will open to our wondering and enraptured vision still greater mysteries. The more powerful batteries, it is well known, control the weaker ones, which accounts for the fact that only certain persons possess the power of magnetizing others.

**PROF. R. PUMPELLY**, the well known geologist and mineralogist, has been engaged the past summer in exploring the Menominee region near Lake Superior. He has already reported the discovery of three "iron mountains" and a valuable quarry of marble. The Menominee is a river on the Michigan side of Lake Superior.

**AN OBSERVATORY AT BROOKLYN, N. Y.**—Mr. James Campbell, of Brooklyn, N. Y., has erected in his garden, on the heights overlooking the river, an astronomical observatory which has cost him \$20,000. His telescope is a 12-inch refractor, with a focal distance of seventeen feet. It was made by Alvin Clark, of Cambridge, Mass., the most skillful telescope manufacturer in the world, and is said to be one of the best and most perfect instruments of the kind existing. It is the same one to which we alluded, some weeks since, as having revealed the fact that the small star of the ninth magnitude, half way between Phocion and the neighboring double star of the sixth magnitude, was itself a double star. This star has probably been gazed at more than almost any other star in the heavens, as it is the one which has universally been employed in defining the relative power of new telescopes; yet it had never before appeared double to human gaze.

Mr. Campbell, not satisfied with this splendid achievement and handsome tribute to science, has determined that the city of his home shall possess a finer instrument still than his own. He has accordingly interested several prominent citizens of Brooklyn with himself in the construction of a still larger monument to science, which he proposes shall be built in the public park, now laid out, at Prospect Hill, and in which shall be mounted a *twenty-five-inch refractor*, which would altogether eclipse anything else of the kind yet conceived of. Mr. Campbell starts the proposition with a liberal subscription from his own purse. It is to be hoped that the wealthy men of Brooklyn will not fail to carry out the enterprise. Of course nobody but Alvin Clark would be thought of as the constructor of a telescope for such an observatory.

**THE SPECTRUM.**—The science of the Spectrum is now as well settled as that of chemistry, and by it is clearly established the nature of the material which emits light, or of the material through which it passes. By it is proved that the moon has no atmosphere, while Jupiter has an immense atmosphere, generally like our own, but in some materials entirely different. Venus either has no atmosphere, or one filled with dense clouds. The sun is largely composed of iron, intensely heated, and is surrounded by an immense atmosphere.

In certain stars are found sodium, magnesium, hydrogen, bismuth, antimony, mercury, etc., but in others there must be new matter, of which in the earth we have no knowledge.

On the 12th of May last, a bright star of the second magnitude burst out in the constellation Corona. The spectrum proved it all on fire—an intense melted mass, surrounded by a vast gaseous atmosphere, in a flame. One of the elements in this flame was hydrogen. Whence could come such a sudden addition of this inflammable gas? It has proved that some nebulae are only gas in a state of flame or great heat, irresolvable into stars by any power of telescopes. They may be condensing into stars and planets of the future.

This much has the spectrum done in about a decade. What may we not expect from it in the future! Its extensive practical application to the arts is by no means an impossible or even improbable thing. There is good reason to believe that it will yet be usefully employed in many metallurgical operations, to tell us what is going on in furnaces where great heat is employed, and where but few eyes are found available.

**A HYBRID GRAIN.**—It is said that a scientific Scotch farmer has succeeded in producing a grain that partakes equally of the nature of rye and that of oats.

**A TRICK OF TRADE.**—During the time when cotton was cheap and plenty, previous to our late civil war, rope was extensively manufactured from that material all over the country, and was considered superior in quality to the best hemp or jute goods; but it became an object to economize the weight of cotton used, and in order to do this a very ingenious method was devised. A hopper containing white sand was placed over the machine at a point where the three or more strands were being united, and a fine stream of sand was thus introduced into the fibers as the rope was twisted, thus greatly adding to the weight of each bundle.



California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Oct. 21, 1867.

President in the chair. About thirty members present. J. C. Burt was elected a resident member, and Prof. Alexander, of Honolulu, a corresponding member.

**Donations to the Library.**—Prof. Bolander presented four volumes of Kunth's synopsis of the famous voyage of Humboldt and Bonpland. Gregory Yale presented a variety of interesting catalogues and pamphlets, one of which relates to the discovery of America by Northmen. Mr. Yale also announced the desire of the Royal Antiquarian Society of Copenhagen to exchange publications with the Academy.

**Contributions to the Cabinet.**—Prof. Bolander presented a large bundle of plants, collected and prepared by Dr. Kellogg and himself.

**Project for Building a Hall.**—The committee appointed to devise some plan for securing a lot and the erection of a building thereon suitable for the accommodation of the Academy, reported in favor of asking State and city aid for that purpose, in addition to special subscriptions from members and the public at large. It is believed that the rapidly growing membership of the Academy, its position as the center of a new field of scientific research, and the great interest now being taken in the transactions of the Academy, not only by our own citizens but by scientific bodies in all parts of the civilized world, fully warrant the steps proposed in this direction. The committee was continued.

EXPLORATIONS IN ALASKA.

Several very interesting letters were read by Prof. Whitney from Wm. H. Dall, chief of the scientific corps of the Russo-American Telegraph Company, in which it was stated that the operations of the corps, thus far, had been attended with great success. Mr. Dall proposes, notwithstanding the abandonment of operations by the company, to continue his labors of exploration, at his own expense, at least for one year, with the view of carrying out to completion the work left unfinished by the death of the lamented Kennicutt. This young and intrepid laborer in the cause of science traveled over 400 miles on snow-shoes, last winter, camping in the open air with the thermometer from 8° to 40° below zero. He had even seen it 68° below. In a letter to Professor Whitney he writes that he had paddled a canoe 650 miles from Nutato up the Youkon river, where he met Capt. Ketchum and party, returning from a trip 600 miles still further up—making 1,250 miles of open river boating up that magnificent river, the chief part of which now flows through American territory.

FIRST NOTES ON THE GEOLOGY OF ALASKA.

In a letter to Prof. Whitney, which was also read to the Academy, Mr. Dall gives a diagram illustrating the geology of Alaska in the region explored by him so far as he had ascertained it. He had obtained a set of the rocks from Fort Youkon to the sea, sufficient to determine the geological formations for 1,300 miles. The following notes are full of interest: "The only fossiliferous beds are on the Youkon, and extend about 600 miles—brown sandstone, containing halves, mollusca and vegetable remains. They are rare—only found in thin layers—and it took several months of searching before I found any. There is a small seam of coal thirty miles below the bend, and thin shale above and below. Very few and poor vegetable remains are found here resembling fuci. The coal is of good quality, but so little of it that it is worthless. These are the only fossiliferous strata I have found so far. The rocks above and below are all azoic and non-stratified, except a little hard blue or black slate. Granite, and especially mica, are very rare. I found a pebble containing the well known fossils of the Niagara limestone on the beach near Fort Youkon. There is a broad patch of volcanic eruptive rock on the river near the lower bend, and it extends to the sea. The islands of St. Michael and Stuart are formed of it, and it is roughly columnar on the former near this fort. The columns are five-sided, and just on the beach."

A SECOND YOSEMITE VALLEY.

Prof. Whitney exhibited a number of photographic and stereoscopic views of scenery at the headwaters of the Tuolumne river, including views of Mount Dana, which has an elevation of 13,000 feet, and is the highest peak of the middle Sierra; of Castle Peak and of Tuolumne Valley—taken by Mr. Harris, photographer with the topographical party of the State Geological Sur-

vey. He also read a remarkably interesting description of Tuolumne Valley, by Mr. Hoffman, of the Topographical Corps, from which it appears that there is a second Yosemite, which has been hitherto a *terra incognita*, except to a few mountaineers, who have kept their knowledge to themselves. The valley is now occupied by one settler, in lonely grandeur. Prof. Whitney stated that it was formerly filled with a glacier, which could not have been less than forty miles long. The photographs plainly showed the marks of glacial action on the rocky walls of the valley. The Indian name of this valley is Hetch-Hetchy. It is about twelve miles north of the Yosemite. Mr. Sharkey is the occupant and claimant of the valley. The falls are 1,700 feet high.

Dr. Cooper stated that he had obtained testimony that volcanic action was existent in Mt. Hood, Oregon.

Prof. Whitney expressed doubts about the appearances. There might be some remnants of volcanic fires, in the shape of sulphurous vapors, as in Mt. Shasta, but he doubted the existence of volcanic action.

LEAH'S CONFESSIONS, an Autobiography: A. Roman & Co., San Francisco.

This is one of Roman & Co's latest publications. It is a neatly printed, book of 130 pages. It is a story of woman in her domestic trials, and as such will find ready and sympathetic readers. The scene is laid partly in California. There are many passages of interest, descriptive of trials peculiar to woman, and eloquent arguments in behalf of woman's individuality of life. The book will no doubt be extensively read by all California lovers of light literature, as well as by many in the Eastern States.

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**LIVE STOCK ASSURANCE Co.**—San Francisco. Oct. 22d. Capital stock, \$200,000. Trustees: George Treat, John Center, Alexander Ely, John Anderson, S. C. Bowley and C. M. Chase.

**WATER FRONT LAND Co.**—San Francisco. Oct. 24th. Capital stock, \$200,000; 50 shares, \$4,000 each. Trustees: W. P. Harrison, Joseph M. Parker, B. M. Atchinson, David Dwyer and George H. Lovegrove.

**ELECTION OF OFFICERS.**—LADY BELL COPPER MINING Co.—Oct. 24th. President, J. McGill; Secretary, B. P. Wilkins; Treasurer, D. A. Macdonald. Trustees: D. A. Macdonald, J. McGill, John W. Farrier, David Hunter and B. P. Wilkins.

**EXCHEQUER MINING Co.**—Oct. 21st. President, S. Heydenfeldt; Secretary, David T. Bagley; Treasurer, John Sime. Trustees: S. Heydenfeldt, A. K. Grim, John Sime, A. P. Crittenden and Jos. Tilden.

In the case of Cyrus Palmer vs. the Tar-

**THE FIRST FLOWING WELL—PROBABLY.** We have before us the following extract from a number of the Louisville *Advertiser*, published some time in the year 1831. "A spring of rock oil has been discovered in the county of Cumberland, while boring for water. On reaching the depth of 130 feet the oil gushed out, forming a jet 12 or 14 feet above the ground. It flowed out at the rate of 75 gallons per minute, and very soon found a little stream, which ran into the Cumberland river, and covered its surface for a considerable distance. The oil burns well and gives a brilliant light."

**HUNTER'S CONCENTRATORS.**—Mr. Hunter shipped 56 of his concentrators by yesterday's boat, for Virginia City, with the irons for one amalgamator, which will be used there as patterns for building others. Mr. H. uses one amalgamator for four concentrators. He intends to put up all of his concentrators and run them with their complement of amalgamators on his own account, upon tailings which he has purchased for that purpose.

**PICNICS.**—All in search of health, pleasure, or recreation, will find Woodward's Gardens one of the most desirable places of resort this side the garden of Eden.

The European watchmakers appear to be very much alarmed at the progress of watch-making in America.

Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, October 26, 1867.

City Stocks.

In city stocks little has been done during the period under review, though the amount offering is very considerable. There were sales of San Francisco Gas at \$7 75, and at the close at \$68. Spring Valley Water was in the market at \$67 75@68 50 per share. North Beach and Mission Railroad stock continues to be well maintained, sales having been effected at \$53 per share.

We note considerable sales of Legal Tender Notes at 70 1/2 cents, and 71 cents seller 30. Our latest advices from New York quote Gold at 142 1/2, and Sterling 108 1/2. The receipts of the local insurance companies during the first nine months of 1867, according to the returns made to the Internal Revenue Department, have been as follows:

COMPANIES.	September.	Previously this year.	Total.
Pacific.....	\$72,535	\$83,727	\$555,332
Union.....	22,708	221,334	254,042
National.....	31,259	181,330	212,589
Fireman's Fund.....	16,170	117,013	133,183
Builders.....	29,206	17,438	152,849
California.....	18,024	77,268	95,292
Merchants' Mutual Marine.....	16,548	118,785	132,333
Occidental.....	9,063	58,429	67,492
Home Mutual.....	8,546	73,631	82,177
San Francisco.....	4,865	35,097	39,962
Totals.....	\$235,210	\$1,494,972	\$1,730,182

The returns were made upon a legal tender basis, the rate being fixed every month by the Collector of the district, as follows: In January, 74 1/2; February, 73 1/2; March, 75; April, 75; May, 74; June, 73; July, 72 1/2; August, 72; and September, 71.

The aggregate decrease of receipts in September as against August is \$13,396. The receipts of the several companies in September as compared with August, show the following difference:

	Increase.	Decrease.
Pacific.....	\$11,192	\$8,405
Union.....	538	—
National.....	—	3,719
Fireman's Fund.....	—	4,535
Builders.....	9,733	—
California.....	—	164
Merchants' Mutual Marine.....	151	—
Occidental.....	—	5,189
Home Mutual.....	—	—
San Francisco.....	506	—

The receipts in August were more than \$50,000 in excess of July, and all the companies exhibited an increase of business for the month, while the returns of September show an aggregate decrease of \$24,344 in six companies, and an increase of \$10,948 in four companies.

The receipts of the city railroads for the month of September and previously this year have been as follows:

	September.	Previously this year.	Total.
Omnibus.....	\$24,384	\$169,663	\$194,047
North Beach & Mission.....	24,003	157,785	181,788
Central.....	13,073	98,836	111,909
Front St., Mission & Ocean.....	8,240	52,632	60,872
Market.....	7,743	56,436	64,179
Totals.....	\$78,488	\$526,378	\$604,866

The aggregate increase of receipts in August over September is \$2,855. The difference of the income of the several companies in September as compared with August is as follows:

	Increase.	Decrease.
Omnibus.....	\$1,221	\$—
North Beach & Mission.....	—	142
Central.....	—	128
Front Street, Mission & Ocean.....	287	—
Market Street.....	693	—

The city railroads are in a very prosperous condition, and their receipts are augmenting very rapidly. The Potrero Railroad over the Mission Bay Bridge reports the receipt of \$1,007 during the month of September.

Mining Share Market.

Since our last reference the mining share market has been characterized by a good degree of activity, showing a considerable increase of transactions in the aggregate, and withal exhibiting more animation; however, the majority of stocks comprising the call list of the Board have depreciated materially from closing quotations of last week. Several private gold quartz claims, located in California, one of which (the Hayward) is quite extensive, and has yielded largely within the past nine years, have been incorporated and placed on the market within a few days, full particulars of which will be found below.

**CROWN POINT**—has been in considerable request, advancing from \$605 to \$910, receding to \$625 under increased sales, then selling at \$700 and \$665, and closing yesterday at \$640 seller 10. The drift on the 700-foot level is still running in quartz and porphyry, and has attained a distance of ninety-two feet from the shaft. It is said that the south drift is looking more favorable. The winze from the 800-foot level is 90 feet in depth, carrying quartz containing some pay ore.

**OPHIR**—is dull of sale, a few feet commanding \$37@30, and at the close \$30 was bid. The machinery at the new shaft was started on the 24th, and everything worked well. The shaft is eighty feet in depth.

**CHOLLAR-POTOSI**—sold quite freely under a rapid decline from \$209 to \$152, then selling at \$172 50, and closing at \$163. A telegram from the 24th inst., says the "New Santa Fe" has just taken B street down," but this information has not affected the stock very materially. On the 23d, 225 tons of ore were taken from this level. During the week ending Oct. 19th, the developments in the new shaft have been as follows: Work has been steadily continued in the drifts on the fifth station; the one going south is now forty-eight feet in length, and the north one thirty-nine feet. In the south one they found no indications of ore, but the drift going north has quartz in the entire face, carrying but little metal. The ore sent to custom mills during the week ending Oct. 19th, amounted to 1,425 tons, the various etations yielding as follows: New Santa Fe, 200 tons; Pitte, 480; Old Santa Fe, 394; and Santa Fe, 34, 496. On the 22d inst., the deliveries of ore amounted to nearly 200 tons.

**HALE & NONCROSS**—sold at \$725@745 per foot early in the period under review, receded to \$650, and at the close sold at \$690 per ft. The Trustees of this company have called a meeting of the stockholders to be held on the 27th of November, "to take into consideration and decide upon the proposition to increase the capital stock

from \$400,000, divided into 800 shares, the present capital of the company, to \$1,200,000, to be divided into 800 shares of \$1,500 each." The work at the mine is proceeding quite rapidly. The ore now obtained from the 175 foot level is of a very fair grade, but the average for the current month has only been about \$24 to the ton.

**SAYAGE**—opened at \$117, advanced to \$129, under extensive sales fell to \$115, rallied to \$117, and closed yesterday at \$118. The product of this mine for the week ending Oct. 19th has been 1,944 tons of ore against 1,873 tons extracted during the previous week, showing an average of \$99 90 per ton for the same period against \$98 85 of the previous week. There has been no material change in the mine since our last issue. On the fourth station little progress has been made in the north-west drift; they were about forty-five feet from the winze. The Potosi drift has been run duo north about forty feet, and the assays from samples show from \$60 to \$70 to the ton. The south drift has been carried twenty-five feet from the main south-west drift, and the team of quartz they are following is increasing in width, and is said to occasionally contain some good ore; it is 135 feet from the south winze. The shaft is now down ten feet below the fifth station.

**AMADOR MINING Co.**—has been placed on the market within a few days, and sold yesterday at \$215 per share. This property is the celebrated Hayward mine, at Sutter Creek, Amador County, and was recently incorporated with the following named gentlemen as Trustees: A. Hayward, A. H. Rose, Samuel F. Butterworth, Thomas Sunderland, and Louis A. Garnett. The capital stock of \$1,480,000 is divided into 3,700 shares of \$400 each. The mine is now 1,210 feet in depth, and the drifts opened from this point extend over 500 feet, and are said to continue in good ore. A pump from the 1210-foot level, 20 feet in depth, is in fine ore, and the developments generally are said to show a supply of ore which it will require from four to six years to exhaust. The bullion returns during the past two weeks show a yield of \$16,580.

**YELLOW JACKET**—declined from \$480 to \$310, improved to \$380 in the open board, and closed at \$342 50. The *Trespass* of the 19th inst. says: "In the north mine there is no change to note. At the south shaft the winze, about 20 feet from the Kentuck line, is in excellent ore, and the body is widening to the south. The shaft to-day is down 110 feet toward a new level, which will be commenced when 180 feet shall have been attained. A sufficiency of ore is being hoisted to supply the Morgan mill with ore for reduction. The new machinery at the shaft has been completed and is now running."

**GOULD & CURRY**—is in somewhat better favor, having improved from \$295 to \$350, then sold at \$310, and closed yesterday at \$330. The Bonner shaft has been cleared of water, the slum at the bottom removed, sinking resumed, and also worked on the east drift from the sixth station. The old works of this mine are still producing from seventy to one hundred tons of low grade ore per day. The mill is in fine running condition, but is much inconvenienced for want of water.

**OVERMAN**—has again become one of the active stocks on the list, opening at \$64, dropping to \$45, improving to \$63, receding to \$50, rising to \$62 50 seller 10 in the open board, and closing at \$45. We learn that the 300-foot level has been extended to the Unclio San ground, though the old works of that company have not been reached. It is reported that in a "red ledge" pay ore has been found which assays from \$37 to \$50 per ton. A cross-cut on the ledge, it is also said, shows twelve feet of ore. The receipts of bullion from the 1st to the 24th inst. amounted to \$30,647.

**KENTUCK**—was in the market to a considerable extent at a marked decline, rapidly receding from \$238 to \$173, rallying to \$197 50, and closing yesterday at \$182. The returns from the Petaluma and Pacific mills, from the 1st to the 20th, inclusive, show a bullion yield of \$42,921 75. Two additional mills have been employed during the same time, from which no report has yet been received, and to which 328 tons of ore have been delivered. The assays of ore from the 1st to the 18th show an average of \$46 74 per ton, and from the 13th to the 21st, \$56 18.

**IMPERIAL**—has been well maintained within a range of \$127 50@131, and at the close \$130 is bid. The bullion returns from the 1st to the 24th inst. amounted to \$25,763, against \$41,737 during the same time in September.

**BELOCHER**—opened at \$115, then sold at \$105@100, assessment of \$15 delinquent, and at the close \$100 is asked. **GOLD HILL QUANTZ** realized \$100 early in the week, and closed at \$90. The 290-foot level, in running west, is said to show a good breast of ore; the width, however, is not well defined, but is reported to be over ten feet. No ore has yet been reached on the 450-foot level.

**CONFIDENCE**—advanced from \$35 to \$55, seller 3, and at the close \$37 50 was bid. **BULLION** declined from \$18 to \$14, advanced to \$15, and closed at \$16. An assessment of \$10 per share was levied on the 22d inst. **SERRA NEVADA** obtained \$12 50@13 50, and at the close \$10 is bid. **EXCHEQUER** was in the market at \$8 per share, and SEGREGATED BELCHER at \$6 50@5 50. **JUSTICE AND INDEPENDENT** sold at \$2@1 75. The assessment of \$10 is now delinquent.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last amounted to \$1,057,421. The sales in the open sessions, from the 19th to the 24th inst., inclusive, amounted to \$523,086, showing a combined aggregate to date during the past week of \$1,580,507.

**NATURAL HISTORY.**—It is said that a number of young people, pupils of the Normal School and others, of this city, have taken steps to organize a society for the study of natural history. The opportunities needed for such an enterprise are just what are proposed in another column, in connection with the future improvements of Yerba Buena Park, that is to be.

The farm of the celebrated Roman, Cincinnati, consisted of only four acres, three having been lost by becoming security for a friend.







## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Oct. 12th: The Mowyer Co. have struck their lode in the main tunnel. The west wall was well defined, a pretty clay casing, and everything indicating a true lode. The quartz found contains sulphurets in large quantities, but whether rich in the precious metals or no has yet to be determined. The superintendent will immediately proceed to cut through the lode, to thoroughly test the character and width at the point struck.

The tunnel in the Merrimac is in 75 feet. Samples of rock picked off the side of the lode show ore of a high character. The ore appears to be a silver-bearing zinc blende, containing copper, iron and antimony.

A recent assay of decomposed pocket ore from the Alpine tunnel, found 24 ft. from the mouth of the tunnel, gave \$41.23 in silver and \$12.40 in gold to the ton; total, \$53.63. The same substance found in the pocket on starting the tunnel did not show a trace. The hard quartz, also, which at first only showed where the ore had been, indicated by a red stain, now contains some black ore.

Oct. 19th: The Silver Creek quartz mill commenced running again this week, and is putting through Tarshish ore. The first class ore is now concentrated or washed before crushing, to rid it of the fine light clay, which renders the pulp in the barrels difficult of manipulation.

The Tarshish is looking better than at any previous time. The winze, at a depth of 35 feet, struck a rich pocket, which, on being drifted upon, yielded several tons of first class ore, and good ore is found at several other points. In the face, nearly 100 ft. in the ledge, small pockets of rich ore are numerous.

## Amador County.

*Ledger*, Oct. 19th: The Clear Lako Borax Co. are taking out 35 tons per month, and find a ready market for all they can produce.

## Calaveras County.

*San Andreas Register*, Oct. 19th: Capt. Ferguson has struck a rich lode of quartz at Hay Press Flat, on the San Antonio Ridge. Bean & Martin crushed eight tons of quartz from the lode in a small water arastra, from which they obtained 8 lbs. of amalgam. The lode is large, and experienced quartz miners have pronounced it one of the best in the State.

C. V. McNair has located upon and prospected another portion of the same lode, from which he has taken considerable rock. It prospects as well as the above.

In the same district, the Washington claim has had 48 tons of rock crushed, which paid \$67 per ton, and the second quality rock is paying \$15 per ton. Other claims—the Lado, the Feuiau, and the Mountain Quail, in the immediate vicinity, prospect equally as well.

Mr. Irvine is now opening his works under ground by tunnels and excavations, so as to add 20 or 30 hands to his mine.

*Chronicle*, Oct. 19th: We were shown this week a small diamond and a number of other precious stones of various characters, which were found near town.

*Stockton Gazette*, Oct. 19th: The Quail Hill mill at the first run produced \$2,000, and the leads located on this range are at present exciting considerable attention. This mine is a deposit of auriferous talcose slate, mixed with ochrous earth and decomposed quartz. The surface was washed as a placer claim, and afterwards some good copper ore was found in it, and now it is worked as a vein mine for gold. The abundance of the auriferous matter, and its softness, render it possible to crush two or three tons per day to the stamp. The outcroppings of this vein are characterized by that species of ledge well known to copper prospectors as "calico rock." It has been suggested that there is every encouragement to prospectors to search along the eighty miles intervening between Quail Hill and the Harpending mine in Placer county, where a similar character of ore has been discovered.

## Mariposa County.

*Gazette*, Oct. 12th: A Chinaman on Monday last, accidentally dropped upon a piece of gold weighing 2½ lbs. He had occasion to go to one of the small ravines which lead from the Mariposa Co's vein and passes through town, and while there saw something glittering in the dirt. On examination he found it to be a lump of gold which weighed nearly 2½ lbs. The ravine has been rich in placer gold, as have others leading from the same vein, and this piece is supposed to have been thrown out a year or so ago in excavating for a foundation for

a small house. The place will be thoroughly worked this winter, when probably many larger nuggets will be found.

## Nevada County.

*Gazette*, Oct. 16th: The Illinois and Wisconsin are now taking out splendid rock. The last crushing yielded over \$80 a ton, and there are now some 200 tons above ground, ready to be crushed, which the owners are confident will pay nearly as well.

Rich quartz is now being taken from the Seven-Thirty Loan ledge near Grass Valley. An incline has been sunk to the depth of 90 ft., and the prospects are flattering.

Oct. 17th: Very good prospects are obtained in boring wells in the foothills near Bear river. One person states that he prospected gravel taken from one of the claims, and invariably found numerous colors of fine gold. The depth from the surface to the bedrock is 75 ft., with two ft. of auriferous gravel at the bottom. Above the gravel there is a stratum of cement, three or four ft. thick, and next is a layer of eight or ten ft. of quicksand.

Oct. 19th: The Black Bros. have sold their gravel claims at Empire Flat, near French Corral, for \$14,000. Williams, Morgan & Co. were the purchasers. The claims have been paying largely for some years, and are quite extensive.

*Transcript*, Oct. 19th: A rich quartz ledge was discovered a few days since, by Chas. Ott and Lewis White, on Deer Creek, above the Oriental mill. The ledge is 15 in. wide on the surface, and shows free gold all over the face of the rock. The quartz has a rich seam of sulphurets running through it.

The Bed Rock tunnel is now in 2,000 ft., and the distance to the Flat is probably as much again; but the workmen have been greatly encouraged by the fact that Black Bros. in opening their ground on the Flat for surface washing have crossed the identical seam upon which the tunnel is being run.

Oct. 22d: Messrs. Clark & Poquillon have purchased the 5-stamp mill of Lambert which they will move to Eureka and add five more stamps, making a first rate 10-stamp custom mill. It is expected to get the new mill in operation in about four weeks. There is a large amount of prospecting about Eureka, and there is no mill in the immediate vicinity which is designed for custom work, and men who have rock to work have to wait the convenience of the mills erected on the several mines in the vicinity.

*Grass Valley Union*, Oct. 15th: The North Star mine has been yielding very handsomely lately. In the lower or 800-ft. level on the incline the vein is showing a width of from 2½ to 4 ft., and the rock is as good as any that has heretofore been taken out, and better than the previous yield from the 800-ft. level.

We were shown yesterday, by Mr. E. Pratt, a lot of very rich rock taken out last week from the Seven-Thirty Loan quartz mine, near Deadman's Flat, southwest of Grass Valley. The specimens were taken from different parts of the level run at the bottom of a 90-ft. incline. The specimens were singular in variety, showing free gold in crystalline quartz, in the ordinary ledge rock, and in beautiful sheets of leaf gold, that looked as if they might have been fashioned by the hand of an artisan, so bright and smooth in polish and unique in shape.

The Smartsville correspondent of the *Marysville Appeal* of Oct. 23d, says: The old channel of the Ancient river, extending from Mooney Flat to Timbuctoo, from which such large quantities of gold has been taken, is one of the curiosities of California. Bedrock tunnels have been run through the rim rock, which in some cases, has required the work of years. A few companies are now engaged in working off the upper stratas of gravel and cement, preparatory to running tunnels to open the old river channel. The Babb Co. at Timbuctoo, worked off the upper strata to the depth of 180 ft. some years since, from which over \$250,000 were realized. Within the last two years they have put in a short bedrock tunnel which enables them to work a few feet of the old river bed and some 50 ft. of the upper strata. From this they are washing into their flumes over \$500 per day. The O'Brien claims adjoins the Babb on the east, having 1,100 ft. on the channel, which at this point is covered with a hill of pay gravel, over 200 ft. in depth, before reaching the old river gravel. This upper strata is now being worked to the depth of 140 ft., paying from \$150 to \$325 per day's washing. In the McAllie claims a tunnel has been run 1,200 ft. from the river rock on one side to the rim rock on the other. Washing through this tunnel has just commenced with flattering prospects. Shafts are being sunk on the Pittsburg and Yuba River Co's mine. East of this is the celebrated Blue Gravel mine. Its length on the channel is about

1,100 ft. Their present tunnel is not low enough to enable them to work to the bedrock. It is supposed that there is 40 ft. of gravel below their present flumes, which will require a lower tunnel to work it to the bedrock. This mine has yielded its lucky owners nearly \$900,000 and continues to pay from \$20,000 to \$57,000 at a wash up. The Union and Blue Point Gravel Co. is washing off the upper strata to a depth of from 40 to 140 ft. This is washed through two flumes of one mile each in length, and is paying from \$250 to \$400 per day in each flume. A bedrock tunnel 2,200 ft. in length is now being run, a contract for a section of 400 ft. is being prosecuted at the rate of from 30 to 40 ft. per month. Two shafts are now down to the grade tunnel, at a cost of \$4,000 each, and bids for running tunnel each way, from each shaft will be received until the 31st of October, contractors binding themselves to prosecute the work day and night until completed. The company pay premiums of from \$500 to \$1,000 for the early completion of these contracts. The Nevada Reservoir Ditch Co. are also preparing to run a tunnel under the gravel hill which divides Sucker Flat from Mooney Flat, so as to work the extension, and rich mining ground of Mooney Flat, which has remained unworked for want of outlet. This tunnel will be 3,000 ft. in length, through gravel and cement, and opens out Mooney Flat mines to the depth of 80 ft. at the lowest place, and as the dividing ridge is worked off, the bank of gravel and cement increases to 515 ft. in depth, with the old river bed beneath all.

*Excelsior*.—Meadow Lake *Sun*, Oct. 19th: The Occidental Co. are now at work on their claim, and the developments are very encouraging. The Mohawk and Montreal Co's mill has started up again upon their own ore. The plates are heavily coated with amalgam, and everything is working to a charm. As soon as they finish crushing the rock which they now have on hand, they will run through a quantity of ore for the Gold Run Co.

The Eclipse Co. have their shaft now down 37 ft., and their rock is looking fine.

## Placer County.

*Stars and Stripes*, Oct. 16th: It is rumored that the title to the Good Friday claim will probably be the subject of litigation at the next term of Court. In this claim there is a thread of quartz about two inches wide, which is very nearly half gold. In one week the two gentlemen who are in possession took out about \$5,600. Those who contest their claim do so under a copper mining location, they claiming that the location for copper mining holds for gold as well.

A miners' meeting was held in Auburn on the 12th of October, having in view the designating of mineral lands in that vicinity, and of remonstrating against the patenting of such lands.

A correspondent at Dutch Flat, discussing the question, "Do metals grow?" says: "I can within a mile of this place go with my pick and pan and collect sulphurets containing gold, which have been formed within the last ten years, in clean gravel tailings washed years ago from old claims. The gravel has been cemented together by it."

Dutch Flat *Enquirer*, Oct. 19th: The sulphurets in the Alta ledge are said to be very rich, a portion of which have been worked by Dr. Dozier's process, and yielded as high as \$1,300 in silver and gold to the ton.

## Plumas County.

*Quincy National*, Oct. 12th: Morris' claim, at Carriboo, is paying an ounce per day to the man, and the Jaw Bone Co. are taking out the ore handsomely.

At Dutch Hill, in what is called the Cummings claim, D. S. Zearing last week took out a nugget of pure gold weighing 18 ozs., and has found several pieces nearly as large during the past season. Mechling & Calvert, Ely & Benham, Bryan & Emmons, and the Dutch Hill Co., all are making good wages.

Wm. Gamblin, of Rich Gulch, last week took out 40 ozs. of gold from his claim at that place.

Miron Waggouer and B. M. Ferguson have purchased of D. S. Zearing the Cummings claim at Dutch Hill.

At Missouri Flat, near Rich Gulch, Mardon & Brothers have struck rich diggings, which will pay \$20 per day to the man, and the prospects are that the diggings are extensive.

At Rush Creek the mines have been paying better this season than for several years past. Fred. Lewis last week took out of his claim \$300 to one pan, one piece weighing 11 ozs. Roeddy & Co's claim is paying an ounce per day to the man, and F. Smith's claim one-half an ounce. R. Gise's claim continues to pay well. Serrin & Brown are running a bed-rock tunnel to open their hydraulic claim, where they expect to take out much ore.

Sherman & Bro., of Argentine, have sold their upper ledge, purchased of Gilson & Lannis, to Heath & Co., for a consideration of \$400 and sufficient water to run their mill on the Hesler ledge for two years.

The undivided half of the Grey Eagle mining claim, at Barker Hill, is advertised for sale. This claim is now paying \$8 per day to the hand, and affords an opportunity for a good investment.

## Sacramento County.

*Folsom Telegraph*, Oct. 19th: The miners in this township are doing well. We heard of a heavy clean up a day or two since, by one company, and if we had not promised the assertion so often made, that the mines are worked out.

## San Bernardino County.

*Guardian*, Oct. 12th: We saw this week a large quantity of rock from the Zapata mine, and, as far as appearances go, we have seen no better or more promising from any ledge we have ever visited, embracing the famous Gould & Curry, Ophir, Savage, etc. Should this ore not turn out as well as either of these, all we can say is, that appearances are very deceptive. The lode has been well opened both by shaft and tunnel, and exhibits in the latter a mass of rock perfectly surprising. The lower wall is well defined, and the lead is opened between two and three feet, although the hanging wall has not yet been reached. The ore is sulphuret of silver, containing a very large proportion of chloride.

## Shasta County.

*Courier*, Oct. 19th: The mines of Soda and Hazel Creeks, above Portuguese Flat, are paying unusually well this year. The gold found is mostly very coarse, and pieces weighing from an ounce to \$50 are frequently picked up while ground sluicing.

Quite a number of Shasta miners have located claims at Trinity Center. Murry & Son, formerly of Pittsburg, own a claim which pays them \$5 per day to the hand, and can be worked at all seasons of the year. Fred. Kushman, formerly of French Gulch, is working a claim which pays \$7 per day, with prospects of growing better as the claim is more thoroughly opened. Other claims are paying even better than those mentioned.

About two years ago a Chinese company purchased the old Briggsville hotel and garden for \$1,100. They removed the building, fences and fruit trees, and commenced opening a mining claim on the ground. At the time some thought the Chinese would never get their money back, but the Celestials knew what they were buying. The claim has already paid several thousand dollars, and is not yet half worked out.

Work is progressing finely on the Bullion and several other South Fork ledges, all of which are looking well. Black sulphurets containing silver abound in the Bullion ledge, and occasionally a piece of rock is found to be impregnated with threads or wires of native silver.

## Sierra County.

*Downville Messenger*, Oct. 19th: The Docile Quartz Co. at Alleghany are progressing at a rapid rate with their mill. In the meantime the owners are pounding rock in a hand-mortar, and if reports are true the rock is of fabulous richness, for large sums are mentioned as the result of each day's work.

Gov. Wright and his associates of the Combination, in Wet Ravine, have succeeded in finding good pay ground, and are taking it out rich. At any rate they show a voucher for the truth of this in the shape of a six ounce nugget.

At the Sequel Diggings, near the old Galoway ranch, the prospects continue highly encouraging.

## Siskiyou County.

*Yreka Union*, Oct. 19th: The White Bear quartz claim is being prospected by the owners, Messrs. Pemberton & Co. They have extended down on the ledge at the point where it cropped out about 10 feet, and took out from this open cut eight tons of rock, which they crushed in an arastra. The yield was nearly \$400, or a fraction less than \$50 to the ton. The ledge at the lowest depth sunk on it, 10 feet, is 18 inches in thickness. The owners show some fine specimens taken from it.

## Tulare County.

*Visalia Delta*, Oct. 16th: Mr. A. J. Maltby brought into town last week, for shipment to the Mint, 100 ounces of bullion, valued at \$14 per ounce, the product of 25 tons of second class rock from the Eclipse mine, situated on White river, in this county.

## Yuba County.

*Marysville Appeal*, Oct. 17th: A Brown's Valley correspondent writes: "As to the Rattlesnake mine, it will compare favorably with the Jefferson, both in management and richness; and its prosperous future is everything but doubtful. The rock crushed lately in the Dannebroge mill instead of yielding



only \$6.50 to the ton, as your correspondent would have it, has paid from \$8 to \$15 to the ton, and none was ever crushed that paid less than \$8 per ton; and instead of a few pieces of or many pieces of rich rock found now and then, as your correspondent so cunningly and mysteriously intimates, there is plenty of it visible everywhere in the mine."

Oct. 22d: The Rattlesnake Co., Brown's Valley, are now taking out from their lower level and crushing at the Dannebrog Co., having struck good quartz themselves, will soon be able to supply their battery with quartz from their own claim, and the Rattlesnake Co. have therefore to go to work and put up a battery, pan and settler of their own. They are about to make a contract for that purpose with the San Francisco Miner's Foundry.

#### ARIZONA.

Miner, Oct. 5th: Prospects on Lynx Creek are encouraging. Uncle Billy Pointer last week crushed in an arastra 5½ tons of rock from the Pointer lode, which yielded just \$35 to the ton, this, too, without any picking or sorting of the rock. The ledge is a wide one, and every pound of rock taken out of it was crushed.

Bob Winning took a lot of refuse rock, that had been picked twice over by another party, crushed it, and made it pay \$9 to the ton. Strange to say, when the mill company crushed the best of this rock, they could only get out of it about \$13 per ton.

Poland & McCrackin have ready for crushing a pile of rock, which they have taken out of the Deadwood No. 2, which will pay more than \$100 to the ton.

Billy Middleton and Shep. are still following up the pay streak under their old cabins, and make it shell out to the tune of \$5 and \$6 per day to the hand. On account of the scarcity of water, they have to rock their dirt.

Noyes & Curtis, in Hassayampa District, crushed in the mill lately 7½ tons of rock, which yielded \$100 per ton.

A party of Mexicans, who have stuck to Lower Lynx Creek, through thick and thin, are now working the placers on that creek with good success. They expect to do better when water is plenty.

The Great Central or Eliza mine on William's Fork, is yielding a fine article of copper ore, at a depth of 60 ft.

Some of the mines in Sacramento Dist. will be worked at an early day.

There are about 60 men working on the Vulture lode at Wickenburg, half of whom are Americans and the balance Mexicans.

#### COLORADO.

Georgetown Miner, Oct. 3d: The editor saw a piece of bullion a few days since which weighed 24 ozs., which was taken from six pounds of ore from the Wm. B. Astor lode. The value was \$32.40 or at the rate of \$10,800 per ton.

The Terrible lode is looking splendidly. There is now a vein of 18 in. solid clean mineral at the bottom of the shaft with several smaller veins coming in. The shaft is about 35 ft. deep.

W. C. Bramel & Co. have on exhibition a fine specimen of argentiferous galena, weighing 18 lbs. The ore is from the Glenalbin lode, and assays \$349 per ton.

Gov. Patterson has a dainty pocket piece of silver bullion, that weighs 68 ozs., extracted from Cataract lode ore. The ore yields between \$300 and \$400 per ton.

C. W. Bramel & Co. have made a new discovery of a very fine lode on Republican Mountain. The ore is a very fine black sulphuret and auriferous galena, and from appearances is very rich in silver. They have named it the Correct lode.

Mr. Kalbaugh exhibited to us, a few days since, the finest piece of silver bullion we have ever seen. The bullion weighed 236 ozs., coin value \$317.60. The bullion was extracted from Combs lode ore.

The Nyanza lode is turning out a large amount of very rich ore. Five tons has been brought down for reduction.

The Muscovite lode is showing a very fine vein of argentiferous galena in the bottom of the shaft. The mine is being actively worked.

Immense blocks of argentiferous galena are daily raised from the shaft of the New Boston lode.

Prospecting is starting up again with renewed vigor. The recent discovery of some very rich veins of sulphuret ores has given a new impetus to this branch of business.

At the smelting works we saw some ores from the Cooley lode, Montezuma, and the National Treasury lode, Peru Dist., that have been brought over for reduction.

We were shown, on Tuesday last, a large and very fine specimen of first class sulphuret ore, from the Junction lode. The gangue carries considerable native silver.

Ore from the North American lode is be-

ing packed to the works of Garrott, Martine & Co. for reduction.

Work upon the Nuckolls lode is being actively prosecuted, and a large amount of first class ore is being raised.

Garrott, Martine & Co's works are now engaged in crushing ore from the Terrible lode, for Messrs. Crow & Clark.

#### IDAHO.

Owyhee *Avalanche*, Oct. 12th: Rich ore is coming out of the Oro Fino, with prospects for a continuance. The company has determined to sink a shaft on the extreme south line of the claim, to fully prove its extent. The ledge near the surface is over two ft. wide, the ore being spotted with free gold.

Col. Fogus & Co. are pushing work on their claims with much energy. Their ledge shows well.

The Woodstock is yielding some very rich ore.

The Poorman's works were stopped by the strike, but is again being started up—partly by contract.

The Oro Fino Co. have let contracts to run two tunnels on their mine—one 50 and the other 100 ft. in length. A contract has also been let to sink a shaft 100 ft. on the Poorman.

Six mills are running nearly all the time. Black's mill is also pounding away in Flint, and the Iowa Co. will probably start their new mill next week.

#### MONTANA.

Post, Oct. 5th: Hughes & Henneberry have struck good pay in Snow Shoe Gulch. Immediately after it became known, the entire gulch was located. The Stoby Co's ground commences at the mouth of Deadwood, and runs up that gulch, 2,600 feet. They are at work and taking out good pay. Three men at work five days took out \$700, and they were out in their best ground. One of them in looking over some tailings picked up a nugget weighing \$60.

The Bailey quartz ledge has been opened and developed by a Mexican who contracted to find and prove the ledge for a half interest in it. The depth of the cut where the ledge was struck is 25 ft. and strikes the lead at right angles. The side of the ledge that is laid bare presents a very fine appearance, and is thickly studded with gold which appears to be disseminated throughout the entire mass.

At a meeting of the miners of Fairweather Dist., held on the 2d inst., it was resolved that every claim shall be duly represented while the owner is working in the district, and that claims may be held by the owners without representation, provided the owners reside in the district.

Messrs. Rival, Jones, Lott, and others have purchased 1,100 ft. on the following lodes: Watsaka, Watsaka No. 2, Almaden, Julia Holmes, Deidesheimer, Poy Shippie, U. S. Currency, Rosa Bonheur, Na-chu-sa, Lost Dutchman, Red Cloud, Prolific, Rochester Gem, Rob Roy, Shabona, Waveland and Hotspur. The consideration was \$60,000. The property is all situated in Babbit Dist., Rochester Gulch, and some of the leads are remarkably rich. The same gentlemen recently purchased 13,000 ft. in the Silver Star Dist., of Green Campbell, paying him \$30,000 currency.

Denver News, Oct. 2d: The editor has been shown a button of silver weighing between 45 and 50 lbs., from the National Treasury mine in Peru Dist. It was taken out by the Colorado Gold and Silver Co., who are preparing to sink a shaft on the mine this winter.

#### NEVADA.

*Black Rock*. The *Sage Brush*, Oct. 5th, says: The Black Rock country appears to be attracting the attention of the business men of this and adjoining countries. Evans will start his mill to running next week, under the supervision of Mr. Isenbeck, and if he succeeds in working the ore there, up to the figures realized at Dall's mill, or at Gold Hill, those mines will stand a thousand per cent. above anything that man has ever known. The lowest figures ever realized from any of these ores worked by Isenbeck's process, amounted to \$148, and many batches worked as high as \$350.

#### Pahrnanagat.

The Pahrnanagat correspondent of the *Stockton Independent*, Oct. 19th, says: On the Indiana lode, they have struck an excellent grade of ore, at quite a considerable depth. Capt. Dahlgren has struck some good rock in some of his claims. Revolu Dist. is yielding rich returns for the labor bestowed. The Old Dominion mine in Hot Creek Dist., presents the finest body of ore I ever saw. The entire ledge is literally covered with horn silver. About 150 tons of this remarkably rich ore has been taken from the mine, with many more tons of the same kind in sight. The Pilot Knob works \$149 per ton. The New Cumberland is a

ledge eight ft. wide, and gives very large assays. Messrs. Miller & Montgomery with their fine 10-stamp mill at Hot Creek, are working rock from the Morcy Dist. The American Eagle is down 85 ft. and 90 tons of ore have been taken out, which pays over \$200 per ton. The Magnolia pays by mill process \$250 per ton. Very rich ore is brought from the Empire Dist., but none have as yet been worked by mill process.

Reville, Oct. 18th: Several companies are working their ledges with energy and with reasonable prospects of success. An improved quality of ore has been developed in the Indiana at a considerable depth, where the vein is also of increased size. Capt. Dahlgren has gone east to report his success to his company, for it appears that he uncovered good ore in several claims. Raymond and Conger have also gone east, and it is a matter of indifference to nearly all the people there whether they ever return or not.

#### Reese River.

Reville, Oct. 12th: Yesterday the main shaft near the fly wheel in the Manhattan mill was broken, which was the cause of stopping its operation until repairs are made.

Oct. 14th: The mines in Cortez Dist. that are being worked, are turning out well. The larger number are lying idle for want of capital. The St. Louis Co. had about 100 tons of second class ore worked at the mill of the Mt. Tenabo Co., which yielded \$130 per ton. The first class from this mine, considerable lots of which were worked at the Keystone mill, yielded \$250 per ton. The company is putting up buildings and other improvements, necessary to work the mine during the winter. The Mt. Tenabo Co. is preparing to work its mines and to keep the mill going during the winter.

The first lot of bullion from the mill of the Centenary Co. in Newark Dist., amounting to some 3,000 ozs., was brought into the city on Saturday.

Oct. 15th: We saw to-day the first bars of bullion from the mill of the Centenary Co. in Newark Dist. They were respectively .694 and .760 fine. The bars were the product of inferior ore from the Chihuahua mine, which was reduced without roasting as an experiment. Only 25 per cent. of the silver was obtained by the process. This result was anticipated by the agent of the company, who will have roasting furnaces completed shortly, when the mill will fairly begin to work.

Recent developments in Silver Bend Dist., made by the Westport Co., gives ample assurance of their possessing an extensive and rich ledge. The character of the formation in which the ledge occurs is similar in appearance to that which surrounds the High-bridge. The ore resembles that produced by the Transylvania mines, and is probably fully equal in point of richness. The mine is owned by parties in Carson City and in San Francisco, who intend to construct the necessary reduction works next spring. The ledge is from 10 to 12 ft. thick, and is surrounded on either side by a few inches of a black putty-like clay, which separates it on the west from a wall of hard talcose slate, and on the east from a wall less firm and composed of clayey slate. Nearly all the ore of the highest grade is found next to the eastern or hanging wall, and forms a body about 4½ ft. thick. Several tons of fine ore now lie upon the dump, and a large body is exposed to view in the ledge.

Oct. 17th: The building of a fine mill in Newark Dist. by the Centenary Co., and the development of the Chihuahua and Lincoln mines, have tended to bring the district into prominence. Deep chasms are in the mountain side. One cañon is named the Chihuahua, where the rocks seem to have been burst by some great convulsion, and stand in perpendicular walls a thousand feet in height. This deep fissure exposes several gold-bearing quartz ranging from two to 20 ft. in width. The ore is an anti-monial sulphuret, and its valuable character has been established by repeated tests in the mills in this city.

Some 30 tons of superior ore have been extracted, the yield of which it is supposed will be very high. The bore of the Sherman shaft is too great for the donkey-engine, which has, however, been doing its very best for a couple of months, and the work has been stopped until the new and powerful machinery can be erected. Rich sulphuret ore, glowing with ruby, has been struck in the Ethan Allen. It was encountered at the depth of 80 ft. in a compact vein 18 in. in width.

The ore produced by the Lodi ledge, in Silver Peak Dist., assays well. We saw this morning a certificate by David Lundbom of an assay of selected ore, the yield of which was \$317 of silver per ton.

Oct. 18th: Four tons of first class ore from the Taylor and Passamore mine in the Cor-

tez Dist., yielded 775 ozs. of silver of average fineness. The ore was reduced at the mill of the Mt. Tenabo Co.

Oct. 19th: The Diana mine is producing ore of an excellent quality. The reduction of 100 tons has just been completed at the Metacom mill, the average yield of which exceeded \$200 per ton.

Just now the Magnolia mine is producing superior sulphuret ore. Twenty-three tons were reduced at the Manhattan mill last week, the assay of the pulp of which was at the rate of \$222 per ton.

#### Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, Oct. 15th: The easings of the Neagle & Corcoran mine, where they have cut into it, assays from \$15 to \$20 per ton, silver, with a mere trace of gold. The drift which the company have been running for what they consider their main lead, is supposed to be within 40 feet of striking the same. As soon as the required machinery is put up, the company will commence operations for the thorough development of their mine.

Oct. 17th: The new hoisting works of the Crown Point mine, Gold Hill, are nearly completed; in fact, the two hoisting engines have been working for over a week past. Each of these engines is 40-horse power, with 14-inch cylinders and 30-inch stroke, with balance valves. They work in a perfectly satisfactory manner. The pump engine is of 100-horse power, with 20-inch cylinder and 4 feet stroke. It was started up Tuesday afternoon, in presence of quite an assemblage of those interested in such matters, and worked admirably. This engine is of an improved pattern just introduced from the East, known as the Hartford engine, with Wright's patent variable cut-off, and is the first one of the kind yet manufactured on the Pacific coast.

We were yesterday shown an assay of Eclipse ore, Washington district, taken from the lot lately crushed at Dall's mill, Washoe. The assay was made by Leopold Kuh, of this city, from a sample of crushed ore as it came from the batteries, and yielded \$300.03—\$294.99 in silver and \$5.04 in gold.

The new hoisting works at the Imperial and Empire shaft are progressing toward completion.

Mr. E. R. Burkin has just brought in 4½ tons of ore from the Silver Star lead, Washington district, which will be worked at Dall's mill, Washoe, on the 26th inst. The ore is supposed to be very rich. The mines of Washington district are proving among the best in the State.

The McMeans lead, American Flat, is now yielding ore that assays from \$20 to \$40 per ton. Quite a large lot of ore is now upon the dump, and crushing will shortly be made.

Considerable prospecting is being done to the eastward of the Comstock, in the direction of the Occidental mine. Several of the leads promise shortly to yield paying ore.

Oct. 18th: The Sierra Nevada Co. are still drifting in hard rock, but are battering away most industriously.

The works of the new Ophir shaft will be ready to go into operation about the first of next month. The shaft has already drained all the wells in the vicinity.

We were yesterday shown some exceedingly rich rock found on Cedar Hill by Mr. Wm. Gillis. The rock was found in a small vein, which is perhaps a spur from a large lead in the vicinity. Some of the pieces exhibited to us were literally spangled with gold. A pan of dirt taken from the vicinity of the vein yielded on being panned out about a teaspoonful of fine quartz gold.

Oct. 19th: Wells, Fargo & Co. shipped during the past week from their offices in this city and Gold Hill, 4,082 ozs. of assayed bullion, valued at \$111,500.37.

Oct. 20th: The Union mill, Gold Hill, has lately been much improved. It now reduces 26 tons of ore with the same number of stamps as were formerly occupied in crushing 12 tons in 24 hours. The capacity of the amalgamating department has been increased by the addition of a number of Wheeler pans.

The Yellow Jacket Co. have cut through into the works of the Crown Point. This connection secures a strong draught of fresh air through a portion of the mine called the "Frog Pond," in which much difficulty has heretofore been experienced from foul air, and in which there is a large amount of good ore, which can now be mined.

Trespass, Oct. 18th: The Sunderland mill has resumed work, crushing Kentucky ore. The mill has been thoroughly overhauled, and is now capable of crushing 26 tons of ore per day.

A small vein of rich ore has recently been cut on the old Kenosha ground, Cedar Hill, by Wm. Gillis and others.



## Mining and Scientific Press.

W. B. EWER,.....SENIOR EDITOR.

O. W. H. SMITH. W. B. EWER. A. T. DEWEY.  
DEWEY & CO., Publishers.

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Readers should be cautious about addressing correspondence relating to the business or interests of a firm to an individual member thereof, whose absence at the time might cause delay.

POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR READERS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State. August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Oct. 26, 1867.

## Notices to Correspondents.

**GUIDO.—FLEXIBLE STONE.**—This curious mineral and its peculiar properties has generally been attributed to the presence of extremely thin micaceous laminae. Our correspondent calls attention to the fact that tables composed of this mineral have for some centuries been exhibited at Florence; also from the following paragraph that this rare mineral is now found in India: "A great geological curiosity has just been deposited in the museum of the Hartley Institution at Southampton, consisting of a piece of flexible stone about two feet long, seven inches wide, and more than one inch in thickness, having the appearance of rough sandstone, which bends with slight pressure like a piece of india rubber or gutta percha of the same size. This very interesting specimen of geology has been placed in a glass case constructed for it, fitted with a lever, by touching the key of which on the outside of the case the flexibility of the stone is shown. It was presented to the Hartley Institution by Mr. Edward Cushman, from his relative, Mr. R. S. Munden, who obtained it from Delhi, in the East Indies. In its natural position the stone is said to run in thin layers in the soil in which it is found, but is so rare in India that it finds a place in the museums at Calcutta. We are informed that there is a similar stone, but not so wide as the one under notice, in the British Museum, and another in the museum of the School of Mines, but specimens are very rarely to be met with. Although the stone has a gritty appearance, no grit or dust is thrown off by the motion given to it when under pressure.

**PRESERVATIVE.**—Charcoal is one of the worst conductors of heat, in consequence of which property it is frequently employed to fill the space left between the inner and outer lining of a properly constructed ice chest. As an illustration of this property we may mention the well known trick of taking immediately from the fire a kettle of boiling water and supporting the same on the naked palm of the hand; to be safe, however, in performing this feat, it is requisite that the bottom of the kettle is well covered with a fair thickness of soot, and that none of the latter is in an ignited state.

**GLAUCUS.**—The Emerald and Beryl are all most identical in composition, the principal constituents being about 65 per cent. of silica, 16 do alumina, and 13 do glucina, the last being a peculiar base; the difference in color proceeding in general in consequence of the former containing the green oxide of chromium, whilst the latter is colored by the protoxide of iron, crysoberyl and a mineral called phenakite also contain glucina, but in a different combination as compared with the above, the former containing seventy-seven per cent alumina and eighteen of glucina, the latter fifty-six of silica and fifty-five of glucina.

THE number of Irish in New York city is estimated in round numbers at 400,000, and of Germans at 200,000.

## Importance of our Iron Interest.

It is but a few years since specimens of Lake Superior iron were handed about and examined with eager curiosity. The locality was too far removed from the great centers of population for such ores to have any value. Furnaces and puddling works were soon built, however, and the enterprise of making iron commenced on a small scale. Coal there was none, and wood was scarce; a few scrubby trees were converted into charcoal for feeding the furnaces. The metal proved to be the best ever produced in the country. In 1855 the St. Mary's canal was opened so that vessels from the lower lakes could enter Lake Superior. It was found that the ore could be shipped cheaper than it could be worked. The shipments of 1855 amounted, in round numbers, to 11,000 tons; in 1860 it had increased to 116,000; in 1863 to 185,000; in 1864 to 235,000; in 1866 it reached 285,000, in addition to about 20,000 tons smelted in the immediate vicinity of the mines.

The mines are from thirty to thirty-five miles distant from any water communication whatever, and much of the ore is taken as far as Buffalo, one thousand miles distant, to be smelted! So important has this business become, that the cities of Detroit, Cleveland, and Buffalo, even, are counting largely on deriving much of their future prosperity from the development of these distant iron mines; their smelters and furnacemen looking to Lake Superior for their supply of ore.

These facts are well worthy the attention of capitalists on this coast, especially in view of the near approach of the completion of the Pacific Railroad, which already passes near what is supposed to be some of the most valuable iron ores in the country, and which is destined to open up a great and growing market for the iron trade, in the illimitable mining territory of the great interior basin between the Rocky Mountains and the Sierra Nevada, to say nothing of this city and State.

The iron interest of this coast cannot fail to become of great value at an early day. Difficulties will no doubt be encountered at the outset, in producing iron on this coast; but, under intelligent management, they ought not to be especially formidable. A good iron mine is worth far more than a mine of either gold or silver. There is much reason to believe that the disabilities under which we have heretofore labored from lack of coal, for this and similar undertakings, on this coast, will soon be done away with, by the substitution of another product which will place us in equally as favorable a position for fuel as are our brethren of the Atlantic States. In this connection we would call especial attention to an article in another column on the use of petroleum in iron manufacture.

What promises to be a fair beginning in the iron business, has already been made in Oregon, where a blast furnace has been erected that turns out twelve tons of pig iron each twenty-four hours. Half a dozen such furnaces could not supply even the present wants of the Pacific Coast, leaving out of the account iron which is now or soon will be demanded for railroad and naval construction. The fascination which has heretofore held our people so firmly to the production of the precious metals alone, is fast giving way to a broader view of our resources, and the grosser metals and agricultural and miscellaneous products will soon prove far broader and more generally lucrative fields of enterprise than the search for gold and silver.

TO MINING COMPANIES.—We would call especial attention of any mining company in need of an experienced and reliable Secretary to attend to their office business, to the notice in another column, headed "Mining Secretary."

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

## The Use of Petroleum in Iron Manufacture.

The value of petroleum for the manufacture of iron and steel, is being developed as rapidly and surely as for the production of steam. It is well known that iron and steel produced by charcoal, are far superior to that made by means of any other kind of fuel, and commands a much higher price in the market. It is in consequence of the absence of sulphur and other impurities from charcoal, that the superiority of that fuel is due. For precisely the same reason petroleum is superior to all other fuels for such work.

According to a late correspondent of the N. Y. Express, petroleum has recently been most successfully applied in New York city, in the manufacture of fine steel for cutting, etc. In the experiments made, the metal is converted in crucibles. The experiments thus far had been conducted in private; but they were soon to be thrown open for public inspection. The combustion of petroleum in this experiment is entirely different from the mode of burning it by Mr. Foote, in his Palos experiments, or that of Mr. White, of this city. The apparatus used in this case is what is known as the "surface burner," on which the oil is allowed to drop, and is consumed at the instant of evaporation. A steam jet is also admitted into the furnace. The process and apparatus is said to be even more simple and cheap than that employed by Mr. Foote, although possibly it might not work as well for making steam.

The writer in the Express says that the petroleum so used produces a most "terrific heat," just the thing required for the purpose, and that the work is done in much less time than it is possible to do with the best of coal. One great advantage claimed, and which is manifest, is the steady and uniform heat obtainable, which cannot be obtained in the use of coal, where there is a necessity for frequent opening of furnace doors, throwing in cold fuel, etc. The disadvantage of suddenly reducing the heat of a converting furnace, say one or two thousand degrees, will readily be understood by any intelligent steel manufacturer. Yet this is unavoidable where coal is employed, and entirely unnecessary in the use of petroleum. A large amount of labor and exposure to great heat is also avoided. The purity and evenness of the heat is found, as might reasonably be expected, to produce a much superior steel to that produced by the best coal in the same furnace. This mode of burning petroleum might doubtless be applied equally well to the blast furnace. Its application to the reverberatory must certainly be especially advantageous and readily accomplished.

The "terrific heat" spoken of by the writer in the Express, tallies well with the report of the experts who recently went down to Santa Cruz to witness the operation of White's petroleum burner, the result of which we have already recorded. They describe the heat as being most intense, for a furnace of that mode of construction, greatly exceeding anything of the kind they ever witnessed from coal in similar furnaces. The rapidity with which steam is generated, from the first firing up, as evidenced in the Santa Cruz furnace, and in the experiments of the Boston Steam Fire Engine, as well as on board the Palos, appear to leave no room to doubt the activity and intensity of the petroleum fire. From all accounts we are unable to resist the conclusion that we are on the eve of a most important revolution in the matter of fuel for furnace purposes of nearly every description. In this contest California bids fair to act a most important part, and reap a rich reward.

AMERICAN EXHIBITORS AT PARIS.—Commissioner Beckwith says that out of 500 American exhibitors at the Paris Exposition, over 300 received premiums.

SHALL WE HAVE AN OBSERVATORY?—In another column will be seen some notice of a private astronomical observatory just erected in Brooklyn, N. Y., and another in contemplation, for the city, in one of her public parks. This reminds us to again ask, Is San Francisco ever to have an observatory? We have in this city a most deserving, active and world-wide known Scientific Society, which is without a home or a place in which to build one. The idea has already been suggested, in private circles, and we venture to make the suggestion publicly, that such a building as would be needed for them, and one which might also be used, in part, for an observatory, might be most advantageously located on the grounds of one of our most central public parks, that is to be—the present Yerba Buena Cemetery. Something in the way of monumental ornament will be needed for such a place, whenever it is laid out and improved. Could a more appropriate monument be raised than such a structure as we have hinted at? We presume the city would have no objections to allowing the liberality of her citizens to show itself in the erection of an appropriate temple of science on these public grounds. Such an institution, under the management of the California Academy of Sciences—who might also act as the custodian of the State geological collections, in addition to their own—would soon take high rank among the learned institutions of the world. A botanical, and perhaps a zoological garden, especially designed for the study of natural history, should be made an adjunct of the enterprise. Such an adjunct, aided by the Academy's collections, which, under certain restrictions, might be thrown open to the public, would afford a most favorable opportunity for that important and useful study.

INDUSTRIAL FAIR FOR 1868.—A meeting of the Executive Committee for the approaching Industrial Exhibition of the Mechanics' Institute, was held last evening, when the following sub-committees were appointed:

Finance.—Messrs. Boheu, Coffran and Plum.

Building and Sites.—Messrs. Nunan, Elliott, Harrison, O'Conner and Macdonald.

Circulars and Address.—Messrs. Harrison, Pritchard and Williams.

Printing.—Messrs. Dunn, Corcoran and Pease.

Machinery for Building.—Messrs. Spiers, Hanscom and Austin.

Premiums.—Messrs. Macdonald, Lewis, Tilden, Plum and Spiers.

Classification.—Messrs. Rosekrans, Elliott, Young, Mosheimer, Dunn, Pritchard and Pease.

Rules and Regulations.—Messrs. O'Conner, Lewis, Rosekrans, Corcoran and Coleman.

Application from Legislature.—Messrs. Williams, Young and Nunan.

THE COLORADO MINERAL EXHIBITION.—Mr. Geo. O. Whitney, of this city, brother of the Colorado Commissioner to the Paris Exposition, has placed upon our table a copy of the finely executed London edition of the pamphlet which Commissioner J. P. Whitney had printed in Paris, containing a schedule of the ores exhibited, with information about the Colorado region and its resources, etc. An elegant map of the United States, and a separate one of Colorado Territory is also given. The elegant reprint of this work in London affords a very good evidence of the appreciation in which reliable information from this quarter of the world is held in that great commercial emporium.

OUR PARIS LETTER, for next week, will give some facts with regard to the California wines at the Paris Exposition. "Somebody has blundered" in that matter; not our correspondent, however, for he has done everything that lay in his power to advance the interests of the California exhibitors. The series of letters which he is writing are the best that we have seen from the Exposition, whether published on the Atlantic or Pacific side. The entire series will comprise from twelve to fifteen numbers. We have three now on hand, not yet published. They will appear each week successively until the series is concluded.



**New Patents and Inventions.**

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the list of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

**RECENT INVENTIONS.**

**JOHNSON'S NEW SAFETY CLUTCH.**—Mr. J. B. Johnson, of this city, has invented what he calls a "Roller Safety Clutch," which may be adjusted to any hoisting gear; and by the use of which, while the platform or any other weight can be safely and readily hoisted by any of the ordinary means, there is no possibility of its slipping back. It can be held at any desired point. A simple attachment places the clutch under the control of any one who may be attending the machinery. By simply pulling a light string the clutch is raised, and the platform will descend; but the very instant the tension on the cord is removed, that instant the platform or other weight being lowered, stops. There are no cogs or friction gear about the invention. It operates with rollers so arranged as to give an absolute and certain check—the weight not being able to drop over an eighth of an inch after the clutch is applied. The clutch is extremely simple, and can scarcely, by any possibility get out of order, and will never wear out except by decay or decomposition of the material of which it is made. The invention is decidedly original, and of much merit. Mr. Johnson has a working model of his invention at the office of H. F. Williams & Co., 405 California street, near Sansome, where all interested are invited to call and examine it. Application for a patent has been made through the MINING AND SCIENTIFIC PRESS, PATENT AGENCY.

**APPLICATION FOR RE-ISSUE.**

**HARVESTING MACHINE.**—David J. Marvin, Stockton, Cal. P. Nov. 15, 1864. P. Sept. 9, 1867:

1st, In a combined header and thrasher, I claim so pivoting or hinging the cutter-frame upon main axle, a, that it can be moved longitudinally, and also raised or lowered at pleasure, substantially as and for the purpose specified.

2d, In a combined header and thrasher, having its cutter-frame mounted or hinged as above described, I claim the combination and arrangement of the bar, a', posts, b', b', pulley, d', cord, c', and crank-rod, N, substantially as and for the purpose herein set forth.

3d, In a combined header and thrasher, I claim the arrangement of the cutter-bar and apron, Q, running crosswise of the machine in combination with the arrangement of the thrashing and winnowing apparatus running lengthwise of the machine for the purpose of greater convenience and compactness and in the manner substantially as shown.

4th, In a combined header and thrasher, I claim elongating the axle, a, so as to place the wheel, O, at a considerable distance from the main-frame of the machine, to afford room for the attachment of the header-frame between said wheel and main frame.

5th, The combination of the levers, i and l, with the sliding header frame and the gear-wheels, c and b, for the purpose of throwing the header apparatus into and out of gear, substantially as shown and described.

6th, The swinging axle, a, in combination with the gear-wheel, b', pinion, Q, and lever, A, for throwing the thrashing apparatus into and out of gear, substantially as described.

**PATENTS RECENTLY ISSUED.**

69,152. — CARPET-CLEANER. — George W. Young, assignor to George W. Smith, San Francisco, Cal.:

I claim the whips in combination with the beaters, as shown and set forth.

I also claim the combination of the combined whip-beaters with the brushes, D, D, according to arrangements above described, and for the purposes above specified.

**NEWSPAPERIAL.**—We understand that the *Mercuriale Gazette and Prices Current* has been purchased by the proprietors of the *Commercial Herald and Market Review*, and the former will be merged with the latter. Under the editorial management of H. C. Beals, the *Herald* has been a success from its inception.

"You may talk to me of Baltimore and Philadelphia and New York, and their railroads and the trade of the Atlantic—let me tell you that the Pacific Coast is already beginning to revolutionize the world!"—*Speech of Hon. Wm. H. Secured to the people of Sanapalis, Maryland, June, 1867.*

**ADDRESS**

*To the Permanent Citizens of the Pacific States and Territories.*

**Citizens.**—We enjoy the finest country that the sun shines on, the most varied and fertile soil, the most extensive seaboard, and the greatest breadth of land having the richest metallic deposits possessed by any one nation of the earth, a land affording all the most varied material for manufactures, wool, hides, cotton, silk, metals, coal, flax, gums, wood, and, above all, abundance of every kind of food.

We are only a million of people, and yet have more land and sea than Russia with sixty millions—more land than France and Germany, with their hundred millions of people. In the face of those vast resources, there are towns crumbling to decay, men seeking without finding employment. Something wrong here, or this would not be happening. Let us consider.

The instructed mind of the population is mostly devoted to political office-seeking. Their ambition is misdirected. The rising youth is trained to idleness. This mode of thinking and training must be reversed if we would hold this magnificent country against the incoming barbarians.

We must teach our youth the glories of manufactures, of commerce, of industry. We must nourish every effort, however rude, at manufacturing what we require. By devoting some of our capital and our young people to manufacturing and general industries we shall soon become busy, get rich, bring more and more people into the country, create new wants, build up new villages around them; cultivate more land, build more ships, generate more commerce, and thereby create profitable employment for all who want work.

Now, fellow citizens, some money capital is required to help on this industrial movement. Where shall we get it? There is a considerable fund which we may divert from its present bed and channel, viz: the Insurance Fund.

Consider. The people of the Pacific States pay two hundred thousand dollars a month to the Insurance Companies for assuring them against losses from fire and shipwreck.

There are some fifteen of those Insurance offices in this city, each fishing for its share of this large fund. Each office pays a heavy rent, a half dozen employees and clerks, besides printing and advertising; the lowest cost is a thousand dollars a month on each office, and with some it is double that. There are too many persons employed in the business; too much dozing over newspapers; too much red tape and circumlocution; too high salaries and too little work. Think of two hundred thousand dollars a month! two millions and a half a year! paid to those sleepy gentlemen for what little they do. This must be reformed. Three or four Insurance offices are quite enough for the million of scattered inhabitants of the Pacific States. A dozen of them may be abolished with great benefit to the community; some one or two have already withdrawn.

This change would liberate some fifty men of education, whose business capacity would be of much greater service to the community in other branches of industry, such as manufactures, agriculture, commerce, the fisheries, the forests and the mines. This change would also divert a million or two of dollars to other and more useful industries, whereby a thousand fold more of national capital and employment would be generated than by the present drovny system.

The managers of the Builders' Insurance propose, with the co-operation of the people, that this vast monthly stream of wealth shall be arrested and diverted to the aid of home manufactures, to effect a great reform and remove from the people's shoulders the expense of supporting a small army of insurance clerks and agents. The Builders' Insurance Company has passed through its first year (the most trying) with singular success. It has gathered a hundred thousand dollars, paid promptly all its losses, and established a business income of fully twenty thousand dollars a month! This has been done while we were yet but an experiment, and enjoying the confidence of only a portion of the public. We now appeal to the entire people. We ask them to send their Insurance business to us on the following conditions, and soon we shall have an income of ONE HUNDRED THOUSAND DOLLARS A MONTH, and here is what we shall do with the money.

First, We calculate, from our past experience, that we shall lose by fire and marine disasters half our monthly income (as our first year's experience our losses were but one-third of our income).

Suppose, then, that our income shall be worked up to one hundred thousand dollars a month, and suppose that we shall pay out losses to the extent of fifty thousand dollars a month, we shall still have fifty thousand dollars a month to bank up, (or half a million a year.) We propose to make two parts of this sum—one part (a quarter of a million a year) to be invested in City Bonds, to protect the assured, and one part (about a quarter of a million a year) we propose to convert into a

**MANUFACTURERS' LOAN FUND,**

Which shall be lent exclusively to manufacturers on mortgage of their premises and machinery, at as low rate of interest and on as long time as is generally current on real estate.

By the aid of this fund the budding industries of the Pacific States may be nourished into active life; more and varied employments can be originated for the people; immigration may be welcomed and not feared; the farmer will have got a market at his own door for the produce of his land; the manufacturer will find a lively home demand from the farmer for the products of his millchutes.

All this, good people, can be achieved, by your own votes at your own elections, without the aid of Congress or the Legis-

lature—it is simply to vote that your Insurance shall go to the Builders', by which vote you shall enable us to plant factories all over the country. You shall fill the rivers and harbors with busy ships; you shall send out upon the distant waves fishing expeditions that will bring back wealth to your cities; you shall form a nursery of seamen around your own shores—the ova of a future commerce and a protective navy; you will create the hum of busy workmen in every desirable locality on the Pacific Coast; you will bring from neglected fields produce of the utmost value; all of which will most certainly multiply a thousand fold the wealth of the country in which your lot is cast, making a worthy home for yourself and a future country for your offspring.

People of the Pacific States and Territories! We pledge ourselves to you to effect, with your co-operation, some of those things. We have kept all our pledges so far, and have uttered nothing that was not true. Already have we helped to move the shuttle and the loom, which others, with more means, have passed by and neglected. Already have we helped to build and rig ships in our own dock-yards, and seen our own waves in search of riches for the city. Already have we given many liberal bounties and donations to the deserving institutions of the city. Give your vote to the Builders', and we shall share its profits with every useful charity and every honest industry, and help along every enterprise that promises benefit to the people.

We call for the yeas and nays.

THOMAS MOONEY, President.

EDWARD MACCANN,

WM. B. COOKE,

W. G. WEIR,

J. D. CONNELL,

J. W. McCORMICK,

C. A. JENKE,

HERMAN SCHWARZE,

J. W. MCKENZIE,

H. V. HERBERT, Secretary.

13v15-lam4t

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, con templates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LOTT, Secretary. Office, 305 Montgomery street, corner of Plac, San Francisco. 2v15

**JACOB SNEW, Pioneer Photographer,** 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tf

**SECRETARSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15tf

**FOR CABINET PHOTOGRAPHS, or Enameled Cards,** of the very best quality, you must go to the NEW YORK GALLERY, Nos. 25 and 27 Third street. Every picture war ranted to give perfect satisfaction. 5v15qr

E. F. HOWLAND, Artist.

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. SEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with PURE GOLD—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v14tf

**Brown's Filtering Heater.**—For preventing incrustation in Steam Boilers, purifies water from lime or any other impurity, saves fuel, saves the boiler, prevents explosions, and protects life and property. The cost of the Filter is soon saved in fuel and boiler—repairs alone.

One is in operation at the San Francisco Foundry, Fremont street, where Rights can be procured, or all needed information, on application, in person or by letter, to 5v14-ly

AUSTIN A. WELLS, Agent.

**NORTH AMERICA**

**Life Insurance Company.**

Usual Restrictions on Occupation and Travel

**ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company a the World!

**J. A. EATON & CO.,**

Managers Pacific Branch, 302 Montgomery st. 20v14n9p

**Mining Secretary.**

**THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.**

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON, 17v15-tf No. 5 Government House, San Francisco.

**Boiler Makers Wanted.**

**WANTED—GOOD BOILER MAKERS,** (THAT ARE NOT Society men) to whom steady employment will be given. Apply to COFFEY & RISDON, Boiler Works, Sush and Market streets. 13v15-1w

**Builders' Insurance Company—**  
OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street.  
FIRE AND MARINE INSURANCE. 10v14n9qr

**Perry Davis' Vegetable Pain Killer.**

This medicine has relieved more pain, and caused more real joy than any other one thing that can be named. It is a "balm for every wound." Our first physicians use it, and recommend its use; the apothecary finds it the first among the medicines called for, and the wholesale druggist considers it the leading article in his trade. All the dealers in medicine speak alike in its favor, and its reputation as a medicine of great merit and virtue is fully and permanently established, and it is the "Great Family Medicine of the Age."

Prices, 25 cents, 50 cents, and \$1 per bottle.  
Sold by all Druggists, Grocers and Medicine Dealer everywhere. 15v15-1m

LEWIS FALKENAU. HENRY G. HANKS.

**Pacific Chemical Works,**

Laboratory, Sixteenth street, near Folsom. Office, 623 Montgomery street, San Francisco.

**FALKENAU & HANKS, MANUFACTURING AND CONSULTING CHEMISTS.**

Particular attention given to the analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soda, Commercial Articles, etc. 14v15

**ROOT'S**

**Patent Force Blast Blower.**

Adapted for Smelting, Foundry, Mining and Steamships.

Requires 50 per cent. less power than any Blower now in use. For further particulars, address KEEL, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15q19p

**Oakland College School.**

THE PATRONS of this Institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California.

The SENIOR ENGLISH affords a complete course of instruction in the English branches, in Theoretical and Practical Business, Science and Art.

The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided.

Throughout all the various departments, great attention is given to the study of the Modern Languages.

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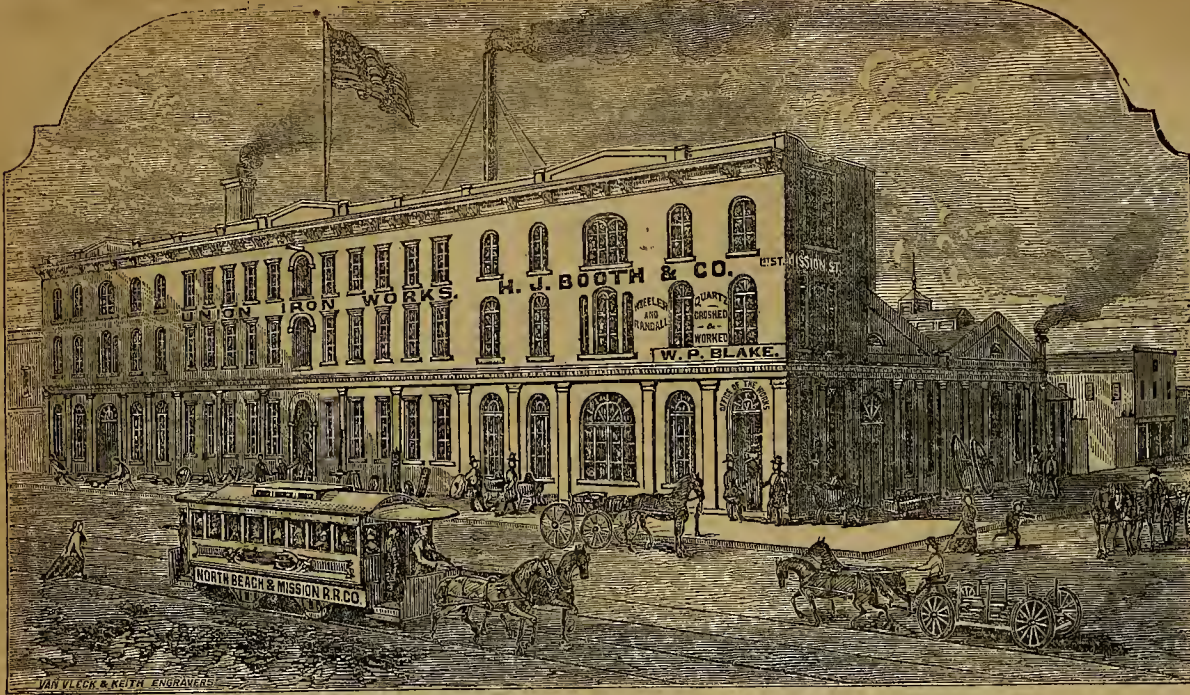
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**MINING INTELLIGENCE.**—The following mining news from the north is crowded out from its regular place in the Summary:

Dalles *Mountaineer*, Oct. 5th: The miners at Cañon City are all doing well, and money is plenty.

The miners on Dixie Creek are doing extremely well. A number of claims have changed hands. Last week one claim was sold to Chinamen for \$2,500 cash. Several other trades are about being made with other Chinese companies.

The balance of the prospecting company were met near Camp Watson en route for home. They report having found very good prospects on Beaver Creek, a small branch of Crooked river.

The Vancouver *Register* says: It is reported that rich diggings have been struck in the Yakama country, about 60 miles from this place. A gulch has been discovered about seven miles long, which yields from 5 to 25 cts. to the pan. Some 40 men are now at work. A number of our citizens started yesterday for that region. In addition to the above, we learn that the mines, so far as discovered, are located very near the summit of the Cascade, so high up that even now there is snow in abundance.

The learned blacksmith, Burnett, has returned to his native New Britain, Conn., where he intends to remain until the end of his erudite existence.

**Machinists and Foundries.**

**PALMER, KNOX & CO.,**  
**Golden State Iron Works,**  
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**STEAM ENGINES AND QUARTZ MILLS**  
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Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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**NEW GRINDER AND AMALGAMATOR**  
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Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
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Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver.

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**Steam Engines, Boilers,**  
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Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
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An American has invented a novel sort of programme for the French theatres. The paper of the playbill is represented by a light agreeable crust of pastry, and the ink is chocolate paste. The advantage of the invention is, that when the spectator has mastered the contents of his bill he eats it.

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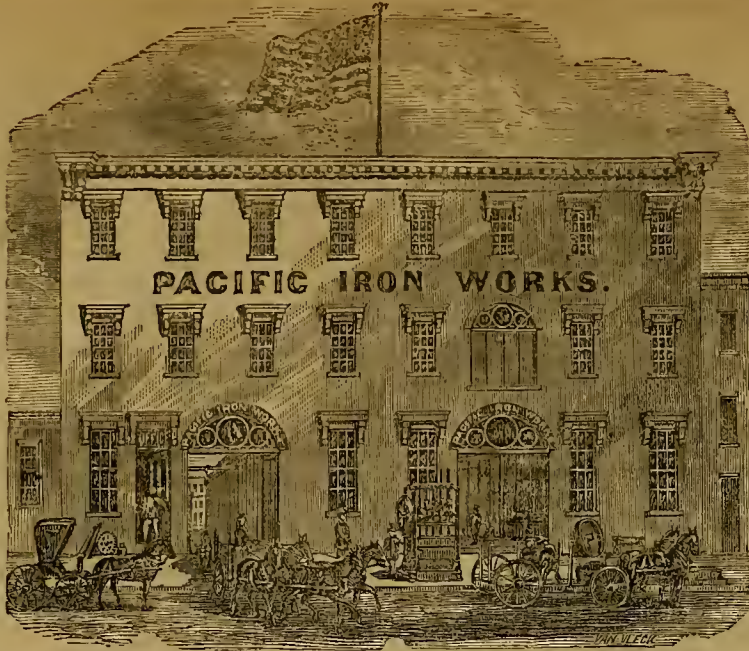
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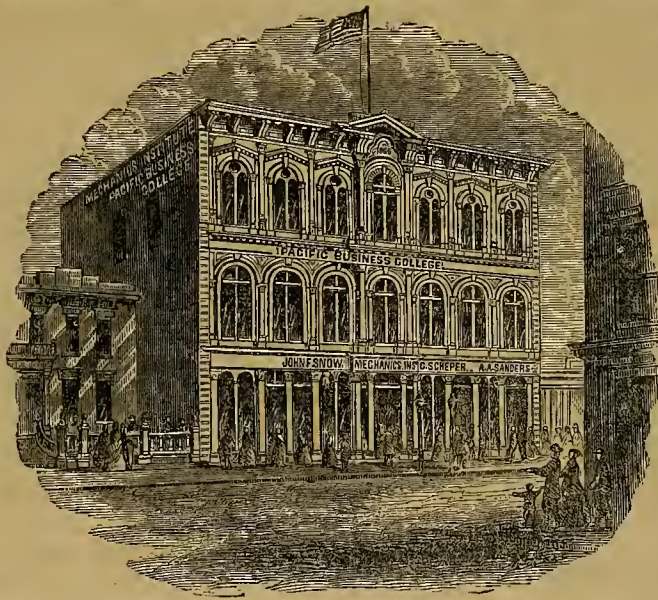
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12v14-6m

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It is for all exposed surfaces; Impervious to wet; will not rot, peel, blister or crack, in any climate. A superior Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, was in such bad condition it was about to be taken off ten years since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT, making a good tight roof. The coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Atlant C Lead Works use our Paint only.

A FEW CLOTH ROOFS put on; copious and all seems renovated and saturated, they coated with the India Rubber Cement and Paint—the same as on the St Nicholas Hotel at New York City, the City Buildings and many others, the roofs of all the horse and steam cars, decks of steamships, etc., around New York—for eight dollars per one hundred square feet. NEW OR OLD TIN ROOFS renovated and painted with the India Rubber Cement and Paint guaranteed, at from one cent to two and a half cents per square foot, according to size and condition of roof. Good men and the best materials used.

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EPES & E. H. R. ELLERY are now prepared to make good roofs, and cement and paint new or old ones, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No asphaltum or coal tar used.  
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FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FERRY OF OLANDE, and to any part of the city for 50 cents  
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ASPHALTUM For sale in any quantity to suit, by the Pacific Asphaltum Company, No. 523 Kearny street, corner Sacramento, San Francisco. This Asphaltum is the purest to be found in the market, being free from rock and clay, or other impurities. Sidewalks laid and Roofing done at shortest notice. 15v15qr NEUVAL & CO.

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GOVERNMENT HOUSE, Corner of Sansome and Washington sts. SAN FRANCISCO, CAL. THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes. The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order. There is a Restaurant attached for ladies and families, where persons can board for one-half they are required to pay at hotels. 1v13-6m SANBORN & CO

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J. H. WHITE. JACOB KRAMER. Petroleum Oil Works.

J. H. WHITE & CO., No. 109 Commercial street, San Francisco. Are now manufacturing LUBRICATING OILS & AXLE GREASE, From Petroleums of California, and ask to be encouraged by the citizens of California. As a home production in all their parts, these Lubricators are equal to any in the market, and surpass all others for cleansing off gum caused by the use of animal oils which contain stearine and margarin, which soon become acid. A fair trial, at the low price asked, is all that we solicit. 25v14-1f

THEODORE KALLENBERG, Machinist, Maker of Models for Inventors, Scales, Weights, Dies, Stamps, Drawing and Philosophical Instruments, etc. No. 10 Stevenson street, near First, San Francisco. Repairing promptly attended to. 3v15-1f

National Mineral Land Law, Instructions, Blanks, Etc. Copies of the Act of Congress, approved July 26th, 1856, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & Co., office Mining and Scientific Press, San Francisco. ELKROTT'S CUTS, ENGRAVINGS, ETC.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

Metallurgy.

BOALT & STETEFELDT, Metallurgists and Mining Engineers AUSTIN, NEVADA. Western Branch of ADELBERG & RAYMOND, No. 90 Broadway, New York. 11v11

G. W. MAYNARD. J. H. TIEMANN. MAYNARD & TIEMANN, Mining Engineers and Metallurgists, 240 Pearl street, New York, -AND- CENTRAL CITY, COLORADO. 19v12-1y

G. W. STRONG, ASSAYER AND WORKER OF ORES, SAN FRANCISCO FOUNDRY, Fremont street, near Mission, San Francisco. 14v15qr

JOHN TAYLOR & CO. IMPORTERS, AND DEALERS IN ASSAYERS' MATERIALS, Druggists' & Chemists' Glassware, Photographic Stock, Etc. 512 and 514 Washington Street, SAN FRANCISCO.

WE are receiving direct from MESSRS. LADD & OERTLING (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY AND BULLION BALANCES, And from France and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CANBES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORY Etc. etc. We have given this branch of our business particular attention, to select such articles as are necessary in the development of the mineral wealth of this coast. A Full Assortment of DRUGGISTS' GLASSWARE and DRUGGISTS' SUPPLIES, AIDS and CHEMICALS, can be had on hand. San Francisco March 6, 1865. 11v10-1f

To the People Of the Pacific States, And Especially those Engaged in Mining.

Gold is the attractive element which has brought more than half a million people to this coast. Every one who comes here wishes to have his share out of Nature's treasure box as quick as possible. The laws of the land are liberal. They say you are welcome to all the gold you can find or dig out, and it depends only on you to know or to learn how to do it. That our mines are rich beyond calculation, is plainly proven by the thirty millions of gold we annually produce, and which is still on the increase, in spite of the many failures and the imperfect mode of working by which more than fifty per cent. of the precious metals is lost. The days of placer mining—where only physical strength was required—are gone, and we have now to resort to Practical Chemistry and Metallurgy for working the ores of our mines. Not every miner can be a Chemist and Metallurgist, as such an acquirement requires years of study; but what they want, and what pretty effectually meets the case, is a place where, in a few lessons, they can obtain a practical knowledge of how to treat certain classes of ore; and for this purpose, to make mining in the future more reliable, safe and profitable. With this end in view, I have endeavored to bring within the reach of every one the necessary practical knowledge of how to be successful in mining; and for this purpose I have now established the first and only PRACTICAL METALLURGICAL AND MINING SCHOOL in the United States, where gentlemen can obtain more in a few practical lessons than by years of book study without practice. I have also the only METALLURGICAL WORKS in California, where I undertake to assay and work ores of every description. Many eminent gentlemen have, within the past year, taken lessons and graduated from my establishment, and all of them will bear testimony that they were perfectly satisfied with the amount of information they obtained, and that it was so obtained in half the time they expected. For further particulars apply at my office, 323 Montgomery street, San Francisco. J. MOSHEIMER. 6v15-1f

MOSHEIMER'S PIONEER MINING SCHOOL -AND- Metallurgical Works.

Having established the first Practical Mining and Metallurgical School in the United States, I would call the attention of gentlemen who may wish to obtain a practical knowledge of Chemistry, Metallurgy, etc., to the fact that I am now prepared to teach the following branches: 1. Assaying of ores, metals and other mineral substances. 2. Technology, or Chemistry, as applied to any special branch of manufacturing. 3. Metallurgy of gold, silver, lead, copper, etc., by smelting, amalgamating, lixiviation, etc. 4. Gold extraction by chlorine gas; also, a modified process of the same, which is cheaper and quicker than the processes usually employed. 5. Concentration. Dressing of ores. 6. Construction of furnaces, in which any kind of fuel may be used for smelting, roasting, etc., as well as the erection of any machinery or apparatus required in metallurgy and technology. Mining is considered by many a very hazardous undertaking; but I can assure anyone that our mines are as safe an investment as any other business when properly understood and managed; therefore, learn first, if you have a mine, then study the nature of the ore, and how to work it, and you will never fail to be successful. It may not be superfluous to state that I am theoretically and practically acquainted with all the branches I offer to teach. Years of actual experience in the laboratory, smelting works, quartz mills, and other manufactories carried on my own account, have not only given me lessons, but more than ordinary ability. I was the first one in California who successfully extracted silver by smelting on a large scale, and have since been traveling through the manufacturing and mining towns of Europe, to study all improvements, and am now again the only one in San Francisco who undertakes to work any kind of ores by either roasting, smelting, lixiviation, or chlorination process. I also undertake the erection of smelting and roasting furnaces, and furnish plans and estimates for any kind of work. My lately invented Roasting Furnace has the following advantages: A Furnace of the capacity to roast one to one and a half tons of ore per day can be built for \$300. It requires half a cord of wood per ton of sulphurates. The total expenses of roasting are not over \$6. The roasting is more perfect, as the ore appears in a spongy condition and eagerly takes up the chlorine or other gas which is used in amalgamating. A large size furnace in successful operation may be seen, by permission of Mr. Maltman, in his works in Nevada City. Several others are in progress of building. Charges for assaying gold or silver ores.....\$3 00 Copper ores..... 5 00 Practical Chemist, Metallurgist, Etc. Office, No. 323 Montgomery street, San Francisco, Cal. 6v15-3ms

Professional Cards.



SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco. Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines. 22q

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of Models made for parties applying for patents at Washington or London. mar23-1f

JAMES M. TAYLOR, Attorney and Counsellor at Law, Court Block, 636 Clay Street, SAN FRANCISCO. 2v15-1qr

ISAAC LOBREE & CO., GOLDEN STATE POTTERY, ANTIOCH, CAL. Office in San Francisco, 516 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware. Is prepared to fulfill all orders at the shortest notice. 20v14f

J. W. WINTER, DENTIST. Office, 647 Clay street.....San Francisco. First-class gold fillings for \$3, as good as any dentist can produce in the city. Dr. Winter has practiced Dentistry twenty years—fifteen in this State. For a full upper set of gum teeth, on vulcanite base, from \$20 to \$35. Teeth extracted without pain by local application. 18v14-1f

RADICAL CURE -OF- RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process. 624 Washington street, up stairs, Washington Baths building, between Montgomery and Kearny streets. DR. A. FOLLEAU Has his studios and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself. He has no connection with any Agency. 21v14-11p1f

Blanks, Blank Mining Books, Constitution and By-Laws -FOR- Mining and Prospecting Companies Elegantly printed, with care and dispatch, at the office of the Mining and Scientific Press. Orders from the Interior faithfully attended to.

MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation and a large mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all the machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—Frodo Union.

New Mining Advertisements.

Cordillera Gold and Silver Mining Company, Chihuahua, Morelos Mining District, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary. Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. oc26

Chilpaneca Mining Company—District of Ures, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco. Any stock upon which said assessment shall remain unpaid on the twenty-second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN F. LOISEL, Secretary. Office, 318 California street, up-stairs, San Francisco. oc26



Gold Hill Tunneling Gold and Silver Mining Company.

Location: Gold Hill Mining District, County of Storey, State of Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 9) levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like C. L. Howard, J. W. Gifford, R. P. Frazier, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dure & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the nineteenth day of November, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. WEOENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. oc26

Gold Quarry Company.—Location of Works: Placer County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like John A. Speer, Geo. D. Roberts, Geo. W. Wertheimer, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor of No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office 492 Montgomery street, Room No. 10, 2d floor San Francisco, Cal. oc26

Kelsey Gold and Silver Mining Company, El Dorado County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Noble Lovely, Wm. Searies, H. A. Colby, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the eleventh day of November, 1867, at the hour of 12 o'clock M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. V. HERBERT, Secretary. Office, No. 405 California street, San Francisco. oc26

Ledy Hill Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

B. P. WILKINS, Secretary. Office, 614 Market street, San Francisco, Cal. oc26

Nuestra Señora de Guadalupe Silver Mining Company, Location of Works: Tayoltita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1867, an assessment (No. 29) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. H. Meluskey, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. oc26

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertisements are repeatedly appearing in the Supplements of daily papers, to inquire into the legality of that class of advertising.

Quail Hill Mining and Water Company.—Location of Works: Quail Hill, Calaveras County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like G. W. Weaver, A. E. Hill, Trustee, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor of No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco. oc26

Silver Sprout Mining Company.—Location of Works and Mines: Kearsarge District, Inyo County, Cal.

CAUTION.—The public and hereby cautioned against buying or negotiating the following described Certificates of Stock in the above named Company, to wit:

Table with columns: Name, No. Certificate, No. Shares. Lists certificates like F. H. Aldering, F. H. Aldering, etc.

As said Stock was sold for assessment No. 1, at public auction, on Monday, October 21st, 1867.

T. B. WINGARD, Secretary. Office, 403 California street, San Francisco. oc26-11

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment (No. 17) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. RUFFINGTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansone streets. oc12

Ethan Allen Gold and Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable on the fourth day of November, 1867, in United States gold coin, to the Secretary, H. B. Congdon, at the office of the Company, No. 620 Washington street, Room 5 San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the fifth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary. Office, No. 620 Washington street, (Room 5) San Francisco, Cal. oc5

George Washington Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of September, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Borel, Francois Ami, Borel, Francois Ami, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oc12

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the 20th day of November, 1867, and the sale thereof until Saturday, the 7th day of December, 1867. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. oc28

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Swain, D. K., Tanner, M. C., Vann, Matthew, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of September, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the fourth day of November, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. O. WOOD, Secretary. Office, 338 Montgomery street, San Francisco. oc19

George Washington Gold and Silver Mining Company.—Silver Mountain District, Alpine County, Cal.

Notice.—The Fifth Annual Meeting of the stockholders of the above named Company will be held at their office, No. 338 Montgomery street, San Francisco, Cal., on TUESDAY, the fifth day of November, 1867, at 7 o'clock P. M. for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

A. O. WOOD, Secretary. San Francisco, October 10, 1867. oc12

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, or at the Pacific Bank.

Any stock upon which said assessment shall remain unpaid on the fourth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary. Office, No. 302 Montgomery street. oc5

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1867, an assessment (No. 17) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. oc5

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slaven, at Silver Mountain.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, upstairs, San Francisco. sep28

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the fourth day of November, 1867, and the sale thereof until Thursday, the twenty-first day of November, 1867. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. oc25

Mount Teabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Borel, Francois Ami, Borel, Francois Ami, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oc12

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the 20th day of November, 1867, and the sale thereof until Saturday, the 7th day of December, 1867. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. oc28

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1867, an assessment (No. 24) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine. Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. oc14

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until the first day of November, 1867, and the sale thereof until Monday, the eighteenth day of November, 1867. By order of the Board of Trustees.

GEO. H. PECK, Secretary. oc26

Old Colony Silver Mining Company.—Location of Works: Austin, Reese River, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of September, 1867, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary. Office, 523 Montgomery street, San Francisco. oc5

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of October, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISEL, Secretary. Office, 318 California street, San Francisco, Cal. oc19

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the fifth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Ainsworth, J. C., Alexander, Henry M., Atkinson, J. H., Brewster & Baldwin, etc.

Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. oc5

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slaven, at Silver Mountain.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourth day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, upstairs, San Francisco. sep28

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the fourth day of November, 1867, and the sale thereof until Thursday, the twenty-first day of November, 1867. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary. oc25

Mount Teabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the sixth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists shareholders like Borel, Francois Ami, Borel, Francois Ami, etc.

And in accordance with law, and an order of the Board of Trustees, made on the sixth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., at No. 327 Montgomery street, San Francisco, Cal., on Thursday, the thirty-first day of October, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. oc12

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

Postponement.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the 20th day of November, 1867, and the sale thereof until Saturday, the 7th day of December, 1867. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. oc28

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.



Machinery.

**VARNEY'S PATENT AMALGAMATOR.**

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others.—They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the **PACIFIC FOUNDRY,** San Francisco.

**Hunt's Double-Action Pump**



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 103 Jessie street. 14151st

**E. O. HUNT, Prop'r.**

**E. T. STEEN,**

Commission Agent for the purchase and sale of

**Engines, Boiler Castings,**

AND ALL KINDS OF MACHINERY,

No. 537 Washington, and 532 Merchant st., San Francisco

HAS FOR SALE

- One Engine, 6-Horse Power, . . . \$140
- One Engine with Boiler, 7-Horse, . . . 600
- One Engine, Lark for Hoisting, 15-Horse, 800
- Two Engines, Boilers, Port., 16-Horse, 1,200
- One Engine, 10-Horse, . . . 1,300
- One Iron Battery of 4 Stamps, . . . 500

Also, a great variety of

**Boilers and Machinery,**

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12151st

**Steam Pumps,**

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

**PICKERING'S GOVERNORS**

For Steam Engines.

**Giffard's Injectors,**

For Feeding Boilers.

**STODDART'S IRON WORKS,**

Beale Street, San Francisco.] 23v12 3in

**PATTINSON'S**

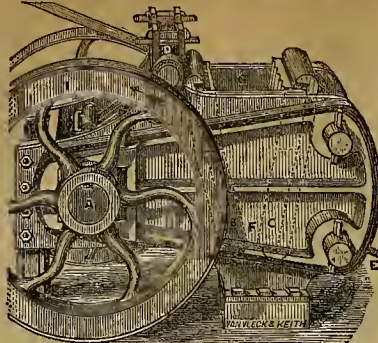
**HURDY-GURDY WATER-WHEEL.**

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-97

**THOMAS PATTINSON,**

**Brodie's Patented Improvements**



**FOR THE TREATMENT OF Gold and Silver Ores.**

**BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.**

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

- No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price . . . \$600
- No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour . . . 850
- No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour . . . 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient light to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1865. JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

**BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.**

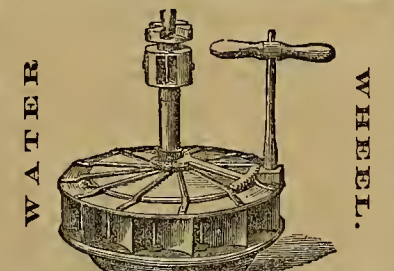
This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be accorded on application to the subscribers. Those infringing the patent rights to the above improved Barrel, are hereby informed on and after the 1st of November, 1866, the royalty charged for using the same will be raised to the sum of \$100 per Barrel. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1865.

**BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.**

This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 1865.

**BRODIE & READLIE,** Express Building, 402 Montgomery street, San Francisco. 12v131st

**LEFFEL'S American Double Turbine**



THESE WHEELS, UNEQUALED AND UNRIVALED in the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA RESIDENCES.—E. Stockton, Folsom; O. Simmons, Oakland (Mill at Clear Lake); Morton Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California, 310 Washington street, San Francisco. 25v13-1yq

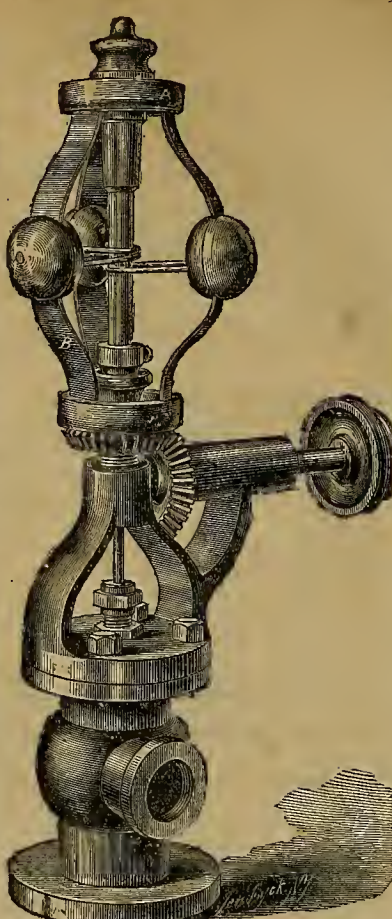
**E. O. HUNT,** Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State. Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 28 Second St., and 108 and 110 Jessie St. San Francisco. 2v15qy

**PICKERING'S ENGINE REGULATOR.**



Warranted the Best in Existence. Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2am1q

**SUPERIOR CUT-OFF ENGINES.**

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

**Hartford Engine,** With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

**Fuel-Saving Engine,** Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

**GODDARD & CO.,** Pacific Iron Works, 9v151st, San Francisco, Aug. 29, 1867.

**DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.**

THE ATTENTION OF QUARTZ, HYDRAULIC AND Pincer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15 6m

**BLAKE'S QUARTZ BREAKER! PRICES REDUCED!**

MACHINES OF ALL SIZES FOR SALE —BY— **WM. P. BLAKE,** Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

**Notice to Miners, Well-Borers and Water Companies.**

M. PRAG IS NOW PREPARED TO MANUFACTURE M. Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-1y Stove Store, No. 125 Clay street, below Davis.

**NELSON & DOBLE,** AGENTS FOR

**Thomas Firth & Sons' Cast Steel, Files,** Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel, manufacturers of **Mill Picks, Sledges, Hammers, Picks,** Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, (San Francisco. 10v14q

[From our Travelling Correspondent.] **Mining in Nevada County.**

WASHINGTON, contrary to the expectation of some, is being rebuilt; some fifteen new buildings are approaching completion, and will be finished in time for the coming winter. Several claims on Rocky Bar, one half mile above town, are paying excellently. Among the first is the Rocky Bar, J. D. Haroun & Co. These diggings are working virgin ground—one of the bars of the South Yuba, and gathering a quality of gold seldom seen since early times.

EUREKA SOUTH, or Graniteville.—If cheerful countenances have anything to do with favorably impressing a stranger, the inhabitants of this district clearly show (as their name implies) that they "have found it." Gold bearing quartz does certainly exist here in abundance, showing a width and richness of vein equal to that of any district in the county. True, the lodes as yet are undeveloped, but, as far as demonstrated, the indications improve as the ledges are opened. Several are now down to the depth of from one to two hundred feet.

The Grizzly, (Eagle Co., Hartford, Ct.) Mr. M. Foot, mining superintendent, is located at the head of Devil's cañon, four miles from Eureka, and twenty-four from Nevada City. This company's mine comprises a line of nearly 3,000 feet, with a width of vein varying from two to five feet, and imbedded in a soft clay formation on either side, giving ample room for working without having to blast or remove any of the primitive slate. Two levels are now run; the upper one is in one hundred and fifty feet; the lower, three hundred and eighty. The ore improves as they go down, showing more free metal and less iron. The yield, so far, averages \$12 per ton; but they evidently do not save near all the gold. At present they are only running a 5-stamp battery (hurdy-gurdy power.) The whole expense of motive power does not exceed four dollars per day.

Birchville, Thompson, Hyde & Co., is a very rich vein, of from two to three feet in width, showing considerable free metal in nearly all the ore, and frequently rich in specimens. The company have run a tunnel in on the ledge several hundred feet, showing their mine to be of sufficient extent and richness to warrant the erection of a 5-stamp mill, which, by the way, they expect to have in operation before this is in type.

Commercial, Valentine Co., San Francisco. This mine is tapped at a right angles, by means of a tunnel 150 feet in length, striking the ledge about the same distance from the surface. From the main tunnel they have run in on the vein each way, showing a well defined lode of about eighteen inches in width. The ore has a fine appearance, and will doubtless pay if properly worked. The company have just started their new 10-stamp mill, built by Booth & Co., of San Francisco. They also have three of Hendy's patent concentrators. Appearances are that this mine and mill will continue to be conducted in a neat and systematic manner, by one of its proprietors, Mr. Valentine. Success to his efforts.

The Black & Young, named from its respective owners, has before been alluded to as a mine of undoubted value, a portion of it having been recently sold for \$20,000. This company have a fine mill, running a portion of the time on custom work, while they are opening their own mine, the ore of which presents an excellent appearance, [described last week in "Contributions for our Cabinet."—EDS PRESS.]

The Banberry, or Rocky Glen Ledge, owned by Banberry, Stacy & Co., is situated about one fourth of a mile above Black & Young's mill, and one and a half mile from town. This is considered by many to be a little ahead of anything yet discovered in the district; although indications are highly favorable, yet it is in a manner undeveloped. The vein is evidently a large one—six feet or more—and improves in appearance as



they go down. They have made a test at Black & Young's mill of a considerable quantity of rock, which yielded \$18 per ton, and are now making another test of 100 tons, which, it is believed, will produce equally as well, if not better.

There are several other prominent ledges in the immediate neighborhood of Black & Young's mill, owned by a distinguished German citizen, who, through modesty, declines a mention of his name; but in the estimation of the writer, it is only a matter of time—he will either have to show himself, or make a disposal of mines too valuable to remain unknown.

The Norfolk, Passmore, Booth & Co., apparently have a good ledge, of good width and quality of ore, showing a large proportion of sulphurets, and some free gold. They are down with an incline about fifty feet, displaying as clearly defined a vein as could be desired. As work progresses and tests are made, we hope to be made acquainted with the results.

The Liberty Ledge, Dean, Stevens & Co., is situated close to town. It is a large vein, considerably developed, showing a very good grade of ore, and is paying very satisfactorily by assay test. This, and the Maggie, Clark & Co., is in litigation. The case will probably be disposed of (settled) very soon, when more will be said of the mine.

D. W. Snapp, proprietor of several valuable leads, some of which are exceedingly rich, offers fine inducements to millmen to obtain part or whole interests in some first class quartz—interests well worthy of examination by practical men.

While the writer was in town, some considerable excitement was caused by a recent discovery of a large ledge near town, by a Mr. Cochran, from Reese River. Said discovery, from its location, is supposed to have been the feeder of a very rich placer claim immediately below it, which is reputed to have produced nearly \$200,000. The lode is not sufficiently uncovered, as yet, to form anything like a correct opinion. Mr. C. will doubtless post us a little in a very short time.

One important point to be observed in this district, is that of the general formation, which is a soft granite, easily worked, requiring little or no blasting—many of the tunnels and shafts having been worked without any blast whatever.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

THE SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867. TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Buths, etc, per session of ten months, \$350.

The Commercial Herald AND MARKET REVIEW Will be issued early on EVERY STEAMER-DAY MORNING, (TRI-MONTHLY). Office—Southwest corner Washington and Battery streets, Opposite Post Office and Custom House.

The Letter Sheet Market Review, Containing selections from the COMMERCIAL HERALD, printed on tissue paper, for transmission abroad, will be published simultaneously with that paper. Also, publication office of the

Weekly Stock Circular. Merchants can have their cards prominently inserted in the Letter Sheet MARKET REVIEW.

THE CENTRAL PARK OF THE PACIFIC. Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, ZOOLOGICAL GARDENS.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast. The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.

Advertisement for N. P. LANCLAND, STAIR BUILDER, No. 40 Beal street, Between Market and Mission, SAN FRANCISCO. Includes an illustration of a staircase.

Advertisement for C. E. COLLINS, EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. Superior Watches, In Gold and Silver Cases. Includes illustrations of watches.

Advertisement for WM. H. KEITH & CO'S Proprietary Preparations. List of products including Florentine Tooth Wash, Saponaceous Tooth Powder, Oriental Perfume, etc.

Advertisement for Fine Custom Made Clothing. Gents' Furnishing Goods. AT PRICES THAT DEFY COMPETITION. ALL THE LATEST STYLES.

Advertisement for Quartz Mill Construction and Superintendence. THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz Mill.

Advertisement for HAYWARD & COLEMAN, IMPORTERS AND REFINERS of Illuminating, Lubricating, PAINT OILS! KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

Advertisement for Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets. CAPITAL STOCK, - - - \$500,000.

Advertisement for Dr. Hufeland's Swiss Stomach Bitters. THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator.

Advertisement for Pratt's Abolition Oil. FOR RHEUMATISM PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lame Back, and all aches and pains.

Advertisement for Economy in Advertising—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91.

Advertisement for Blake's Patent Quartz Crusher. The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

Advertisement for California Steam Navigation Company. Steamer CAPITAL, CAPT. E. A. POOLE. CHRYSOPOPOLIS, CAPT. A. FOSTER. YOSEMITE, CAPT. W. BRONLEY. CORNELIA, CAPT. E. CONKLIN. JULIA, CAPT. E. CONKLIN.

Advertisement for Lower California Exploring and Prospecting Company. This Company have procured the services of parties that are well acquainted with the country. This Company will also prospect for Mineral Lands, Water Privileges, Town Sites and Harbors, etc.

Advertisement for It is a Fact, BOWMAN'S AMERICAN WASHING COMPOUND is the best article for Washing and Cleaning yet discovered. As the compound softens the dirt, the clothes require but more than one-half the rubbing necessary in washing by the old method.

Advertisement for Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS—SULPHATE OF IRON—for sale in lots to suit, by BENJ. BRADY, 103 California street, S. W. corner Davis, up stairs.



THE RUSSIAN-AMERICAN TELEGRAPH is now constructed to within one hundred miles of Sitka. It is to be hoped that the national Government will offer sufficient inducements to the company to complete it to that city, since that region has become a part of Uncle Samuel's dominions. A telegraphic communication with our new possessions on the North, in the present state of commercial progress, must be looked upon as one of the necessities of the times. It may not pay, as yet, as a commercial speculation; but its existence must be very important to the Government, and should be aided by it until it is capable of taking care of itself. We understand that steps are being taken to secure the completion of the telegraph to the point indicated, by either the company or the Government itself.

THE present Duke of Wellington is printing all of his father's papers—for safety, not for publication. The Duke puts everything into type, and then strikes out such passages as affect living persons too closely, or such as it might be indiscreet to make public. Three copies only of the original impression are taken.

JAY COOKE is said to have made over twelve million dollars profits out of Government securities during the war. He pays no taxes on this amount, but draws as interest in gold each year eight hundred and forty thousand dollars! Quite a little contribution from the tax payers of America.

THE Great Western Railway Company are making successful experiments with peat for locomotive fuel.

MINING AND SCIENTIFIC PRESS.

Terms of Advertising and Subscription.

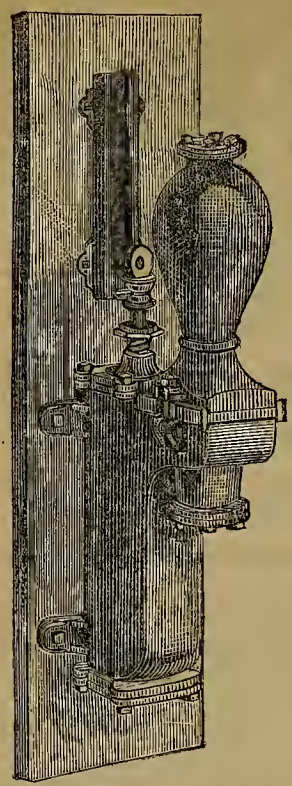
Table with columns for advertising rates (e.g., One week, per square, \$1.50) and subscription rates (e.g., One copy, one year, \$5.00).

THE CIRCULATION of the Press, already extensive, is rapidly increasing, and substantial tradesmen who can profit by widely disseminating information of their business amongst the most intelligent, ordinary and industrial classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA.

LEAVE PULSON STREET WEAR, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days.

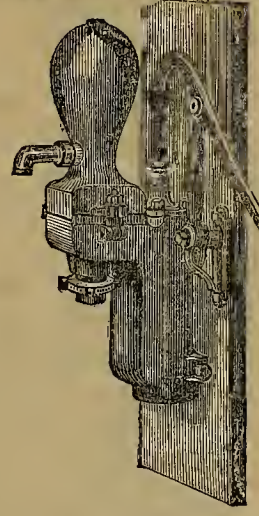
HANSBROW'S CHALLENGE Deep-Well, Mining and Double-Cylinder Patent Pumps.



Six-Inch Mining Pump. These Pumps combine all the advantages of the common Lift and the Double-Acting Suction and Force Pumps, and are equally fitted for all—Household, Farm, Mill, Manufactory, Brewery, Ship, Railway, Mining, and other purposes, and are especially recommended on account of their lightness, compactness, durability, cheapness, and the facility with which they can be placed in any position.

They are adapted for Hand, Steam, Horse, Water, or Wind Power. They are more durable in all their parts than any other Pumps of the same power.

Four-Inch Deep-Well Pump.



The Valves are of the simplest construction, and can be readily taken out by loosening two common nuts. They are not liable to get out of order, and can at all times be removed without the aid of a skillful mechanic.

The lower valves of these Pumps work upon inclined seats, which prevents sand or other matter that the Pumps may take up, from remaining under the valves, or stopping the flow of water.

These Pumps are worked with less friction, and consequently require less power than any other Double-Acting Pumps of equal capacity.

All sizes, from 2-inch to 8-inch Cylinder, manufactured by the Pacific Iron Works, GODDARD & CO., and for sale by the Agents, LOCKE & MONTAGUE, 112 and 114 Battery Street, San Francisco.

DEWEY & CO. PATENT AGENTS, ENGRAVERS AND PUBLISHERS, Mining & Scientific Press. SAN FRANCISCO.

MINING COMPANIES Can get their Printing done cheaper and better by TRUESELLE, DEWEY & CO., Than at any printing establishment in the city.

COUNTY OFFICERS Can get their Blank Books and Blanks cheaper of TRUESELLE, DEWEY & CO., Than of any other printing house in the city.

MERCHANTS When you want Printing done cheap, send to TRUESELLE, DEWEY & CO., Who do all kinds of Printing at the lowest rates.

FOUNDRIES Will save money by having their printing done by TRUESELLE, DEWEY & CO., Who have put prices down to the lowest rates.

EVERYBODY Who wishes to save money and get good work, see TRUESELLE, DEWEY & CO., Who are always ready to receive and fill orders.

MANUFACTURERS Can get their Printing well done at low prices, by TRUESELLE, DEWEY & CO., Who are now prepared for all kinds of Printing.

TRUESELLE, DEWEY & CO. BOOK AND JOB PRINTERS, MINING & SCIENTIFIC PRESS OFFICE 505 CLAY STREET, SAN FRANCISCO.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA.

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources. COMPILED BY EDWIN F. BEAN. Price, \$5.—For sale at the office of the Mining and Scientific Press, San Francisco.

IN THE PROBATE COURT OF THE CITY AND COUNTY of San Francisco, State of California—in the matter of the Estate of HENRY GANAHL, deceased. Order to show cause why Order of Sale of Real Estate should not be made.

NOTICE TO CREDITORS.—IN THE PROBATE Court of the City and County of San Francisco, State of California. Estate of HENRY GANAHL, deceased.

CHICKERING & SONS' PIANOS Received the FIRST PREMIUM (Gold Medal) And Decoration of Legion of Honor, at the Paris Exposition. KOHLER, CHASE & CO., Agents, 254 1/2 Montgomery street, San Francisco.

W. T. GARRATT, City BRASS AND BELL FOUNDER.

Cor. Mission and Fremont sts., SAN FRANCISCO. Manufacturer of Brass, Zinc, and Anti-Friction or Babbitt Metal Castings; CHURCH AND STEAMBOAT BELLS, TAVERN AND HAND BELLS AND GONGS, FIRE ENGINES, FORCE AND LIFT PUMPS, Steam, Liquor, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spouts, Solder, and Copper Rivets, &c. Oango Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, HYDRAULIC PIPES AND NOZZELS For Mining purposes, Iron Steam Pipe furnished with Fit flanges, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

Table with columns for magazine subscriptions (e.g., Harpers, Atlantic, Godey) and a list of news dealers (e.g., W. E. Loomis, News Dealer).

Foundry for Sale. A One-half Interest in the UNION IRON WORKS, SACRAMENTO.

Owned by William R. Williams, is offered for sale on the most favorable terms.

A Good Bargain

May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets.

THE BEST IN AMERICA.

The Mining and Scientific Press, is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

DEWEY & CO., Patent Agents, Publishers, Book and Job Printers, 505 Clay Street, San Francisco.

THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises SIXTEEN PAGES (6 columns), and is furnished more valuable reading matter than any other weekly journal in California.

SAVING PRECIOUS METALS.

All progressive information, in fact, transpiring with THE TIMES—which cannot be obtained from books. THE MINING AND SCIENTIFIC PRESS is now in its FIFTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1887:

RESOLVED, That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

TERMS OF SUBSCRIPTION.—One year, \$5; six months, \$3—in advance. Send for sample copies. Remittances may be made by mail at our risk, if parties sending will register their letters, or send money order.

As AN ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the PRESS is unsurpassed. Rates moderate. SPECIMEN NUMBERS of the PAPER and Patent Circulars, sent free.

By MAIL.—The Mining and Scientific Press will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

Pacific File, Reaper and Mower Section MANUFACTORY, No. 53 Beale Street, between Market and Mission, SAN FRANCISCO.

Files re-cut and warranted as good as new, or no charge. The only establishment in the State. We also manufacture Reapers and Mowers of various patterns. RIDDELL & DUBRING, Props. Generous Compliments. The following is a sample of the generous acknowledgments which we frequently receive. We can only thank for such gentlemanly obligations, and assure our friends of our best endeavors to merit their respect and kindness.



# Engineering and Scientific Process.

Single Copies, Fifteen Cents.

Terms: One Year, \$5; Six Months, \$3.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS,  
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 2, 1867.

VOLUME XV.  
Number 18.

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## Miller's Patent Boiler.

In the old-fashioned furnace the heat that is absorbed by the brick walls that form the sides of the fire-box is equal to a certain amount of caloric that is abstracted from the fire, for which no equivalent is returned. But in the arrangement of this boiler all the heat is utilized and made subservient to the purpose intended.

The principal feature of the improvement herewith illustrated, consists in a series of vertical tubes or cells, arranged upon each side of the boiler and forming the side walls of the furnace. Fig. 1 represents it as applied to the common cylindrical boiler; the

The interior of these pipes or cells, Fig. 2, A, are divided vertically by a diaphragm so as to form an inner cell, as seen in sections at B, and are so constructed that while the lower part is below the fire-grate, the upper part is above the water-level. As will be seen by the view in section, they are so divided that a thin film of water is presented to the action of the fire and is almost immediately converted into dry steam, and passing into the pipe, D, Fig. 1, is there mingled with the saturated steam of the boiler. As the film of water nearest to the fire is evaporated, it is fed or supplied with water from the other divisions of the tube formed by the diaphragm. These divisions are

which paper we are indebted for the above description. Any information with reference to the same can be obtained by addressing the inventor, Joseph A. Miller, C. E., 48 Pine street, New York city.

PERSONAL.—Among the departures by the last steamer, was Hon. J. S. Mayhugh, of Aurora, State of Nevada, who goes East at this time to pay a short visit to the place of his nativity, in Carlisle, Pennsylvania. Mr. Mayhugh was among the early pioneers of California. For many years he was a resident of Grass Valley, in Nevada county, where he was well known as an enterprising miner, and where he also took considerable interest in political matters. As soon as rumors of the first discovery of silver in Washoe reached his home in Nevada county, he was among the first to cross the mountains, and render his aid in developing that new El Dorado. From that time to the present, he has been a resident there, and has aided largely in the development of that region, and in shaping the governmental policy of that State. He has been a member of the Legislature ever since the organization of the State, and always as a straight-forward, consistent Union man. We wish him a pleasant visit to the "Old Folks at Home," and a safe return to the "Silver State," whither, we understand, he will repair in the spring, to take charge of an important mining enterprise, which he has been mainly instrumental in developing, and which promises to amply reward him for all the

Fig. 1

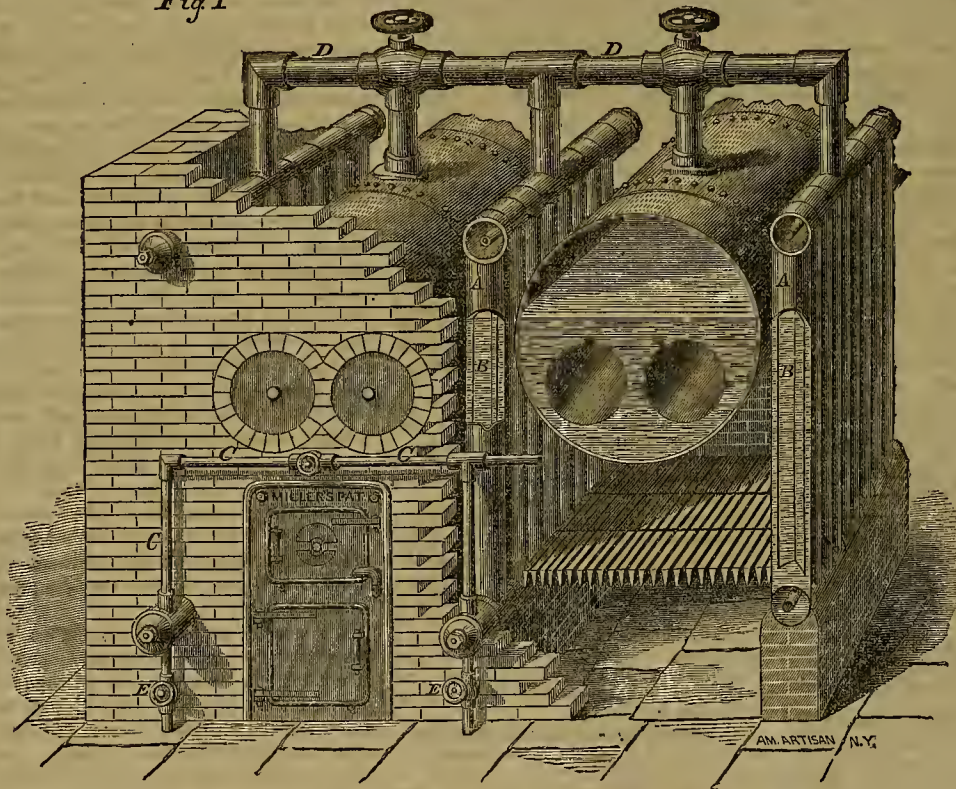


Fig. 2



MILLER'S PATENT IMPROVEMENTS IN STEAM BOILERS.

brick-work being removed so as to show the plan more fully. The series of vertical pipes, A, are arranged upon each side of the boiler, in close proximity, and have open communication with each other at their upper and lower ends. This series of pipes are fastened to each other by bolts passing through the flanges at the transverse openings at the ends, and are also more securely fastened by iron rods that pass horizontally through the upper and lower chambers; the ends of these rods passing through the covers or caps of the chambers, and serving the double purpose of holding the caps to their places, and the series of pipes in their order.

kept supplied with the requisite amount of water by the pipe, E. The cylindrical boiler is also supplied through the tension, C, of the same pipe. By means of the globe valves, conveniently placed, the feed-water can be shut off from the boiler, or from the vertical pipes, as may be desired.

This arrangement adds more than one hundred square feet of heating surface to every kind of boiler, saving at the least twenty-five per cent. of fuel, and doubling the steam-producing capacity of most boilers, and tripling the capacity of cylindrical boilers.

This improvement was illustrated in the *American Artisan* of December 5th, 1866, to

toils and disappointments which, in common with most miners, it has thus far been his lot to encounter.

AT LAST.—A treaty has been made with the Apaches. They agree to go on the same reservation with the Camanches. The Arrapahoes, too, will treat. The Cheyennes, however, still hold back. It now remains to be seen whether our gentle friend "Lo" will stick to his agreement. There may be a good time coming for the Arizona miners.

COAL IN NEVADA.—A discovery of coal has been recently made in the Washington district.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California

## CALIFORNIA WINES, SEEDS AND GRAIN.

An echo from the Paris Exposition has reached me in the shape of a copy of the *Commercial Herald and Market Review*, of August 10th, containing a letter from the correspondent of the Sacramento *Bee*, about the California representation at Paris, together with a letter from Mr. Hoag, the Secretary of the State Board of Agriculture. These letters gave me the first intimation that any of the California wines were missing. On my arrival here in June, I looked over the display of wines and found those that I had invoiced and shipped to Mr. Beckwith, and found others also that I had not shipped; such, for example, as the wines of Mr. Keller, and of Kohler and Frohling, and I concluded that these last composed the shipment made by the Agricultural Society. I had no copy of that invoice, and this published letter contains the first list I have seen. Comparing this with the exhibit of wines, I find that the correspondent of the *Bee* was correct in his statement that the wines of the following contributors are not to be found, viz., those from B. N. Bughey, John Strentzel, C. Dettliand Winslow and Williams. They have not been seen here, and I fear are lost in some of the warehouses in New York, for they passed through the New York agency. I have called on the Commissioner General for an explanation. He has no invoice of that shipment, and received the packages as they were delivered, not being able to check them by any list. This was the case with a large part of the American contributions sent from the New York agency. The goods often arrived in advance of the invoices, or when invoices were in hand, the packages did not agree with them. Many packages were delivered by the French Custom House authorities, of which no advice had been received, and the contents of which could only be ascertained by opening. It was in this way that the majority of the American contributions were received and generally at the last moment, when the exhibition was about to open. The Commissioner thinks that the packages could not have reached France without being delivered in due course to him, for every package is carefully entered in the Custom Registers, and is followed by a perfect system of checks to its destination. It is my purpose, therefore, to seek for these missing wines in New York, where they were doubtless delivered by Wells, Fargo & Co.

Now with regard to the treatment our wines received at the Exposition from the jury, I participate in the general disappointment and dissatisfaction.

One of the complaints made is that there was no one here to give information officially about our wines, or place them properly before the jury; which is true. Your correspondent did not reach here until the jury had terminated its labors and made its decisions. From all that I can learn I conclude that the wines were only partially examined. Some of the contributions remain nearly intact.

This superficial and hurried regard is not surprising, when we consider what a task the wine jury had before them. This can only be appreciated by a half day's journey around the circle, where the wines of almost all the wine districts in the world are displayed. France alone, had 600 exhibitors, Spain 316, Portugal 121, and so on to the end of the list. We had no juror from the United States. The jury certainly remembered our exhibit, for they made Honorable Mention of the sparkling wine—champagne—sent by the Buena Vista Vinicultural Society of Sonoma, R. N. Van Brunt, Secretary. This wine appears to have been much liked, for it was nearly all gone (two cases) at the time of my arrival. It had evidently been a favorite with the experts.

In order to remedy the disappointment of the United States wine exhibitors (for there were many here from Ohio, Missouri, Indiana and New York), the United States

Commission appointed a committee to specially examine American wines, and make a report. This committee consisted of Mr. Flagg, of New York, Marshall P. Wilder, of Boston, and Dr. Jacob Thompson. The American wines were placed in their charge, and were tasted from time to time. The report of this committee will be made to Congress, with the other report of the commission, and will probably be printed at some distant day. I advise Californians, however, not to expect to find much in it in relation to the California wines. I had the pleasure of seeing this committee but once. They informed me that they had tested our wines, but I found that they had not noticed the San José white and red wines of Mr. Le Franc.

Some days afterwards, I had the presumption to invite several French and Russian gentlemen, judges of wine, to taste some of our samples, and they were refused by the guardian. The committee was not to be found, and so it has continued, until now, at the end of the Exhibition, the wines have been placed at my disposal; but not one bottle is to leave the building. As I have not had a single bottle out of the whole exhibit, I propose to leave them as they are until the close, and then to donate them in such a manner that the exhibitors may derive some benefit from them.

Complaint has been made about the placing of these wines—that they were heated and fermented, etc. I think this is a mistake, for I have not seen any sign of fermentation. It is true that the wines were not *iced*, nor put into the coolest possible place, but the fines spoken of were several feet distant, and would hardly be noticed by most persons. The bottles were placed cork up, except the champagnes, as is the case with the other exhibits.

This matter of heating the wine recalls the discovery made by the French chemist, Pasteur, of the existence of invisible vegetable growths in wines, which cause fermentation or disease, destructive of the good qualities. This discovery was made by the aid of the microscope, and is another example of the practical value of the instrument. M. Pasteur has also shown that the germs of this vegetable growth may be destroyed by simply heating the wine in closed vessels to a temperature of 60° centigrade, for only a few minutes. Numberless experiments have confirmed the discovery and have proved at the same time, that the operation does not injure the flavor of the wine, but on the contrary, very often improves it. I had the pleasure of tasting some of the wines which M. Pasteur had treated, and found the difference very marked in favor of the wine that had been heated, except in one instance. These wines were brought by M. Pasteur to a chemical entertainment at the laboratory of the illustrious St. Claire Deville.

The researches of Pasteur have been published in a beautiful volume by Victor Masson, and are entitled *Etudes sur le Vin*. I hope to be able to report at some length upon this process to the wine growers on my return.

The same chemist is now busily engaged in investigating the disease of the silk-worm, by the aid of the microscope. He finds that the germs of the disease may be detected in the eggs. Diseased eggs may therefore be thrown away. His method consists merely in grinding up samples of the eggs in a mortar, and placing a little of the paste under the lens. The same method has been extended to the testing of the bodies of the millers that lay the eggs.

The hale of hops mentioned in the letter to the *Bee*, is not exhausted; the demand for samples appears to have been supplied. It was a satisfaction to learn where it came from.

The seeds of Mr. Perkins, of Oakland, are handsomely arranged, and are surmounted by his photograph, showing him seated among a pile of California vegetables. He may be pleased to learn that the sign "*silver medal*" is tacked to the frame, although the jury, by some mistake, awarded it to the State of California.

The wheat sent by Mr. Campbell, and that by J. D. Peters, of Stockton, has been much admired. I have not seen any other equal to it in appearance or weight.

UNPAID LETTERS.—A wealthy gentleman of Providence, R. I., has followed the example set by similarly philanthropic gentlemen in Boston and Portland, and prepays all letters carelessly dropped into the post-office in that city without the usual embellishment of stamps.

SORE HEADS.—It is said that more than 800 protests have been received by the authorities of the Paris Exposition, against the prize decisions by the judges.

[Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.]

## Formation, Distribution and Age of Igneous Rocks.

Continued from Page 242.]

In regard to the more ancient auriferous gravel deposits, it must appear evident to the most careless observer, that great and important alterations in the geological features of the country have occurred since their formation. To say nothing of the vast period of time, a whole geological age occupied in their formation, the then existing water courses, with banks hundreds of feet in height, have been filled with volcanic *debris*, in some instances 1,000 feet in depth, turning rivers into new channels. The present system of rivers cross these ancient deposits, cutting down through them and into the hard schistose rock beneath, thousands of feet deeper, furrowing channels from the summit to the base of the Sierra Nevada, leaving those ancient deposits, in some localities, thousands of feet above the existing streams. And then consider how vast must have been the period of time for the old hills, enclosing a stream of lava which overlies an old river-bed, to disappear by natural denuding agencies, leaving a mountain of indestructible rock, whose walls are many miles in length and hundreds of feet in height above the surrounding country.

The intrusive era of metalliferous quartz probably began with the deposition of the new red sandstone, and continued through all the formations up to and including the tertiary period. As the formations included in this era are made up more largely of altered granite, porphyry, greenstone, etc., or, in other words, existing aqueous formations, that had been, to a great extent, deprived of alkaline and other metals, and consequently less readily disintegrated and decomposed than the original igneous rock, the duration of time occupied by the intrusive era of metal-bearing quartz, must have greatly exceeded that of any earlier geological age. The eruptive rock of this era is like that of the carboniferous period, non-metallic and nearly indestructible, and is found either interstratified with the formation, or overlying. A large proportion of the visible quartz veins in the Sierra Nevada were probably formed during the sixth period, and, in fact, all anticlinal or V veins, whether located at the summit, flanks or base of the mountains. There is probably a system of synclinal fissures, filled with metal-bearing quartz, which were formed by the upheavals of the old red sandstone era, located about half way between the summit and what is now the base of the Sierra Nevada.

The seventh period, or present era, began with the intrusion along anticlinal lines of non-metallic rock, similar in composition with that which was erupted at the beginning of the carboniferous era. The chain of volcanic cones which were upheaved some 125 years since in Mexico, of which Mount Jorullo is the largest—its altitude being some 1,800 feet above the surrounding plain—indicate that the crust of our globe has become solid to the non-metallic stratum. The late upheaval in the bay of Therin, in the Grecian Archipelago, brought to the surface rock of a character showing it to have been derived from a source just beneath the quartzose stratum. The upheaval was not attended by an earthquake, but was simply an intrusion of semi-molten matter. This intrusive matter is said "to consist of a rusty-black metallic lava, very heavy, and resembling half-melted scoria, which has boiled up from the furnace. It contains many whitish, semi-transparent particles disseminated through the mass, like quartz or feldspar."

It is probable that, as the earth cooled to its present temperature, the increase in thickness of its crust was nearly the same in all its parts. Igneous rocks are somewhat better conductors of heat than aqueous rocks, but this influence must be limited, as the only connection of the surface igneous rocks with the mass beneath, is by means of narrow dykes or veins. The matter of

which the stratified rocks are composed, with the exception of such of the elements as existed in the atmosphere before water rested upon the earth, has been brought to the surface by volcanic action. In framing the diagram I have assumed that, while 7,000 feet of stratified rock were being deposited, the crust increased in thickness twelve miles, and while 42,000 feet—the probable average thickness of the aqueous stratum—were being deposited the crust increased to about seventy-two miles, its present probable thickness. This estimate is necessarily an approximation, yet it will answer to illustrate the idea. Now if we assume, or admit that the molten matter which has been brought to the surface by volcanic action, was derived from a constantly increasing depth, in consequence of the constantly increasing thickness of the solid crust, it follows that we are provided with an infallible rule for determining the age of upheavals, by ascertaining the mineral character and composition of the intrusive matter contained in the fissures, which were formed during the process of mountain-making.

If we find granite intruded in veins or cones along an ancient anticlinal axis, we know the upheaval occurred no later than the third or silurian period. If the intrusive rock is feldspathic granite, we know the upheaval occurred during the old red sandstone period, and so every variety of igneous rocks has, in succession, its intrusive era, marking the date of upheavals. As metalliferous quartz was erupted during the same era that feldspathic granite was intruded along anticlinal lines, we may expect to find deposits of the ores of the precious metals flanking those ancient anticlinal lines in all such localities where active volcanoes existed. Vast deposits of mineral wealth, whose existence has not hitherto been suspected, await the future explorer, who is thus directed where he may look for them.

Judging from the intrusive rocks which are found in anticlinal fissures, the general upheaval of the Sierra Nevada began during the formation of the silurian system. It is probable, however, that occasional ridges, the nuclei of the present system, were permanently raised above the water as early as the gneiss formation; but during the silurian period there seems to have been an upheaval of extended ridges, running in a northerly and southerly direction.

AERIAL.—The following account of the extraordinary voyage of a balloon is extracted from a recent English paper: An extraordinary balloon, shaped like a monster fish, fell in a field close by the railway at Montnessing, Essex, on the 24th ult. It contained no one in the car but the adventurous aeronaut, Mr. Orton, the deviser of the curiously-shaped machine. He had started from Cremona, where a large party had assembled to see the start; and as a gale was then blowing, some fears were entertained for the safety of the voyager. On being released from its moorings, the "great fish" rose with frightful rapidity, and passed over London towards the northeast at a rate which took it out of sight in six minutes; Mr. Orton states that he sailed from Cremona—a distance, in a straight line, of more than 20 miles—in a little more than a quarter of an hour. Owing to the strong wind he had some difficulty in descending safely, and had it not been for prompt assistance the balloon would doubtless have been lost. The aeronaut sustained a few bruises from being dragged over the hedges and ditches, in the course of which he lost the grapnel.

The above will serve to exemplify some of the advantages and disadvantages attended on this mode of traveling. Excepting the steering and propelling apparatus, the general form of the above appears to coincide with the outlines of the Avitor.

EFFECT OF NOISE ON FEVER PATIENTS.—Recent observations have shown that the ordinary noises, as rumbling over pavements, ringing of bells, etc., are terribly fatal to persons in severe cases of fever. The practice of ringing bells, where sickness is very prevalent or epidemic, it is proposed, should be stopped. A thunder-storm is known to have recently killed several fever patients in Galveston.

THERE are now 118 Bessemer converters in operation in Europe, capable of producing the enormous amount of 9,000 tons of steel per week. England has 52 of the number, Prussia 22, France 12, Austria 14, Sweden 15, Belgium 1, and Italy 2.



## Mechanical.

## Working Steam Expansively.

All engineers agree that to work steam economically it must be worked expansively; but engineers disagree as to the best method of constructing engines in which steam is expanded. The value of the principle is recognized, but wide differences of opinion may be met with as to the way in which the principle should be applied in practice. Although this diversity of opinion has acted as a stimulus to invention, it is more than probable that the progress of the steam engine toward the perfection of economy has been retarded by its existence. Men have sought to attain the same end by different means; very grave mistakes have been made; much money expended to no purpose, and a fair proportion of talent wasted in consequence. This is bad enough, but the waste of time, money and talent does not represent the worst. Engines theoretically right in principle but practically faulty in construction have been forced upon the market, purchased, and worked to the disgust of purchasers. The general public of manufacturers, ship-owners and other employers of steam power seldom dive deeply below the surface of things, or take much pains to draw distinctions between theoretical and practical shortcomings. In other words, all shortcomings represent practical commercial losses, and thus if a mistake is made in the method adopted in carrying out any principle—say that of expansion—the fault is attributed quite as much to the influence of the principle as to the lack of skill, knowledge or perception of mechanical fitness in the engineer. Thus, if a manufacturer of cotton thread buys an engine which he is assured is constructed on such a principle that it will save him much money in coal, and this engine is constantly out of repair, he will be almost certain to attribute the fact to the principle, not to the maker, provided only that the workmanship appears good. If the workmanship is bad, that is a different affair; but even then he will be unwilling to think that the expense of applying the principle must be so great that he cannot expect to obtain first-class workmanship and the principle together for the price of first-class workmanship only. In this way an idea grew up many years ago, and is still sufficiently prevalent, that an engine to work expansively must be complex, and therefore liable to get out of order. There is just such a basis of truth lying below this theory that it is difficult to combat it, and there can be no doubt that, as a result, engines in which the principle of expansion is fairly carried out do not receive that general recognition of their value as representing a good principle which they deserve. We shall not attempt to prove that complication does not necessarily mean a liability to disarrangement; those who have dealt with complex machines know better than to be led into error by any reasoning on the subject. In our eyes complication is a monstrosity in engineering. We wish it, of course, to be understood that we use the word with reasonable limitations. A machine is not necessarily complicated because it has a great number of parts, provided no fewer can be used to obtain a required end; but complexity commences the moment a single unnecessary part or motion is introduced. We shall, therefore, not dispute with those who assert that complicated steam machinery is more liable to get out of order than simple steam machinery; but we believe it may be shown that the fullest benefit which the principle can confer may be derived from expansion in engines of exceedingly simple construction; that no multiplication of parts or motions are necessary or desirable in such engines as compared with those in which steam is not greatly expanded, and that, in short, the whole question is one far more of proportion and arrangement of the members of a design than of anything else. Complexity in steam machinery generally represents the embodiment of the crochets of an inventor, seldom or never the necessities of practice.

Inventors have done their best and their worst with pistons, cylinders, connecting-rods and guides; but those members of the entire machine have such straightforward duties to perform, and are so simple in their nature that we seldom or never meet with any complexity in their construction or arrangement. When we turn to the means adopted for distributing steam we find that we have, so to speak, entered a new mechanical region. The patents which have been taken out for "improvements in the valves of steam engines, and the means to be employed to drive the same," may be counted by hundreds, and these most probably represent but a small proportion of all the in-

ventions in valve-gear which have been made. It may be stated, without fear of contradiction, that in complex steam engines the complexity is almost certain to exist in the valve and valve-gear, and nowhere else, in nine cases out of ten. It is not to be assumed that this complication is introduced without a purpose, and improvements in valve-gear generally "have for their object to effect a better distribution of the steam than can be had from other means." For this, then, links and cams, and double and treble eccentrics, and differential gear, and rocking-shafts, and trip-hooks, and dash-hooks, and dash-pots, and multiplicity of valves, are employed. Before we can decide how far the use of any of these things—of any arrangement, in short, more complicated than the common three-ported valve face and slide driven by a single eccentric—is justified, it is necessary to determine exactly what the best principle of distributing steam is; and, secondly, how far complex valve-gear is calculated to give better results than the gear of the simplest form. There is little trouble in doing this, although many inventors contrive to mystify themselves strangely in dealing with the subject.—*The Engineer.*

[To be Continued.]

**LEITAR'S WELDING COMPOSITION.**—We have already made a brief notice of the new composition for welding iron or steel, recently introduced by Bernard Leitar, of Brussels. The following is now given as the correct formula for its preparation, which differs somewhat from that which we gave with our first notice:

100 parts of iron or steel filings, according as the composition is intended to weld iron or steel.

60 parts of borax.  
5 parts balsamic copavia, or a resinous oil.  
10 parts ammoniacal salt (hydrochlorate, carbonate or other.)

A mixture is made of the whole, which is then calcined and reduced to powder.

The composition so prepared is used as follows: Suppose two pieces of iron or two pieces of steel, or even a piece of iron and a piece of steel should be required to be soldered or welded one to the other, place the composition between the two pieces at the place to be united; put the whole in the fire until the pieces have attained a temperature which permits the powder to become fused, which happens when the pieces have attained a cherry-red temperature; now withdraw and weld them in the usual way. If the dimensions of the pieces or any other object hinders their being put in the fire together, operate as follows: Heat first one of the pieces to a cherry-red temperature at the place where the soldering or welding is to be made; then place the composition and apply the second piece, heated this time to white, then weld the whole. This method is particularly applicable to the repair of large pieces.

**A GREAT FURNACE CHIMNEY.**—A chimney has just been completed at the works of the West Cumberland Hematite Iron Company, near Workington, Pa., the principal dimensions of which are as follows: Height above ground level, 250 feet; depth of foundation below ground level, including a bed of concrete three feet deep, 17 feet; basement, 30 feet square at the bottom, diminishing to an octagon at the ground level, pierced by four apertures for flues, each 7 feet 6 inches in diameter; outside diameter of cone, at bottom, 25 feet 7 inches; at top, 15 feet 3 inches. The cone has a straight taper of 1 in 48; thickness of brickwork in cone, 2½ bricks at bottom, diminishing by steps inside to 1½ brick at top, and including fire-brick lining. The stability of this chimney is such that it has been calculated that a pressure of wind equivalent to 55 pounds on the square foot of a flat vertical surface directly facing the wind, shall not cause the resultant pressure on any bed-joint of the brickwork to deviate from vertical axis of the chimney a distance greater than one-fourth part of the diameter.

There are upward of one thousand stationary steam engines employed within the corporate limits of the city of Philadelphia, aggregating from 25,000 to 30,000 horsepower. About one-half of the number obtain their water supply from the city water works.

**STEEL BOILERS** are coming into use on French locomotives. Twelve express engines, with steel boilers, are employed on one railway leading out of Paris, fifteen on another, and several on other roads.

## Scientific Miscellany.

## The Fiber of Iron.

We have already alluded to the experiments of M. Fresca, of Paris, who has experimented considerably with regard to the mechanical construction of metals. It will be recollected that a few months since he produced at a meeting of the Academy of Sciences, at Paris, several specimens of iron bars carefully oxidized on one side, in order to prove that these bars consisted of an assemblage of distinct fibers, each originating in one of the parts which existed separately in the original mass before pressure was applied. Each fiber could be distinctly traced by the aid of a magnifying glass from one end of the bar to the other. In connection with the above, the following from the *London Engineering*, will be read with especial interest:

When Mr. Bessemer manufactured wrought iron from cast, by blowing air into the molten metal, it was objected to the product that it had no fiber, as common puddled iron had, and that iron without fiber must be necessarily weak. In this inference—which was wholly theoretical—we did not concur, and the question then arose: What does fibrous iron really mean? When the particles of wrought iron are brought to a high temperature without the presence of an intervening material, they cohere in every direction, and the iron is not fibrous. But when slag is intermingled, as in common puddled iron is the case, there are intervening layers of either, which, when the iron is passed through rolls, are not wholly expelled, but are only greatly attenuated, and as these planes are then very numerous and pass in every longitudinal direction, they prevent to some extent the latent adhesion of the particles, which, however, adhere end to end, and a fibrous iron is thus produced. It is now well known that homogeneous iron is much stronger than fibrous iron. But at the beginning of the manufacture, fiber was accounted as necessary in iron as in ropes or thread—a theory resulting merely from the accident of the production of fiber by the modes of manufacture then exclusively employed. In the case of iron produced by the common process, any bubble or vacuity in the metal becomes filled with slag, which hinders the sides from being effectually welded under the hammer. But in the Bessemer iron, as the slag is absent, the sides of the bubble cohere when the ingot is subjected to pressure while still hot. It is better to hammer the ingots while still hot, after having been poured, than to allow them to cool and to heat them afterwards. For in the one case the heart of the ingot is the hottest part, and in the other the coldest.

**EMPLOYMENT OF HYDROGEN GAS.**—M. Heurtebise communicates to a late number of *L'Invention*, a plan for producing and economically employing hydrogen gas, which is both new and valuable. He places charcoal in a retort and raises it to a red heat, then passing a stream of carbonic acid over it, each molecule of the acid absorbs two atoms of carbon forming two molecules of oxide of carbon. In another retort, heated red hot, he passes two currents, one thus obtained, and another of superheated steam, when two atoms of carbonic acid and two equivalents of hydrogen gas result. The carbonic acid gas is again passed over the heated charcoal and four equivalents of hydrogen are obtained. A continuous action is thus kept up, with a steady supply of hydrogen.

**SCIENTIFIC MEETING.**—Peter Cooper, Wm. Cullen Bryant, and others, are arranging to hold a public meeting in New York, at an early date, under the auspices of the Association for the Advancement of Science and Art, to consider the best means of improving and cheapening transportation. On this occasion the subject of an Atlantic branch of the Union Pacific Railroad, or an air-line road from the Atlantic ocean to St. Louis, is to be discussed. Another improvement in the form of an extensive canal, to connect with the railroad, is proposed.

**IMPROVEMENT IN THE BLAST FURNACE.**—A French journal states that M. Morgan has increased the production of iron in furnaces six-fold by giving them greater dimensions; for instance, 9½ meters diameter (nearly 30 feet), and blowing into them by 12 tuyeres. A hollow cone is also constructed in the middle of the furnace, through which another blast is introduced.

**EVOLUTION OF GAS FROM COFFEE.**—At a recent meeting of the French Academy of Sciences, the following information, useful to be known in the chemical world, was communicated by M. Babinet, with regard to the evolution of gas during the process of making coffee. If finely ground roasted coffee be steeped in cold water, gas will be evolved to an extent about equal in volume to the quantity of coffee used; and this action will take place very rapidly, inasmuch that if a bottle be half filled with coffee duly ground, and the remaining space then filled with water until the cork is reached, an explosion will ensue, sufficient in force to expel the cork, or even break the bottle.

**AN INTERESTING EXPERIMENT.**—A very interesting experiment, which will be new to most of our readers, is described in a recent number of *Cosmos*. A large bell-glass full of air is placed over water, and a slow stream of mixed hydrogen and atmospheric air is sent so that the bubbles of gas as they escape from the water pass between the points of a small Ruhmkorff coil. Each bubble is thus ignited by the sparks, but instead of resulting in a sudden explosion the lighted bubbles seem to continue their course in the bell-glass, describing a series of curves. Thus, when the experiment is made in the dark, the glass is seen full of small flames which dart about and cross each other in all directions, looking as though the bell-glass was full of fire-flies.

**VELOCITY OF SIGNALS BY ELECTRIC TELEGRAPH.**—At the recent meeting at Burlington, Vt., of the American Association for the Advancement of Science, Dr. Gould read a paper on the "Velocity of transmission of signals by telegraph." Previous to the year 1849, it was supposed that the velocity of electricity through wires was too great to be measured. In that year, Sears C. Walker discovered, while measuring longitude, a perceptible retardation. Between Washington and St. Louis the velocity was found to be only 15,000 miles per second. On the submarine cable between Greenwich and Brussels the velocity was only 8,000 or 9,000 miles. On the Atlantic cable, Prof. Gould found the velocity to be between 7,000 and 8,000 miles per second, being greatest when the circuit was made by the two cables.

**TO DETECT CHICORY IN COFFEE.**—In a late number of the *Philosophical Magazine*, Dr. Draper gives a simple means of guessing more or less accurately, at the amount of chicory present in mixtures of coffee and that adulterant. Chicory, almost every body knows in these days, sinks in water immediately, while coffee floats; and Dr. Draper, therefore, takes a tube and draws out the closed end to a narrower diameter than the upper part. The drawn-out end, into which the chicory sinks, he graduates into four equal divisions, and thus is able to arrive at the proportion present in samples. This mode of testing is applicable to the estimation of other adulterants besides chicory, for nearly all the substances that have been found mixed with coffee, sink in water.

**CROMLECH.**—M. de Closmadeuc has discovered in a small desert island in the Bay of Morbihan, France, a very fine Cromlech containing more than sixty obelisks of granite, forming a regular circular of 180 meters in circumference. A curious fact is that only one half this Cromlech, which is supposed to have been a Druidical altar, is now on a dry land, owing to the encroachments of the sea. M. de Closmadeuc has made large excavations in the neighborhood, and discovered an enormous quantity of pottery, similar to that found in Celtic monuments; also several hundred flints worked by man, as well as a large number of stone hatchets.

**HERMETIC SEAL.**—A mixture of gelatine and glycerine, is liquid while hot, but on cooling it becomes solid, retaining considerable elasticity and toughness. The neck of a bottle dipped into this melted compound is covered with an air-tight cap, which can be made as thick as desired by repeating the operation.

**CEROLINE.**—Prof. Tozzetti, of Florence, has presented a note to the French Academy of Sciences on the wax produced by the fig cochineal (*coccus coriaceus*), which contains about half its weight of ceroline. He states that it may be procured in such large quantities as warrant its use in the industrial arts.

The *London Builder*, in an article on the prospective or possible exhaustion of the English coal fields, suggests, as a practicable resort, the employment of the tidal power in the direct production of heat, by compressing air.



New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

**A NEW QUARTZ MILL.**—The Virginia *Trespass* gives a lengthy notice of a new quartz mill, recently invented by Col. John A. Collins, of Virginia, and which was recently subjected to a preliminary trial at Bassett's mill. The invention consists of a series of cast iron wheels, each wheel constituting a cylinder similar in its operation to a Freiherg barrel; with the addition of the pan process, by the use of heavy iron cylinders inside, while the wheel, in rotating upon its bed, also accomplishes the crushing action due to the Chili wheel. The wheels are rotated by a heavy circular plate, which surmounts and rests upon the wheels; by which means the driving power is applied to their circumference, instead of their axis. A large amount of intervening machinery and friction is thereby saved, and, of course, much less power required. The *Trespass* sums up the advantages of this mill as follows:

- First—In cheapness. A mill of fifty tons capacity will cost not one-fourth the price of a mill with stamps and pans of similar capacity.
- Second—It will require only one-half the power to drive it.
- Third—It will not require one-fifth the room.
- Fourth—It is vastly less liable to disarrangement, and hence a great saving of expense for repairs.
- Fifth—It can be worked with less than one-half the number of hands.
- Sixth—It will not require one-half the water.
- Seventh—It will crush the quartz dry nearly as rapidly as with water.
- Eighth—It will allow the mountains of low grade ores now worthless, to be worked to a profit to both the mine and the mill.

It is estimated that silver ore can be crushed and amalgamated by this machine for \$3 per ton, with a mill of a capacity for reducing 100 tons for each 24 hours, while the space which the machine would occupy will not exceed 20 feet square. The first experiment made with it was the reduction of 1,200 pounds of ore, with a result of 70 per cent. of the assay. The quicksilver was in the pulp but one hour, when it should have been there three hours. The result obtained under such circumstances shows not only the superior effectiveness of the machine, but that it will work exceedingly close to the assay.

**A WONDERFUL INVENTION—PHOTOGRAPHY APPLIED TO ENGRAVING.**—Ever since the discovery of the Daguerrean process, it has been an object of earnest pursuit to find a method of using the photographic art for the production of metallic types, or plates from which to print, in the ordinary letter press style, the pictures made by the sun. Scores of inventions have been made without final success; but according to the *New York Journal of Commerce*, the desideratum has at last been accomplished.

It is not claimed for this process as yet that it will do everything that is desired. But it is the beginning of great things, and the day is confidently anticipated when it will be so perfected that the scenes of daily life, occurrences in our streets, public meetings, processions, and similar events may be photographed and the type used in the editions of illustrated newspapers without the intervention of an engraver or wood-cutter.

The editors of that paper have been the witnesses of some of the results of this wonderful discovery, which they describe as follows:

At present the inventors wisely propose to do no more for the public than they are able to do perfectly. To show their ability, a copper-plate map of France was handed to them, from which they were to produce a type or plate suitable for letter-press work. Within twelve hours they delivered the type, a solid plate, from which we could easily print a hundred thousand copies on the press of the *Journal of Commerce*. The

copy printed from this type was a *fac simile*. An elegant ornamental card, being placed in their hands, they, in a few hours, produced a type from which the card can be printed to any extent desired. An ordinary wood engraving is reproduced in the same manner. Music is admirably and perfectly copied.

One of the merits of the invention consists in the ability to change the size of the picture or page to be reproduced. A map six feet square can be reduced, and the type made to print an illustration for an ordinary volume. A page of the *London Illustrated News* was reproduced in a few hours in a metal plate, half the original size, the proofs from which will surprise any printer.

The editor adds: "We have been careful not to claim too much for this invention in its present working condition."

**TO PREVENT OVER-WINDING.**—Much ingenuity has been employed both in this country and in Europe to prevent accidents from over-winding, by an automatic detachment of the cage or bucket from the hoisting apparatus before it is drawn over the winch or head-gear, or dashed against the hoisting pulley and beams overhead, through the inattention of the engineer, or some derangement in the machinery. Accidents from such a cause are not unfrequent. Mr. Frank Thayer, head engineer of the *Savage* works, at Virginia City, has perfected an apparatus to accomplish this purpose, which is so arranged that upon rising to a certain height the cable is detached, so that the cage remains suspended by a patent safety apparatus between the guide bars of the shaft. Upon being detached from the cable the cage only falls an inch or two before being brought to a stand still by stout steel clutches which spring out and fasten like great chisels into the wooden guides upon which the cable plays in ascending and descending the shaft.

**NAPOLEON'S NEW CANNON.**—Much has been said about a new cannon recently invented by the present Emperor of France—but which was not exhibited at the Paris Exposition. But little has hitherto been learned with regard to it; but it now seems that something has finally leaked out, probably through some person connected with its trial, and which is given in a *Toulouse paper* as follows:

The trial of the new small cannon, the most terrible arm yet invented, continues at Mendon. None know their mechanism, except the artillery officers, who direct the experiments. Cannon, carriages and ammunition are brought in leather valises, and the trials take place behind a screen of planks. All that can be known is that at 2,500 meters these arms send a perfect hail of balls against a target two meters high and one broad. At that distance the balls pierce an iron plate two centimeters thick. Each cannon can fire twenty shots in a minute, and two men suffice for the transport of the arm, the carriage, the ammunition, etc. Lately the guns were tried against a clump of trees at 1,500 meters (nearly an English mile). The trees were mowed down in a few minutes, like a cornfield by a steam mowing machine. It is frightful. Five or six men armed with such an engine could destroy a whole regiment in a few minutes.

PATENTS RECENTLY ISSUED.

69,139.—**ROCK DRILL.**—John S. Stockham, Red Dog, Cal.

I claim the drill constructed with the drill-rod, E, the tappet, F, spring, G, and cam, I, operating in the swinging frame, D, supported by standard, B, for giving universal motion, substantially as described.

This invention relates to machines for drilling rock, and consists in providing what is claimed as an improved mechanism for directing the drill to any desired point, and also for giving more effective blows, especially in confined places. This object is attained by constructing a double frame or any other convenient mechanism by which a universal joint can be obtained, so as to allow the drill to be pointed in any direction. The drill stock extends longitudinally across the frame, and has a tappet fixed to the back part of it, behind which is a spring sufficiently stiff to pierce the drill forward and give the desired blow, as soon as the tappet is released by the cam. The cam shaft crosses the frame transversely, and has a cam so placed as to operate the tappets; cranks being fixed at each end of the shaft to turn it. The drill is fed forward by means of a hand wheel. It is claimed that with this machine, driven by hand, much more work can be done, than by use of the sledge; while it has the additional advantage of being used in places where an ordinary drill and sledge could not be employed for lack of room.

Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 2, 1887.

City Stocks.

City stocks continue dull and little or no change has taken place in current quotations. We note more than usual transactions in Spring Valley Water at \$68@67 50. A few shares of California Steam Navigation sold at 75@75 1/2 per cent. San Francisco Gas stock realized \$65 per share. The usual monthly dividend is payable since yesterday.

The certificate of incorporation of the People's Insurance Company has been filed in the office of the County Clerk. The amount of capital stock is stated at \$100,000, divided into 1,000 shares of \$100 each. The Directors for the first twelve months are C. F. McDermot, John Flanagan, H. W. Bradley, George T. Knox, A. Jacoby, James E. Damon, Philip Meagher, B. Mendessolle, William Fishel, D. Murphy, A. Eberhart, John H. Wise, and William Dumphy. Principal place of business, this city and county. The company reserves the privilege of increasing its capital stock to \$300,000 at any time.

The following is a carefully compiled record of the daily aggregate sales in the open and regular sessions of the San Francisco Stock and Exchange Board during the month of October:

	Regular Session.	Open Session.
October 1.....	\$270,246	\$88,469
October 2.....	407,546	90,810
October 3.....	334,512	119,472
October 4.....	233,105	124,882
October 5.....	234,705	124,464
October 6.....	310,238	103,541
October 7.....	290,075	83,422
October 8.....	230,961	79,228
October 9.....	155,343	82,720
October 10.....	227,592	135,980
October 11.....	140,533	119,710
October 12.....	214,330	97,285
October 13.....	214,824	124,928
October 14.....	109,501	54,344
October 15.....	188,339	92,607
October 16.....	138,938	55,726
October 17.....	105,438	121,828
October 18.....	194,747	95,095
October 19.....	225,152	120,829
October 20.....	190,232	124,262
October 21.....	182,732	61,630
October 22.....	175,118	112,829
October 23.....	113,338	93,614
October 24.....	138,930	76,830
October 25.....	163,552	70,100
October 26.....	233,041	78,506
October 27.....	205,819	61,821
October 28.....		
October 29.....		
October 30.....		
October 31.....		
Total.....	\$5,470,842	\$2,580,497

Making a total of \$8,051,329. These figures compare as follows with the transactions of the same months in the three preceding years, viz: 1864, \$1,604,612; 1865, \$4,000,500; 1866, 1,375,117. The sales for the month just closed exceed the transactions of any previous month since the organization of the Board. No afternoon open session has been held since the 29th instant.

Legal Tender Notes advanced to 71%, the sales in the Board being very considerable.

Mining Share Market.

The mining share market since Saturday last has been quite active, though the decline in a number of leading stocks has been very marked. The reports from the various claims on the Comstock Lode are certainly not very encouraging; however, the market has been influenced by strong bear movements, which greatly tended towards precipitating the general list. The market closed weak.

**CROWN POINT**—has been quite active during the period under review, experiencing a very material decline, falling from \$625 to \$565, improving to \$595, dropping to \$505, and closing at \$520. A telegram of yesterday states that the north drift, on the 700-foot level, is in quartz containing clay with some pay ore, and that the south drift is producing some ore that will pay. The clay seam of the ledge has been penetrated on this level. Nothing new to report concerning the 500 and 600-foot levels. The hullion receipts in October, it is thought, will exceed the September returns. Upwards of sixty tons of ore are mined per day, which will mill about \$40 to the ton.

**HALE & NORCROSS**—shows a decided improvement, as well as increased sales over last week, advancing from \$690 to \$880, then selling at \$800, and closing yesterday at \$835. In drifting from the north winze, (780-foot level) at a depth of fifty feet, the ore is found to be about four feet wide, and has improved some in quality. From the south winze, on the same level, they have opened northward and found the ore to be from two and a half to three feet wide. A winze has been sunk on the "west raise" to the depth of twenty-five feet, obtaining ore four feet wide, said to be of a fair quality. They can go no deeper in this winze at present on account of the heavy flow of water. The average sixty-five per cent. yield of the ore extracted during the present month is \$24 to the ton.

**CHOLLAR-PODOSI**—exhibited a fair degree of activity under variable rates, rising from \$162 50 to \$202 50, falling to \$161, and at the close selling at \$160. During the week ending October 24th, 1,586 tons of ore were sent to custom mills; previous week, 1,425 tons. The comparative

yield of the various levels has been as follows:

	Oct. 25.	Oct. 19.
New Santa Fe.....	182 tons.	260 tons.
Plute.....	580 "	450 "
Old Santa Fe.....	360 "	394 "
Santa Fe 3d.....	897 "	456 "
Total.....	1,789 "	1,570 "

The force at work in the fifth station have discovered nothing of an encouraging nature in the drifts, nor is there any very cheering information as regards developments in other portions of the mine. Considerable quantities of ore continue to be daily extracted, the ship of the 29th October showing a product of 307 tons.

**YELLOW JACKET**—has been in less favor, receding from \$352 to \$320, and closing at \$330 seller 3. We could learn nothing new relative to the present condition of this mine.

**GOULD & CURRY**—sold to a limited extent, obtaining \$330@310, and at the close \$330 is asked. The receipts of hullion during the month of October amounted to \$65,474 86, against \$75,842 74 in September. The condition of the mine is about the same as previously reported.

**SAVAGE**—has been in less favor at declining rates, selling at \$116 50@103, and closing yesterday at \$101. The amount of ore extracted during the past two weeks compare as follows:

	Tons.	Value per Ton.
October 19th.....	1,844	\$58 90
October 28th.....	1,321	38 55

The north and south mines on the third level yielded 895 tons, and from the north mine on the seventh station 740 tons were taken. The north breasts on the third station are said to continue in fair ore, while the breasts in the south mine on the same level do not look quite so well as when first opened. The operations in other portions of the mine have not, as yet, produced any favorable developments. The main shaft is twenty feet below the fifth station, and is running in good ground.

**KENTUCKY**—was in the market to a large extent, upwards of 1,800 shares changing hands, opening at \$173, dropping to \$139, under heavy sales, rallying to \$156, and closing at \$146. We could learn nothing very encouraging from this mine. The hullion product for October will fall considerably short of the September yield.

**OVERMAN**—has been less active than during the same time last week, declining from \$45 to \$38, improving to \$51, then selling at \$40@49, and closing at \$45. Since our last issue, the hullion receipts of this company amounted to about \$4,000, showing a yield of over \$34,000 for the current month.

**IMPERIAL**—is in better favor, selling at \$133@138, and closing yesterday at \$129. The receipts of hullion since our last issue aggregate \$8,242, making a total of \$33,995. The receipts for the month will be less than the returns in September. The mine shows no material change, except that it produces a lower grade of ore. Mr. Bourn, the President, and several of the Directors have gone to Virginia City on business pertaining to lawsuits against the company.

**GOLD HILL QUARTZ**—sold at \$85@90. Our quotations at the close are \$85 bid and \$95 asked. The 290-foot level continues to yield well. Receipts of hullion in October amounted to \$10,994 against \$3,259 04 in September. It is believed that no dividend will be paid during the present month.

**OPHII**—opened at \$29, then sold at \$65@50, assessment of \$36 per foot delinquent, and at the close realized \$52. The water is decreasing in the shaft, and sinking appears to go on satisfactorily.....**EMPIRE MILL**—a few shares sold at \$165, closing at \$170.

**AMADOR**—sold in the open board, early in the week, at \$215 huyer 30, then at \$200 seller 30. We quote it at \$215 asked. At the present end of the north drift, on the 1,210-foot level, 200 feet from the shaft, the ledge is ten feet wide. The holder ledge that came in is now six feet wide, and the rock is said to be improving in quality, and is becoming more regular. The main ledge, together with this holder formation, is fourteen feet wide.

**CONFIDENCE**—at the close a few shares sold at \$40. From July to the close of September the average yield per ton fell from \$19 51 to \$14 60. The receipts of hullion during October amounted to \$12,000; in September, \$11,310. The annual meeting of the stockholders takes place on Friday, the 8th inst.....**BEIUCHER** commanded \$108@115, closing at \$102 50.....**ALPHA** changed hands to a limited extent at \$450 seller 30.....**BULLION** realized \$16@14.....**JUSTICE AND INDEPENDENT**, \$12 25@11 50; and **ESCHQUER**, \$7 50.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,067,419. The sales in the open session, from the 25th to the 1st November, inclusive, amounted to \$405,572, showing a combined aggregate to date during the past week of \$1,472,991.

**STEAM FLOUR MILL**—Santa Barbara is going to have her own flour mill. The machinery is now being manufactured in this city.

**WOONWARR'S GARDENS**—It will be seen from the advertisement which appears to-day, that new attractions are being continually added to the variety heretofore presented.



MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.)

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquency; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY OF DELINQUENCY, DAY OF PAYMENT OF DIVIDENDS. Lists various mining companies and their financial details.

Table with columns: Item, Price. Lists various goods like Butter, Cheese, Eggs, etc. with their respective prices.

San Francisco Metal Market.

Table with columns: Item, Price. Lists various metals and alloys like Iron, Steel, Copper, etc. with their market prices.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

Table listing various books with columns: Title, Author, Price. Includes titles like 'ANSTED'S Gold Seekers Manual', 'ANTISELL', 'BLAKE, W. P.—Geological Reconnaissance', etc.

AN INSTRUCTIVE BOOK!

Prof. LAYRES' ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY

For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, \$1.10. This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

Latest Stock Prices Bid and Asked.

Table with columns: Stock Name, Bid, Asked. Lists various stocks like United States 7-10ths Bonds, California State Bonds, etc.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA.

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

THE GOLDEN ERA.

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family journal of unequalled excellence.

DEWEY & Co., Mining and Scientific Press Office, San Francisco.

Mineral Land Law Blanks FOR SALE. We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866: I. Applicants' Declaratory Statement. II. Diagram, Description of Diagram and Boundaries, and Notice. III. Register's Order for Publication—with Notice. IV. Deposition that Notice has been Posted. V. Application for Survey Etc.

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RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Smith. I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton. After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill. I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hatch. It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the application of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Denman. I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg. I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood. I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Hunt, A. M. I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry. You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brayton. I am recommended particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and as advocates at the forum.—John Curry. The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. Exactly calculated to interest. It will soon become a necessity in every lawyer's library.—Charles A. Tuttle. Its clearness and comprehensiveness make it easy.—G. W. Boies. A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Bulletin. This is a San Francisco book by a San Francisco author. It contains 66 pages, and is altogether creditable to a San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alto California. The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times. Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken) holds it up before you; tears it to pieces before your eyes; or rather, he shows you, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its integrity; and then shows you how to put them together again. A series of such experiments, if system has the merit of originality, gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

San Francisco Market Rates.

Table with columns: Item, Price. Lists various commodities like Flour, Corn Meal, Wheat, etc. with their market rates.

Wholesale Prices.

Table with columns: Item, Price. Lists various commodities like Flour, Corn Meal, Wheat, etc. with their wholesale prices.

Rates of Subscription.

Table with columns: Term, Price. Lists subscription rates for The Golden Era: One year, \$5.00; Six months, \$3.00; Three months, \$2.00.

TERMS TO CLUBS.

Three copies one year, \$12.00. Five copies one year, 18.00. Ten copies one year, 35.00. An extra copy free for one year to the person sending a club of ten subscribers. Send money to our office in registered letter, or by Express, Address, BROOKS & CAPP, San Francisco.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Oct. 26th; Mr. Graff recently made an assay of a sample of the ore lately struck in the Merrimac mine, which gave a return of \$200.87 per ton, \$18 of which was gold, the balance silver. The ore is also rich in copper, being what is known as Fahlerz or gray copper ore; called also fahlors. For over 80 ft. along the tunnel this ore has been found, and its quality improves as distance from atmospheric influence is attained. Yesterday, and the day before, much better specimens than the one assayed were found in large quantities.

Several Washoe experts and others who have visited the Mountain tunnel recently, give it as their opinion that they are near their ledge. The granite composing the face is now much of it bleached and full of sulphurets, supposed to be the result of infiltration from a body of ore at no great distance ahead.

Messrs. J. Morris and Wm. Monahan have this week entered into a written agreement with E. Arnold, Supt., to run 300 ft. of tunnel for the Leviathan Co. whose claim is situated about four miles northerly from Monitor.

There has been another strike in the I. X. L. mine. What extent the body found will prove we have not even an idea, but our informant says he saw a chunk weighing over 30 lbs. of as good ore as was ever found even in this rich vein.

The Ringold Co. are putting track in their tunnel and have a car ready to run, which will greatly facilitate the work. They are in ledge matter yet, but not in far enough to expect the good thing promised by the croppings.

## Amador County.

*Dispatch*, Oct. 29th; The McAdams & Hubbard mine near Middle Bar of the Mokelumne river is to be reopened.

Last week, Mr. Thomas Brady sold his interest, one-fourth, in the Kennedy mine to Mr. B. F. Langford, of Woodbridge, for \$10,000. The ore yields from \$28 to \$54 per ton.

The improvements at the Coney & Bigelow mine are being pushed forward vigorously. They have a large force of men at work on the timbers for the new steam hoisting works, which are to be of a very substantial character.

## Calaveras County.

*Chronicle*, Oct. 26th: Three and a half tons of unsorted rock taken from Lamphear & Co's lead, near Spring Gulch, crushed at Harris' mill, paid \$11½ per ton. The lead is wide, well defined, and prospects well from top to bottom.

The quartz claim of Alexander, Seavers & Co., situated in Rich Gulch, is paying handsomely. Their mill has a battery of 10 stamps, which is run by water. The claim had been worked considerably previous to falling into the hands of the present owners, but owing to defective machinery and consequent loss of gold, it did not pay and was abandoned. We understand that since the present company has been working the mine, about four months, it has paid all expenses and the company have \$6,000 in bank.

Messrs. Hill & Homer have leased the celebrated Whisky Slide claim, having purchased the Mina Rica mill at West Point, and will immediately remove it to Whisky Slide.

## Inyo County.

*Virginia Enterprise*, Oct. 29th: The following is an extract from a letter written by Charley Duval, now in Cerro Gordo Dist., Inyo county. A number of furnaces are in full blast in Cerro Gordo, and a considerable amount of silver is being taken out. The Mexicans have made many improvements in their furnaces and in their smelting processes, and the hullion now turned out by them sells readily at \$1 per oz., at the mines. The St. Lucas mine, two miles from Cerro Gordo, is being worked by Messrs. Ochoa and Almada, who are taking out about a ton and a half of ore per 12 hours, working two men. This ore yields, by mill process, \$300 per ton. It is being worked at the Silver Sprout mill. Mr. Duval, in speaking of a visit to Kearsarge Dist., dwells at considerable length upon the management of the Kearsarge mine and mill by J. B. Low, and thinks that he will soon bring Kearsarge out with flying colors.

## Mariposa County.

*Mail*, Oct. 26th: The splendid new mill of Robinson & Co., was started a few days since, and promises to be productive of great results to the owners and to the community. The mill runs three batteries of

four stamps each, driven by an engine of 50-horse power, to which is attached the patent "cut-off," and Scott & Eckart's Regulator. It is claimed for this invention that it will work a saving of 33½ per cent. of fuel. The mill is in all its parts regarded as one of the most perfect that has ever been put up in this county. The vein is five ft. wide, and possesses excellent facilities for working. The incline shaft cuts the vein at 165 ft. There was about 90 ft. of water in the mine; but the new pump and pumping machinery is reducing it very rapidly—at the rate when first started of about 20 in. per hour. The mill is in active operation, with 175 tons of ore to work upon, which will yield \$20 per ton.

## Nevada County.

*Transcript*, Oct. 25th: About a year ago a 5-stamp water-power mill was erected on the Grizzly mine, at Devil's Cañon, and for the last several runs the rock has yielded about \$100 per day. Recently 10 more stamps have been added, and a 40-horse engine purchased by Mr. Clark, which will be put up on the mine immediately. The ledge has been thoroughly prospected for a distance of 2,500 ft., and found to be of average richness, varying in thickness from three to six feet. The casing is well defined, and the lode gives evidence of being a true ledge. A new tunnel has been run 80 feet below the lower level, and the ledge reached, giving 400 ft. of backs. Mr. Clark now proposes to run another tunnel which, in 500 feet, will cut the ledge, thus opening the mine for the whole 2,500 feet, and giving from 500 to 800 feet backs.

Oct. 26th: Rock was taken from a prospect shaft in the Enterprise mine, at Diamond Creek, last fall, which paid \$24 to the ton in free gold, and the sulphurets, by the chlorine process, yielded \$510 per ton. The owners of the claim are now engaged in opening it.

There are now six quartz mills and two arastras running in the vicinity of Eureka. Two more arastras and a mill are soon to be built.

A 5-stamp mill, run by a "hurdy-gurdy" wheel, has been erected at the Marietta mine at Devil's Knob, and is kept constantly at work upon rock which pays from \$15 to \$20 per ton. They are now taking out rock from a 5½-foot shoot which yields \$20 per ton, without working the sulphurets. One man taking out rock keeps the mill running day and night. The total cost of mining and milling the rock is only \$3 per ton. The Marietta has been opened by two tunnels on the ledge. The upper one is in 60 feet, and the lower 120 feet. These tunnels are run directly upon the ledge, and the lower one now has 100 feet backs, which increases as it is driven in.

The Mary Etta mine was located by Spring & Co., at Diamond Creek, about a year ago, and lately sold to Jas. E. Perkins for a San Francisco company, which has a working capital of \$50,000, in cash. The machinery for a 20-horse engine to be erected upon this claim is now on the road, and a 5-stamp mill, which can be increased to ten if necessary, is to be erected immediately.

*Transcript*, Oct. 30th: The Scandinavian Co. which was recently incorporated, design to erect an 8-stamp mill upon the claim. The ledge has been prospected for 300 feet, and is demonstrated to be rich.

*Gazette*, Oct. 28th: A rich quartz vein was struck last Saturday, on Cement Hill, by Henry Richards and others. They were running a tunnel for gravel, when they struck the ledge crossing the tunnel.

From a pan of quartz taken from the Sinnott ledge last Friday \$150 was obtained. The vein is small, but the quartz is of the finest quality, being literally filled with gold.

*National*, Oct. 24th: The Empire Co., on Ophir Hill, cleaned up on Tuesday \$26,500, after a run of less than a month.

*Excelsior*.—Meadow Lake *Sun*, Oct. 26th: We were shown yesterday by Mr. Chappell, superintendent of the Mohawk and Montreal mine, some 70 ozs. of amalgam, valued at about \$1,200. This was from 54 tons of rock.

The Live Oak Co. have reached a depth of 38 feet on their ledge, which looks finely, showing a considerable quantity of free gold.

The Camp Co. have closed their mine for the winter.

The Eclipse Co. are engaged in packing ore from their mine to the Mohawk and Montreal Co's mill for crushing.

*Virginia Enterprise*, Oct. 29th: At Collins' hat store, yesterday, we were shown a handsome golden brick just received from the Mohawk and Montreal mine, which looked fully as interesting as those which have preceded it. It was assayed by G. W. Dorwin, assayer of this city, and its weight was 65.50 ozs., containing gold \$1,025.56, silver \$16.93—total value, \$1,042.52. This was the product of 54 tons of sulphuret ore which was thought to contain but little free

gold, averaging over \$20 per ton, independent of the sulphurets, which are carefully saved for future treatment. There is plenty of ore on hand, but the mill is only run occasionally, the energies of the company being principally directed to the building of ore shoots and other outside arrangements, preparatory to a steady winter's run.

The Meadow Lake correspondent of the *Gold Hill News* writes, Oct. 22d: "The Green Emigrant Co. have reached a depth of 40 feet, and struck a well defined ledge six feet wide. Their average yield, in free gold, is over \$30 per ton, exclusive of the sulphurets, which assay over \$100.

The Grant Co. are driving their work night and day. Fine developments are constantly being made. The company now employ a large force upon their mine.

The Gold Run is an A No. 1 mine. Their tunnel follows the ledge into the mountain about 230 feet. A better defined ledge cannot be found, the ore showing a great amount of free gold.

The Eclipse is one of the richest prospecting claims yet opened. They are making preparations to ship about 100 tons to the Mohawk mill to be crushed, which will, no doubt, make a good yield.

## Placer County.

*Dutch Flat Enquirer*, Oct. 26th: The Iowa Hill correspondent writes: "The Pacific Co. is still at work opening their ground and will begin to 'breathe' about New Year's. We were informed that the Columbus Co. had within their mine a hand cement mill, which excited our curiosity so much that we concluded to see it. When we reached there we were exceedingly surprised at the simplicity of the machine. It is simply a sort of trip-hammer concern, and it is astonishing the rapidity the cement yields to the blows, and the richness of the cement is just about as astonishing. Gold could be seen in every piece you might pick up. At the Shelly Co's dumps we saw a monstrous hill of pay dirt waiting for water. A little further up we saw Keffe opening the old Baltimore tunnel for the purpose of working old ground. Still above, and we found Davidson and Wilson carrying out first rate looking dirt from their new tunnel. The old Live Oak Co. are vigorously driving their tunnel ahead, expecting to strike the lead every day.

*Herald*, Oct. 20th: McGonigle & Co. have struck it richer than ever in the Black Ledge. Capt. Mallett has also found some very rich quartz in his claim, west of North Ravine, which is supposed to be on the same vein as the Peter Walter ledge.

## Plumas County.

*Quincy National*, Oct. 26th: The Green Mountain ledge, in Cherokee District, owned by Batchelder & Kettis, has been lately yielding large returns. The rock is hauled two miles to a 4-stamp mill, in Dixie Cañon, where it is crushed, paying on an average of nearly \$100 per day. The last clean up, for 21 days' run, yielded upwards of \$2,000.

Operations have been commenced in the new quartz mill of H. C. Bidwell, near Greenville. This mill will be used to crush rock from the Caledonia ledge, which is believed to be quite rich.

## Shasta County.

*Courier*, Oct. 26th: The owners of the Bullion ledge are so elated with their fine prospects that they have decided to erect a mill for reducing the ore.

Ed. Baldwin and Ike Downing have struck a rich prospect on Rock creek, and are busily engaged in opening their claim and preparing for the rainy season. The gold found in this claim is of a coarse character, and is found principally on the bed rock. A nugget weighing three ounces was found in an adjoining claim last winter.

Taylor & Daniels have purchased the Salt creek water ditch, and contemplate extending it to a point not far from the Bunker Hill claim, where they have struck diggings which prospects almost as rich as the celebrated Daniels claim.

## Sierra County.

*Downieville Messenger*, Oct. 26th: The Comet-Gravel Co., near Grass Flat, is now reaping the reward of over ten years' steady work in tunneling, it having recently taken out nearly \$600 in the space of eight sets of timbers in the main tunnel. The tunnel is now in about 2,000 feet, and the heading is yet a long distance from the point which this company intends to reach. Still better pay is expected when it strikes the main channel.

The Mount Pleasant Co. intends to consolidate with the Washington and Ladies companies, and run a joint sluice from Cañon creek, a distance of 1,500 feet, by which they will drain nearly one mile front, at an estimated cost of \$30,000, opening as extensive and rich as the famous Blue Gravel mines at Smartsville, Yuba county.

The Star Co., at Greenwood, near Cedar Grove, adjoining the Caledonia Co's ground,

are taking out rich dirt, paying from \$8 to \$12 per day to the pick, and are driving their main tunnel toward the summit, some 3,000 feet away, and expect when they reach it to strike the ancient river channel running from Howland Flat to Scales' Diggings, along the dividing ridge between Slate and Cañon creeks.

Considerable excitement has resulted from the discovery of rich ore in the Wehe quartz ledge, situated on the East Fork, about one and one-half miles from town. A solid ledge of micaceous quartz has been discovered, fully three feet wide, carrying a heavy vein of arsenical sulphurets, which it is estimated will yield thousands of dollars to the ton. We have specimens of the ore which show considerable free gold, one peculiarity of which is that it is nearly all crystallized.

Developments in the Brush creek mine shows that its richness borders on the marvelous. The shaft has been steadily going down since the date of the discovery of the rich pay streak, and there is still no diminution in the richness of the rock. Breasting on the ledge both ways from the bottom of the shaft shows the rock to be equal to that taken out at the start. The owners select the best ore, barrel it up, and store it away in a safe place.

Some time since several hundred pounds of rock from the Good Hope mine were taken to San Francisco for the purpose of getting a working test. The ore was worked by Messrs. Clements and Peters, and one lot of 47 pounds taken from the main shaft, averaged \$46 per ton. Another lot of 37 pounds taken from the mouth of the tunnel, gave \$34 per ton.

## Tulare County.

*Visalia Delta*, Oct. 23d: Sage Land, near Kelson Cañon, is likely to prove one of the richest mining camps yet discovered in this portion of the State. The first mill was built there a few weeks since, by Messrs. F. White Taylor, of Havilah, and Walker, of Watsonville. In 60 days from the time the machinery left San Francisco, the mill was running, and the first six days' run, upon mere croppings, cleaned up \$5,000. Other lodes of equal richness abound in the vicinity, two more mills are going up and a few months will see a new town springing up in the wilderness.

## Yuba County.

*Marysville Appeal*, Oct. 29th: The Brown's Valley correspondent writes the following concerning the Rattlesnake mine: I will state that the ledge, in the north level, No. 2, is at present from 15 to 20 inches wide and the quartz very good; and that at the top of this ledge is a small streak of quartz about 12 inches in width, which is exceedingly rich. This rich streak may be traced upwards for about 50 feet; but I have so far no means of knowing anything about its length northerly, or its extent downwards. The quartz in the south level, No. 2, is in nature and color similar to that in north level, No. 2, but as yet not so good.

## BRITISH COLUMBIA.

*Cariboo Sentinel*, Sept. 3d: The unprecedented dryness of the weather lately has had the effect of drying up the various streams to such a degree that mining has been almost totally suspended.

Several Chinese companies are working over old ground with water obtained from the Flume Co's ditch, and are making very good Chinese wages.

The only claims on Williams Creek that took out pay last week was the Aurora Co., which took out 127 ozs.; Raby claim, 60 ozs., and the Morning Star claim, which is yielding \$12 per day to the hand.

Notwithstanding the scarcity of water, the following amounts were taken out of Stout's Gulch during the week. Alturas Co. 175 ozs.; Taftvale Co. 132 ozs.; and Jenkins Co. 40 ozs.

Prospecting is being vigorously prosecuted in Red Gulch.

The Minnehaha Co. in Mosquito Gulch, who have gained no little notoriety lately, in consequence of their diggings being haunted by a ghost, have at last got on the lead. From the bottom of their new shaft they washed out yesterday forenoon eight ozs. The Hocking Co. washed out 35 ozs. for the week.

The Calaveras claim on Lowhee Creek, yielded during the week 100 ozs.

Sept. 12th: On Mosquito Creek the following companies took out for last week the following amounts: Minnehaha Co. 1½ ozs.; Ophir or Job Co. 12 ozs.; Hocking Co. 1½ ozs.; Willow Co. 20 ozs.; Point Co. 10 ozs.; Discovery Co. 20 ozs.; Holman Co. 20 ozs.; Jeffree Co. 60 ozs.

The Discovery Co. at Cedar Creek, are making \$20 per day to the hand. Aurora Co. took out during the week 100 ozs.

Sept. 16th: Stout's Gulch continues to give a good account of itself.

The Alturas Co. cleaned up for the week,



208 ozs.; Taftvale Co. 160 ozs.; Mucho Oro Co. 40 ozs.; Jenkine Co. is making about wages.

On Lowhee Creek, the Calaveras Co. washed out for four days' work last week 100 ozs.; First Chance Co. cleaned up for the week, 55 ozs. The old claims in the head of the creek have nearly all fallen into the hands of Chinamen, from whom it is next to impossible to ascertain the amounts taken out.

Sept. 23d: On William's Creek, the Aurora Co. washed out for the week ending yesterday 440 ozs.; Borealis Co. took out for two days' washing, 20 ozs.; Raby Co. had about 70 ozs. for the week; Hibernia Co. are making \$8 and \$10 a day to the hand.

Moorhead Co., on Lowhee Creek, now owned by six Chinamen, are making \$50 a week to the hand; Chittenden Co. are averaging \$15 a day to the hand; Plumbago Co. are starting a drift into the hill above the former company's lines; First Chance Co. had about 50 ozs. for the week; Calaveras Co. washed up for the week 100 ozs.

Oct. 12th: The Taftvale Co., in Stout's Gulch, found a nugget weighing 5½ ozs., entirely free from quartz.

Oct. 26th: On Cedar Creek, the Aurora Co. last week had their sluices robbed of about \$500 in dust. They continue to take out about \$20 a day to the hand. The Discovery Co. are also taking out about the same amount.

#### COLORADO.

Denver News, Oct. 16th: At the First National Bank, there was this morning, nine silver bricks, weighing 250 lbs. The bricks are from ore from the United States Coin lode, and was reduced at the reduction works of Garrott, Martine & Co.

From eleven assays of ore from the Herkimer lode, the lowest yielded \$200, silver, per ton, and the highest \$2,800. The average of the 11 assays was \$953.64 per ton. Another assay from picked specimens yielded \$5,300 per ton; 580 ozs. run in the Georgetown smelting furnace, yielded 180 ozs. of pure silver, valued at \$241.20, or at the rate of \$964.80 per ton.

A bar of bullion is on exhibition at the Fair which weighs 226 80-100 ozs. fineness .831½, and valued at \$5,600. The bar is from Colorado Gulch gold, taken out by Dr. Burt.

A rich free gold bearing lode has been discovered in California Gulch. It is called the Five-Twenty lode.

Times, Oct. 15th: A company has been formed in the East, with a capital of \$120,000, to work the Crescent and Nyanza lodes, near Georgetown.

Twenty-four ozs. of silver were lately taken from six lbs. of picked ore from the W. B. Astor lode.

W. P. Linn has sold one-half of the Mexican to parties East for \$25,000. The same company are negotiating for the other half.

The Nuckolls, that was thrown up by Chicago men on account of the crevice narrowing, has been sunk to a further depth of 10 ft. by Mr. Packard, the enterprising owner. It now looks better. The ore is very rich, and there is no doubt but what it will make a good mine.

The New Boston lode is one of the strongest argentiferous galena veins near Georgetown. There is 2½ to 3 ft. of solid ore in the crevice, that assays from \$80 to \$140 per ton. Nearly 150 tons have been brought to the surface.

The largest percentage of gold and silver yet saved by the "California process," was obtained yesterday from four tons of Gregory ore. Its value per assay was \$50 per ton, and the parcel yielded, after treatment, \$182.08, being 91 per cent. of the assay.

About 20 men are working on the bar diggings below Idaho, and are making good wages. Now and then come very rich streaks of pay dirt are found.

Mr. Peter Fleming, of Nevada, has struck a very rich dirt crevice on the American Flag lode. There is four ft. of it, and every particle will wash four hits to the pan. It is thought to be the Burroughs or the Kansas putting into the Flag.

A lode containing quantities of native gold has been struck up Soda Creek, one mile from Idaho. The owner is making money by running a very primitive kind of an arrastra.

Belden, Tennal & Co., who have been sinking for some time on the Leavenworth lode, have come upon one of the finest ledges of argentiferous galena yet discovered in this country.

Fifteen tons of ore, from the United States Coin, treated lately at Georgetown, yielded 86½ per cent. of the amount of gold and silver given by fire assay.

The Beverly mill at Nevada, is working on surface ore from the Newland lode, a late discovery in the neighborhood. It is full of native gold, some places presenting

a beautiful appearance. They expect to clean up over \$700 for the week's work.

The prospects of the Smith & Parmelee Co. never looked better. They are now working on one of the richest veins of ore ever discovered in this country. It is on their second level, from which they are now back-stopping upwards in a scientific manner, and with splendid results. Specimens from the ore that came recently in sight have been shown us—they assay \$400 to the ton. This ore is being laid aside to be worked by a more improved process. Their mill is now running on "stuff" taken from near the wall rocks, and from which they are realizing from 80 to 90 ozs. per week. They have besides nearly 1,500 tons of valuable tailings, which it is proposed to work by the California process.

Georgetown Miner, Oct. 10th: Mr. Snyder, agent of a Philadelphia company, at Mill City, is running Albion ore, by arrastra, from which he obtains \$200 per cord.

We have seen some very rich ore from the Belmont No. 2, East Argentine, that assays 1,200 ozs. of silver per ton.

C. W. Bramel, Esq., has just shown us a certificate of assay of ore from the Correct lode, made by Mr. Foster, that gave \$536.36 in silver per ton.

Recent assays of average ore from the Flora McLain lode gave \$495.44 and \$1,770.75 per ton.

Dr. Johnson, Supt. of the smelting works, is making arrangements for a pair of immense Cornish rollers, 17 to 28 in., capable of crushing from 75 to 80 tons of ore per day.

#### IDAHO.

Owyhee Aralanche, Oct. 19th: The Iowa Co's mill in Flint District started yesterday on a preliminary trial. Everything works well and the Co. look forward to the time when they will turn out "much bullion."

#### MONTANA.

Post, Oct. 12th: The Atlantic Cahle lode is the richest and largest auriferous quartz vein in Montana. Some doubts were entertained at first as to the immense deposit of ore being a regular vein, but since well defined wall rocks, the lower a pure white granite, the upper a firm limestone, were found, these doubts have vanished and a bona fide ledge shows itself. The quartz is of every hue and texture, from pure white, thickly studded with fine gold, to eider-like hunt masses of decomposed rock variegated with sulphurets and oxides of copper, similar to the Dakota lode in Beaverhead county. The whole vein of quartz is intersected with crevices, which widen out into pockets in places, filled with decomposed quartz and dirt. The assay of average quartz, 1,200 tons of which lie ready to go to the mill, as tested by Bohm & Molitor, of Helena, is \$427.87 in gold and \$1.56 in silver to the ton.

The building for Hendry & Ray's 12-stamp mill at Butte City has been commenced, and the mill will be in operation in two or three weeks. We have the authority of gentlemen competent to give a reliable opinion, that the copper ores in that region exceed in richness those of the famous Lake Superior region.

Sheriff Snider on Tuesday resold the Co-re property in Alder Gulch, the purchase of which by Mr. Morse for \$6,500 was noticed some days since. Mr. Morse having a trust deed for the property, the sale to him was invalid. It was purchased at the last sale by Mr. Leroy Southmayde for \$6,800 currency.

Mr. Postlewaite is about to commence the erection of a 15-stamp mill to crush ore from the Kennett lode. It will be erected near Slade's ranch on the Madison divide, and work will be commenced in a few days.

#### NEVADA.

##### Black Rock.

Sage Brush, Oct. 19th: Black Rock is still fomenting. Quite a number of interested spectators are drifting by to the immediate vicinity of that famous region, and many of our own citizens will go thither to remain for the winter. Owing to the peculiar climate of that section the winter is the best season for operating there.

Maryeville Appeal, Oct. 25th: There is an increased excitement about the Black Rock mines. They are fabulously rich, but the working of the rock has been attended with obstacles which seemed to be beyond the power of science and the perseverance of man to overcome. Lately, however, several tons of rock have been worked at the Dall mill, Nevada, with results which seem to give confidence to capitalists and induce the erection of two mills.

##### Humboldt.

Unionville Register, Oct. 19th: Some 20 assays of ore from the Bueva Vista series of ledges, in Battle Mountain district, taken without selection, have been made, the lowest of which gave \$50 per ton, ranging up into the hundreds. The ore is decomposed,

and in appearance resembles the best of the Golconda ore.

The Dun Glen correspondent writes: There are several hundred tons of first class rock lying on the dump at the Cumberland mine.

South of the Cumberland is the Register mine, on the same belt of mineral. This claim looks very favorable, and the owners have made arrangements to open it immediately.

The Jefferson is also considered a first-class mine. A shaft of 40 feet has been sunk on it. The ledge is over six feet wide, and the mineral taken from the vein looks very rich.

The Black Hawk has the appearance of a first-class mine. There has been but little work done upon it as yet.

The Kentucky mine has all the qualities of a good vein of mineral, the croppings being very rich in silver.

Thousands of tons of mineral are in sight in the Golconda mine that will pay from \$60 to \$100 per ton. The ore is being daily hauled to their mill in Fairview.

Oct. 26th: Mr. Ginaca will have his new 10-stamp quartz mill finished and in running order in the course of three weeks. This mill will be run by water power.

The Humboldt Canal Co. has nearly completed its canal, and it appears to be a perfect success.

Trespass, Oct. 25th: Two of the five large pans used for calcining at the Onana smelting works have broken with recent use, and will have to be replaced at great cost. It is believed that the pans were cast too large and of too light material to stand the weight of so much metal as they are charged with. They will be immediately replaced.

##### Pahranaगत.

San Bernardino Guardian, Oct. 19th: We have heard from Pahranaगत district this week, and are glad to hear that, after all, there is a good show for these mines coming out. A party from there reports that a sale of large interests in Pahranaगत has taken place in New York, the stamps on the transfer deed amounting to \$3,000. It is reported that operations will at once be commenced, and conducted in the most thorough manner; that the mining will be conducted by practical and experienced men, and that by next spring the camp will open up as one of the most lively and enterprising in the whole country. There will be no want of capital to develop the resources of the lodes, which are claimed to be the continuation of the great Comstock.

##### Reese River.

Reveille, Oct. 21st: The Knickerhocker mill was set in motion last week. It is reducing ore from the Columbus district. Several mines at Ione belonging to the mill company were producing good ore.

The 10-stamp mill of the Consolidation Co., of Hot Creek, which has been idle for months, has been leased by Judge Ferris, and is at present employed in working its own tailings successfully.

The vein of the Quintera ledge, in Silver Bend district, was cut in the shaft at the depth of 130 ft., and was found to be of the width of seven feet. Drifts extend from 50 to 60 ft. on either side of the shaft, in which there are bodies of ore that will pay at the rate of \$80 to \$100 per ton. A trifle over three feet in the width of the ledge carries the main body of ore. The surface ore of the Quintera was as rich as any yet discovered in the district.

Since the purchase of the Northumberland mine, in the district of that name, by T. P. White, for his company, active measures have been taken to open it. The most important work yet undertaken is the running of a tunnel on the eastern slope of the mountains, which, according to survey, will strike the ledge in the length of 360 feet at the depth of 140 feet below the surface. The first 30 feet were easy going, and were made at the rate of 12 feet per day. Next spring another tunnel will be commenced on the western slope of the mountain, which is estimated to be 1,300 feet long when the ledge shall be cut, and 500 feet below the surface.

Oct. 23d: Since the starting of the mill by the Old Dominion Co. life and activity have been infused throughout Hot Creek district. The Old Dominion mine continues to improve in appearance, although it is opened to only a slight depth, and it is producing a large amount of excellent ore. Other mines in Hot Creek are doing equally well. Among the best of these is the Silver Glance, near the summit of the Blue Ridge mountain. The ledge has been traced for nearly 400 feet, and yields good ore in all the excavations. Its main opening is by an incline shaft which is scarcely 20 feet deep. The vein is five feet wide between the casings, three feet of which contain the mineral. Several tons were worked at the Old Dominion mill and gave a yield of \$100 per ton. It is the intention of the owners to

push work on the mine during the winter.

The Buckeye mine in Summit Cañon, North Twin River, has produced singular as well as valuable ore. Its samples of native silver, in flakes, spongy masses and delicate threads, are as common as they are beautiful, and are unequaled in the Reese River region. Ten tons of ore from the mine had been reduced at the mill of the Twin River Co., and the pulp assayed at the rate of \$300 silver per ton.

Oct. 24th: Joseph Williams, who lately discovered a number of gold and silver-bearing quartz ledges near the California houndry, has had 12 assays of the ore made by Boalt & Stetefeldt, three of which yielded as follows: No. 1, silver, \$183.26; No. 2, silver, \$91.62—gold, \$6.28; No. 3, gold, \$366.75—silver, \$5.52. All the rock contained gold from traces to \$10 per ton.

Reveille, Oct. 25th: The Murphy mine has improved greatly in appearance, and that the quality of the ore, which was always good, is still better. The work is being pushed through an extensive "chimney" of most valuable ore.

The Florida mine, of the New York and Austin Co., continues to produce regularly a fair quota of superior ore, the yield of which varies from \$250 to \$350 per ton. On the platform there were some 30 tons of first class ore, which will, in our judgment, rub the latter figures close. Large pieces of the ore showed the size of the vein to be from 12 to 14 inches thick.

The vertical shaft of the South American mine is 172 feet deep, and the lowest level extends from the depth of 160 feet. The vein is firm and from 10 to 18 inches thick. The quality of the ore produced is excellent. Ten tons of the ore as it was taken from the ledge were sent to the Manhattan mill for reduction, the yield of which was \$171 per ton. Thirty tons—10 tons of first-class and 20 tons of second-class—are now at the Met-tacom mill, but the yield of the ore has not been ascertained.

Oct. 26th: Bunker Hill district is beginning to awaken considerable attention. The success of Coover's fine mill, which is employed in reducing ore from the Victorine ledge, is perhaps the immediate cause. Several ledges have been sufficiently prospected and opened to determine the quality of their ore. Nearly all the mines in the district produce mineral which contains an appreciable quantity of gold, and several of them yield gold in excess of silver.

Nearly 4,000 ounces of bullion arrived in the city yesterday afternoon from Ione. It was produced at the Knickerhocker mill.

Silver Bend Reporter, Oct. 26th: A company has commenced work on a tunnel intended to strike the Red Warner and other ledges, with indication of reaching the Warner in a few days.

##### Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia Enterprise, Oct. 23d: Four tons of ore from Washington district is being worked at Dall's mill, which, it is expected, will yield \$300 per ton.

Oct. 24th: A movement is on foot for the resumption of work on the Union claim, Palmyra district.

The daily average of ore taken from the Gould & Curry mine at present is 100 tons, with from 3,500 to 4,000 tons already in the ore houses at the mine and mill.

A lot of 1,500 pounds of ore worked from the Dunderberg mine at a mill in Aurora yielded at the rate of \$50 per ton. The ore operated upon was not selected, but was taken out across the whole width of the lead.

Oct. 25th: The hoisting works at the new Ophir shaft are now in operation.

Wells, Fargo & Co. shipped from their offices in Gold Hill and Virginia during the past week, 6,184 pounds of assayed bullion, valued at \$159,254.13.

Oct. 26th: The Lady Bryan has at last proved a paying mine. Within the last six weeks it has been discovered that the whole of the immense croppings of the ledge are a mass of paying ore, which it is only necessary to blast out and send to the mills. A piece of ore selected as an average specimen by Mr. Sharon, of the Bank of California, assayed \$111.99, and a piece selected at the same time by Mr. O'Neale went \$169.85 per ton. A specimen submitted to contain nothing at all yielded at the rate of \$37.45 per ton. Assays made from the pulp flowing from a battery in which a lot of float rock was being crushed, yielded as follows: \$32.12, \$26.23 and \$31 per ton. In regard to these assays it must be borne in mind that quicksilver was used in the battery, and that the greater part of the free metal contained in the ore was doubtless amalgamated and held within the battery. The Golden Eagle mill, Dayton, is now running on ore from the Lady Bryan.

[Continued on Page 287.]



## Mining and Scientific Press.

W. B. EWER, SENIOR EDITOR.

O. W. M. SMITH, W. B. EWER, A. T. DEWEY,  
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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 5, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. W. D. Root is an authorized agent for this paper for Nevada State, August 1, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Nov. 2, 1867.

## Notices to Correspondents.

**HISTORICUS.**—The only Englishman that ever wore the papal crown was Nicholas Breakspear, who was elected Pope in 1154. His piety, virtue and ability occasioned his elevation to that high office. He was the son of an obscure clerk, and had been rejected by the Abbot of St. Albans on account of incapacity. Stung by this disgrace and the reproaches of his father, he traveled to Paris, without resources other than the alms of the charitable. He studied with applause in the university of that city, and subsequently wandering into Provence was admitted amongst the regular canons of St. Rufus, who elected him, in succession, prior and abbot. In the latter capacity his insisting on strictly virtuous conduct, offended a large part of the fraternity over whom he presided, who combined in presenting to the Pope an accusation against him, and afterwards a second. In the interval the Pope had seen and conversed with Nicholas, and on the occasion of the second deputation waiting upon him, in order to lay before him their complaint, the Pope (Eugenius) with a smile, said: "Go elect another abbot—the Englishman is cardinal, Bishop of Albano." In this office he performed several important legislative functions, and on the day following the decease of Anastasius, the successor of Eugenius, the former wandering "poor scholar," as he would be called in Ireland, was by the conclave, without solicitation on his part, unanimously elected to the pontifical throne.

**PETROLOGIST.**—We are not able to state why the aluminous mineral Bauxite, alluded to in our issue of Oct. 5th, in the Scientific column, as being at present the most available material for the production of aluminum, was so called. From its title its properties are not in the slightest degree to be inferred; a fact, however, common to the greater part of mineralogical names. As an example of this barbarous method of naming minerals, we may mention those containing cerium, eighteen in number, only three of which are at all calculated to give the reader the remotest idea that cerium forms a component part of any. The following is the list of terms: Edwardsite and manazite (as phosphate of the protoxide, also in cyrtolite and phosphocerite,) cerite, allanite, orthite, pyrrhite, gadolinite, iescherite, mosandrite, polymignite, cuxanite, fergusouite, pyrochlorite, mikrolite, and lastly (be careful, reader, not to get lockjawed in attempting the pronunciation) tschewkinite!

**J. P. W. D., Point Arenas.**—The mineral which you send has no value. It consists merely of alumina, silice, iron and sulphur. The yellowish appearance, which you probably mistook for copper, is due to a combination of iron and sulphur.

**SANTA ANNA.**—A telegram of Oct. 30th, says that this old reprobate has been sentenced to death. He has petitioned the government for mercy.

## The Petroleum Fuel Question.

To obtain the greatest quantity of heat from the smallest quantity of fuel, is a problem which has long occupied the attention of practical men. In the endeavors to solve this problem, the chief efforts have been directed to the size and construction of the furnace, and the arrangement of the flues. The properties of the fuel employed, although they have been more or less taken into consideration, have never, until quite recently, commanded that attention which their importance deserves.

The ordinary process of generating heat, whether it be for domestic purposes, in a common stove, or in a furnace, with a boiler for making steam, implies the occasional addition of some kind of fuel, the combustion of which is effected through the agency of oxygen, obtained as one of the elements of atmospheric air. In obtaining oxygen from that source altogether, only one-fifth of the volume contributes to the development of heat, while the other four-fifths, which consists of nitrogen, has to be raised to a high degree of temperature, and expelled from the chimney, carrying off a large amount of heat, which is entirely lost to any purpose of utilization.

Combustion denotes the union of carbon, hydrogen and oxygen, in various proportions. One of the main points to be considered in economizing fuel, is to bring these elements together in just the proper proportions, and under the most favorable conditions for effecting their perfect combustion, or a complete union of the carbon and hydrogen with oxygen. We know, from the vast volume of smoke which escapes from our furnace flues and chimneys, that these materials combine to a very limited extent only, in ordinary practice. Especially is this the case where fuel is employed which contains a large amount of the hydro-carbons. This waste of bituminous fuels, especially, is exceedingly difficult to prevent, even with the most carefully constructed furnaces. One reason is the necessity of a frequent exposure of the furnace to a large current of air, necessitated by the periodical introduction of fuel. This usually leads to an opposite extreme—the throwing on of too much fuel, entailing a constant waste and variableness of temperature.

The modern application of steam to ocean navigation has also called for another most important desideratum—the necessity of a condensed fuel, which shall occupy the least possible room on our ocean going steamers, every available foot of space in which is valuable for freight purposes. And as the more condensed the fuel employed, the more difficult it is to effect a complete combustion, the greater the necessity for improvement in that direction.

It is more particularly in view of this last consideration that the recent efforts have been made to devise ways and means for the employment of petroleum, instead of coal, for making steam. All the early trials in this direction were negated from the imperfect combustion produced; so large an amount of carbon being lost as to render the use of petroleum altogether too expensive for practical use.

In the European experiments, the petroleum has been injected in the form of spray, either upon incandescent coals or upon tiles, or some similar substance, previously heated to such a temperature as to ignite the petroleum by contact—the heat being kept up, of course, by the burning of the oil itself. The large amount of atmospheric air required to effect a perfect combustion, under these conditions, has been found to produce such a depressing effect upon the temperature of the flame, as compared with that produced by the mixed vapor of steam and volatile hydro-carbons, as to greatly impair its usefulness; a large portion of the heat being really employed in heating up and driving off the immense volume of nitrogen, which it is necessary to force into the

furnace to obtain the requisite oxygen for combustion; and with all this a very imperfect combustion is effected, as is shown by the volumes of escaping smoke.

Profiting by this failure, two of our American inventors, operating upon opposite sides of the continent, and, unknown to each other, have sought their chief supply of oxygen from another element than air—water. Water furnishes a much larger proportion of oxygen than air, while both of its elements, it is said, are combustible. Four-fifths of the bulk of the atmosphere is incombustible; and the heat required to drive those four-fifths from the furnace is not probably greater than that required for the final decomposition of steam, which has been superheated by waste heat to obtain the equivalent of oxygen, otherwise required from the atmosphere. While the oxygen is so obtained in sufficient quantity to produce a perfect combustion of the excess of carbon, the hydrogen is set free at precisely the point of time and temperature to admit of its ready union with a new supply of atmospheric oxygen, which is accomplished with the generation of the most intense artificial heat known to man.

This is the philosophy of using steam in combination with heavy hydrocarbons—or our native petroleum oils; and it is upon the perfection of the mechanical appliances by which this is effected, that the relative merit of the inventions of Mr. Foote, of Boston, and Mr. White, of this city, consists.

Neither of these gentlemen have either discovered or applied any new principle. The utility of the use of water or steam in burning heavy hydro-carbons was first made known, or at least first practically developed, in England in the winter of 1832-3, and was patented and made known as "Rutter's Patent Process for Generating Heat." The facts connected with this invention or discovery will be found very interesting in connection with the recent experiments in the same direction.

Mr. Rutter was, at the time mentioned, manager of the gas works at Symington, in Hampshire, England. The residual coal tar from the manufacture of gas possessed then, as now, but little value, and efforts were made to employ it as fuel in connection with coke in the furnaces. Mr. R. soon found that he could not consume more than one-third of it—the balance escaping as smoke. Reasoning upon the matter, he soon came to the conclusion that the imperfect combustion arose from the lack of oxygen. His furnaces being so constructed that he could not conveniently add to the volume of his draught, it occurred to him that since water, by its decomposition, yields both oxygen and hydrogen, that fluid would, if decomposed in contact with the burning tar, not only furnish the excess of oxygen required; but in addition thereto, a large amount of hydrogen, which latter would of itself greatly aid the combustion. He at once instituted a series of careful, comparative experiments, the result of which was, that whereas, under the old system of burning the tar, from 50 to 60 gallons were required as a minimum supply of a single furnace, in connection with the coke, for twenty-four hours; with the use of water, as above indicated, eight to twelve gallons of tar was all that was required for the same length of time. Moreover, he found that the heat generated by the combustion of tar in the presence of the water, was far more intense than the heat when water was not used. The fact was so apparent that the excess of heat, and economy of fuel was due to the presence of water that he made it the subject of a patent.

At that time petroleum and coal oil were only known as a drug; while the supply of coal tar was quite too limited to give to the discovery any great commercial value. Hence, but little importance was attached to the discovery, and it appears to have been almost or quite forgotten, until recently resurrected as a new thing in this country. Its application to making steam, so far as the principle was concerned, was distinctly recognized by Mr. Rutter in his application. The patent was made to cover all "bituminous, oleaginous, resinous, waxy and fatty substances in a fluid state." Its use with water instead of steam, was a necessity growing out of the application to a furnace, when no steam boiler was convenient for employing steam.

The American patentees, of course, cannot pretend to claim the application of steam for the purpose specified, as that could not be made the subject of a patent; they simply seek protection for the mechanical appliances by which they accomplish that purpose.

## A Virginia Gold Mine—California Machinery.

We have been permitted to read a letter from Prof. C. S. Richardson, descriptive of the Vacluse gold mines near Spottsylvania, Virginia. This mine was formerly worked by an English company; but was abandoned about fifteen years ago, and of course had become filled with water, and the shafts and drifts very much damaged. The entire works and mine have now been put in order under the direction of Prof. Richardson. They have a 150-horse power engine, driving the pumps, and 30 stamps. At present they are saving the free gold by the use of blankets, copper plates, mercury cups and percussion tables. The tailings go to pile for subsequent treatment. They have just commenced working. The mine appears to have been opened to the depth of 150 feet. The ore is a decomposed quartz and talcose slate, yielding, by assay, from \$15 to \$16 per ton, of free gold—picked ore going to double that amount. The concentrated sulphurets pay about \$40 per ton, and comprise about 4½ to 6 per cent. of the entire bulk of the vein rock. There appears to be two or three veins, very easily worked, the entire cost of delivering the rock at the pit's mouth being \$1.50 to \$2 per ton. There is said to be an abundance of ore of a similar character in that immediate vicinity, and quite a rush is expected if these works prove successful. There are five mines already opened, and there is talk of commencing operations on others soon. The Eagle mines are also located about ten miles distant from this locality. The Professor adds: "There is great talk over in North Carolina, of the eminent success they are having with what they call the 'California machine.' What it is I do not know, only that it was brought from San Francisco, and that other machines of a like description are *en route* for other mines in the same State. One of the miners from there was down a fortnight ago and told our captain that they had now entirely overcome all the difficulties in getting the gold from the mundic."

We know of no machinery, now at work in the Atlantic States, which has been sent thither from this city; although the proprietors of the Union Foundry sent on a set of machinery for a mine in North Carolina about three weeks since. They are also in correspondence with other parties there in relation to furnishing machinery. The machinery now *en route* consists of a 20-stamp mill, arranged in four batteries. This mill has a discharge on all sides, and is fitted with Booth & Co's arrangement of copper plates. Four Brevort grinders—one for each battery—go with it. These pans are built very much after the manner of the Baux & Guind pan. The pulp passes from these pans into *lavaderos*—large tubs, eight feet in diameter by six feet deep, with stirrers. They work with a slow motion, the water and pulp flowing over the top, while the gold, sulphurets, etc., settle to the bottom.

**MINING IN NEW HAMPSHIRE.**—Prof. Fleury has recently furnished to the Lishon (N. H.) Journal a lengthy article on the comparative values of the mines in that section, and those in Canada East. From a close inspection of each locality, he is inclined to give the preference to the New Hampshire mines. He supposes that both localities are on the same mineral range. The method of mining, however, in Canada, he thinks decidedly ahead of that at Lisbon and Lyman. In the former locality the work is undertaken on a larger scale, with plenty of capital—the works, whether at the mines, mills or furnaces, are conducted in a more substantial manner. Yet there are no ores in Canada that will show a favorable comparison with either the Dodge or Moulton mines in New Hampshire. These mines yield gold, silver and copper. The latter metal is reduced to 40 or 50 per cent. matte.



A Word to the Wise.

The long winter nights are now coming on, when every person will have more or less spare time, and when those who are unemployed will seek either the bar-room, the saloon or the fireside of home to find amusement. In the first two cases that time will most surely be thrown away; in the latter, the insipid novel or enticing game, although they may serve to tickle the fancy and while away the hour, will leave no traces of good behind; but rather create an appetite for that which tends to enervate the entire mental system, and render it unfit for anything else.

The great want of our farmers and mechanics, is a paper containing information which will not only serve to interest but to instruct. Such a paper we offer in the MINING AND SCIENTIFIC PRESS. No other paper on the Pacific coast contains so great an amount of valuable information as the PRESS. From its pages the progress, not only of the Pacific coast, but in a measure the entire country, may be traced. It is an encyclopaedia of every day instruction to the workingman and the student. Give the children the paper; let them study it; perchance they may get an idea from its pages; one idea a week will soon amount to quite a small stock of information, from which the mind may branch out and gather new and enlarged ideas—such as will form a solid foundation for an immense structure. The same benefit will accrue to the older person, and the time which would otherwise go to waste, will be used to lay up knowledge that will often aid in the workshops, in the mines, and in every-day conversation.

Many a genius lies buried in little blacksmith and other shops, or on the farms and in the gulches of our wide-spread land. No man has any business to be stumbling along, working at anything, without making efforts to improve his condition and sphere of usefulness. All are behind the times unless they keep themselves posted with the important inventions in mechanics and discoveries in science. There should be no kind of reading more attractive, especially to the young man, than a scientific and mechanical journal. It may be the first stepping-stone which will lift him to eminence in his trade or profession; it certainly can never do him any manner of harm, and will never make him any poorer.

**PETROLEUM FUEL FOR LOCOMOTIVES.**—A locomotive was recently run on one of the Pennsylvania roads, for a considerable time, with oil instead of coal for fuel. The experiment was suspended only on account of the defectiveness of the mechanical appliances for the new fuel. With White's or Foote's burners, there would be no difficulty whatever. A later trial was made on the Hudson River Railroad; but in consequence of some blunder on the part of one of the operatives, the result was not as satisfactory as it might have been, although the indications were exceedingly favorable for a final success. An ordinary locomotive consumes, on an average, about one ton of coal in three hours, or its equivalent in wood. A vast saving in transportation of fuel will be made on the great continental road, in passing over those portions of the line destitute of wood or coal—a distance of about 800 miles—if oil is found an economical fuel for making steam. Experiments thus far tend to prove that a pound of oil will make as much steam as two pounds of coal.

**LAND ON THE SAN JOSE RAILROAD.**—Sixty-eight thousand dollars worth of land in the Pulgas Rancho, was sold on Thursday last at auction, in lots of from 17 to 214 acres, and at prices from \$77.50 to \$160 per acre. The total number of acres sold was about 600, being the portion of that ranch known as the Gamble tract, adjoining Menlo Park.

The New Fog Whistle, or Steam Gong.

While Mr. Parker, lighthouse keeper at the Farrallones, was in the Eastern States recently, he saw a newly invented steam fog whistle, which was attracting much attention in New York and other seaport cities. He was so favorably impressed with it, that he purchased the right to sell the patent on this coast, and brought one of the whistles with him on his return, which has been temporarily placed upon the Vulcan Foundry.

Its tones are very peculiar, something between that of the ordinary whistle and the Chinese gong, always supposing those two instruments to be of mammoth proportions. It lacks the shrillness of the whistle and the harshness of the gong. Its sounds are not at all unpleasant, even when the listener is quite near; and seem but a little louder when only one block distant, than they do two miles off. It is a double bell, the one being set at a slightly different pitch from the other. The difference is effected by making the upper one a little shorter than the lower one—it thus produces a musical harmony, composed of two tones, which, blending, form a third. The effect among the hills at a distance of two or three miles is really beautiful. It is there heard very much like the rolling swell of a huge organ. The whole atmosphere seems to hefill of the swelling sound.

This whistle has been heard as far to the east as the head of Oakland Slough, and at the Seventeen Mile House, on the San José Railroad, a point not less than seventeen miles in an air line from the Vulcan Foundry. It has also been distinctly heard by pilots on board ships outside of the Heads, where the sound is more like that of a big gong than of a steam whistle. It is said that with a full volume of steam, and under favorable circumstances, the sound of one of these whistles has reached thirty-five miles; in the trials at the East.

We have already said it is a double whistle. One is turned mouth downward, like the ordinary whistle, and the other mouth upwards. The steam is conveyed by a pipe passing through the center of the lower bell, into a circular disk between the mouths of the two bells, and is discharged simultaneously upward and downward, from two narrow circular orifices, corresponding to the lips of the two bells. The supply pipe, when less than 75 pounds of steam is used, must be three inches in diameter; with from 90 to 100 pounds of steam pressure, a 2½ inch pipe is sufficient. The weight of the bell is about 350 pounds.

This whistle is a new Yankee invention, and is just coming into use at the East, along the Atlantic seacoast, where it will take the place of fog trumpets and fog bells. If one should be placed upon the Farrallones, with sufficient steam, its droning wail would sweep through a circle fully sixty miles in diameter, and sea-going steamers and sailing vessels would be able to make the harbor in the heaviest fogs.

**PATENT SUIT—IMPORTANT TO MILLMEN.** Brodie et al. vs. The Ophir Silver Mining Company. This case, which was one for the infringement of a patent, was tried in the Circuit Court, before the Hon. Justice Field, about three months ago, and a judgment awarded last week in favor of the plaintiff for \$2,500 damages. An application for a new trial was made by Mr. C. McAllister on the 31st ult., and opposed by the defendant's counsel, the Hon. R. G. Buchanan. When the judge makes his decision we shall give at greater length further particulars relating to this suit.

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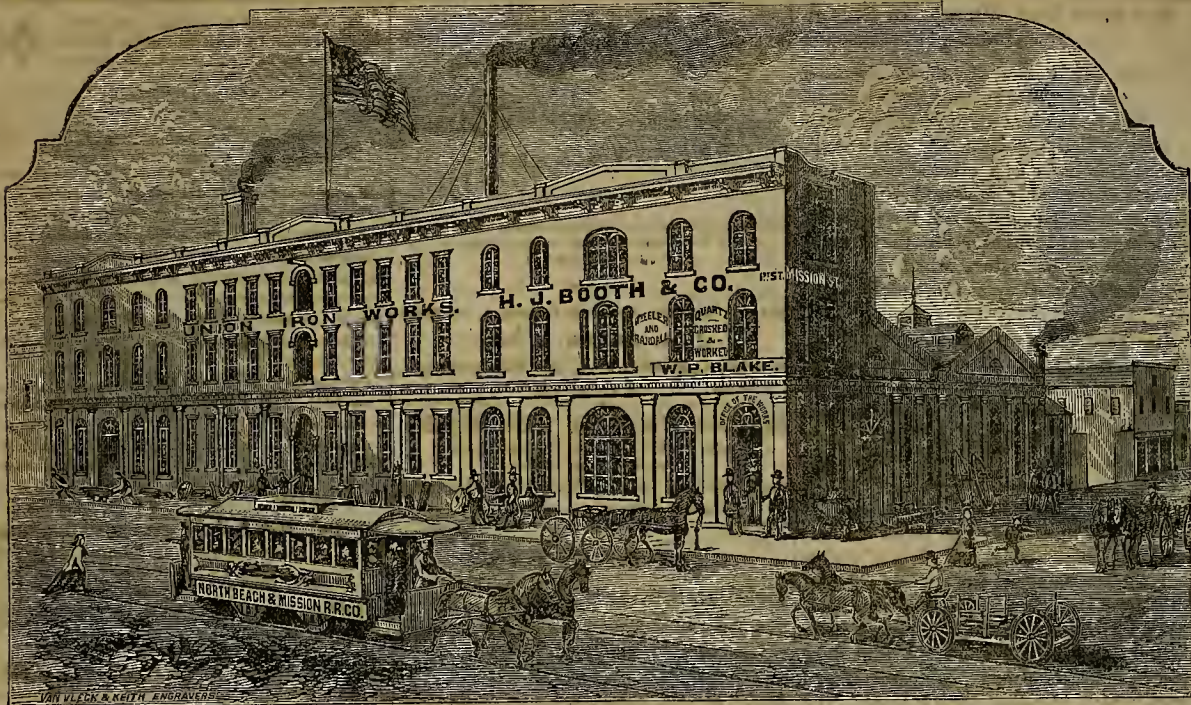
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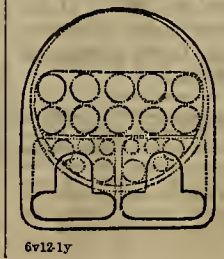
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**STATISTICS OF RAIN.**—The State Surveyor General desires to obtain for his report this year, from those parts of the State where statistics have been kept, data of the amount of rain falling each month during the winter of 1866-67. It is the Surveyor's request that the information be forwarded as soon as possible to the address of J. F. Houghton, State Surveyor General, Sacramento.

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**THE ASIATIC JEWS.**—It is an ordinance of the Rabbies, in many places among the Jews of Asia, that when a man built a house he must leave some part of it unfinished, as an emblem of the ruin of their holy city and temple. Though dwelling thousands of miles away, they always speak of Palestine as close at hand. Their hopes of again rebuilding the walls of Jerusalem are expressed with the greatest confidence, although the period for their liberation is thought to be still far in the future.

A DIAMOND in the rough state was found at Camden, Miss., during the war, but at the time was considered of no value. Since then it has been examined, and in the opinion of intelligent men it is worth \$50,000. It is in the possession of Dr. Tom Cotten, of Camden.

MEDICAL authorities have announced that not less than one-fifth of the entire population of the United States are afflicted with neuralgia in some form.

A FLORIDA editor predicts that that State will be the Italy of America. There is a strong tide of emigration in that direction.

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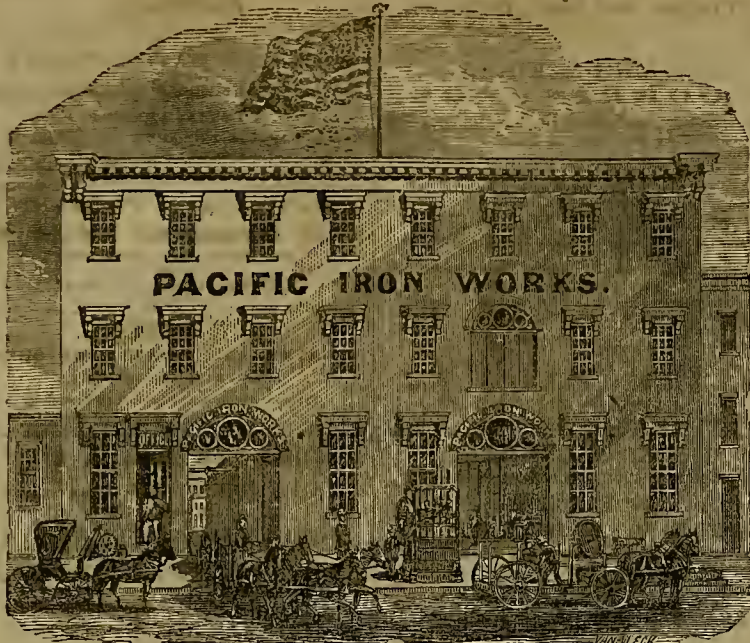
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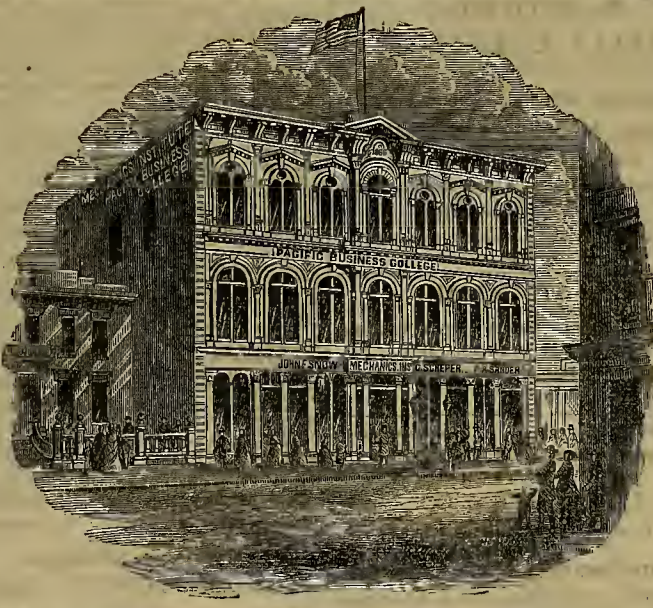
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Twenty Pages, Thus making it the LARGEST and most COMPREHENSIVE Mining Journal on this continent, representing the Gold, Silver, Copper, Iron, Lead, Coal, Slate, Oil, and in fact all the Mineral Interests of America, containing beautiful engravings, illustrating the latest improvements in milling, mining and metallurgical machinery.

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Address, WESTERN & OCEANIC, 1416-lamby Publishers, 37 Park Row, N. Y.

New Mining Advertisements.

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. no2

Mining Notices--Continued.

Cordillera Gold and Silver Mining Company, Chihuahua, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. no26

Chilpanona Mining Company--District of Ures, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1887, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 313 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 313 California street, up-stairs, San Francisco. oc26

Chalk Mountain Hine Gravel Company--Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the eleventh day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansome streets. oc12

Ethan Allen Gold and Silver Mining Company--Location of Works: Austin, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1887, an assessment of one (\$1) dollar per share was levied upon the capital stock of said Company, payable on the fourth day of November, 1887, in United States gold coin, to the Secretary, H. B. CONGDON, at the office of the Company, 629 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the fifth day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twenty-first day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

H. B. CONGDON, Secretary. Office, No. 629 Washington street, (Room 5) San Francisco, Cal. oc5

The date fixed in the above notice of Assessment for the sale of delinquent stock, has been extended till Monday, December 2d, 1887, by order of the Board of Trustees, duly made and entered on the records of said Company.

H. B. CONGDON, Secretary. San Francisco, Cal., Oct. 15, 1887. oc19-14

Great Central Mining Company--Location of Works: Yuma County, Arizona Territory. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company, No. 302 Montgomery street, or at the Pacific Bank.

Any stock upon which said assessment shall remain unpaid on the fourth (4th) day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

O. D. SQUIRE, Secretary. Office, No. 302 Montgomery street. oc5

George Washington Gold and Silver Mining Company--Location of Works: Silver Mountain District, Alpine County, Cal. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the eleventh day of September, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Altdorfer, Geo., Allison, John H., Berry, Geo. E., etc.

And in accordance with law, and an order of the Board of Trustees, made on the eleventh day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Giney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the fourth day of November, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. G. WOOD, Secretary. Office, 338 Montgomery street, San Francisco. oc19

Gold Hill Tunneling Gold and Silver Mining Company--Location: Gold Hill Mining District, County of Storey, State of Nevada. Notice--There are delinquent, upon the following described stock, on account of assessment (No. 9) levied on the nineteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like C. L. Guyard, R. P. Galt, E. Villote, A. Vollet, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Doré & Co., No. 327 Montgomery street, San Francisco, on Tuesday, the nineteenth day of November, 1887, at the hour of 10 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. oc26

George Washington Gold and Silver Mining Company--Silver Mountain District, Alpine County, Cal. Notice--The Fifth Annual Meeting of the stockholders of the above named Company will be held at their office, No. 333 Montgomery street, San Francisco, Cal., on TUESDAY, the fifth day of November, 1887, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

A. G. WOOD, Secretary. San Francisco, October 10, 1887. oc12

Hope Gravel Mining Company--Location of Works and Property: Grass Valley, Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of September, 1887, an assessment (No. 17) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Kearny street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the sixth day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourteenth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary. Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. oc5

I. X. L. Gold and Silver Mining Company--Location of Works: Silver Mountain District, Alpine County, Cal. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of September, 1887, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slavin, at Silver Mountain, Nevada.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the fourteenth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CRGWINSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. sep23

Postponement--The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the fourth day of November, 1887, and the sale thereof until Thursday, the twenty-first day of November, 1887. By order of the Board of Trustees.

J. CROWNINGSHIELD, Secretary. oc26

Kelsey Gold and Silver Mining Company, El Dorado County, California. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of September, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Noble Lovely, Wm Scarles, Wm Gould, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twelfth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Doré & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the eleventh day of November, 1887, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. V. HERBERT, Secretary. Office, No. 405 California street, San Francisco. oc26

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1887, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

B. P. WILKINS, Secretary. Office, 618 Market street, San Francisco, Cal. oc26

Nuestra Señora de Guadalupe Silver Mining Company. Location of Works: Tayolita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1887, an assessment (No. 2) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. PEIFFER, at the office, No. 210 Post street, or to the Treasurer, A. H. MELLMAN, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of November, 1887, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PEIFFER, Secretary. Office, No. 210 Poststreet, San Francisco, Cal. oc26

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1887, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

Postponement--The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the 2nd day of November, 1887, and the sale thereof until Saturday, the 7th day of December, 1887. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. oc28

Oxford Bots Tunnel and Mining Company, Esmeralda District and County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of September, 1887, an assessment (No. 2) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-fifth day of October, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. oc14

Postponement--The day for deeming stock delinquent on the above assessment is hereby postponed until Thursday, the 15th day of November, 1887, and the sale thereof until Monday, the twenty-sixth day of November, 1887. By order of the Board of Trustees.

GEO. H. PECK, Secretary. oc26

Old Colony Silver Mining Company--Location of Works: Austin, Reese River, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-eighth day of September, 1887, an assessment of three (\$3) dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the second day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-fifth day of November, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary. Office, 523 Montgomery street, San Francisco. oc5

Quail Hill Mlolog and Water Company--Location of Works: Quail Hill, Calaveras County, Cal. Notice--There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like G. W. Beaver, A. E. Hill, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor of No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office, room No. 10, second floor of No. 402 Montgomery street, San Francisco. oc26

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of October, 1887, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 313 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-third day of November, 1887, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. G. H. L. L. Secretary. Office, 313 California street, San Francisco, Cal. oc19

GLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

Postponements and Alterations--Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be sent in as early as possible.



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the greatest number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 28 Second street, and 108 Jessie street 14161st E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boiler Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 6-Horse Power, \$140
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One Iron Battery of 4 Stamps, 500

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency, 12v15qr

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco, 23v12 3u

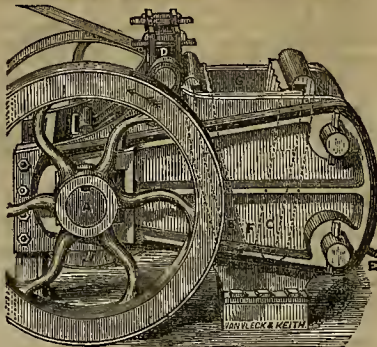
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hardy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-qy THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Splitting Quartz, or other Rocks, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

- No. 1—Or 0-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price—\$800
No. 2—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour—850
No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour—1,200

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne county. RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866. JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

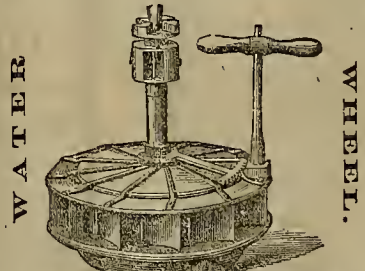
Those infringing the patent rights to the above Improved Barrel, are hereby informed that on and after the 1st of November, 1866, the royalty charged for using the same will be fixed to the sum of \$100 per Barrel.

A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

BRODIE & RADCLIFFE, Express Building, 402 Montgomery street, San Francisco. 12v13tf

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE UNITED STATES or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc., etc.

CALIFORNIA REFERENCES.—E. Steaton, Folsom; O. Simons, Oakland, (Mill at Clear Lake); Morgan Coyville, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California. 26v13-1yq 310 Washington street, San Francisco.

E. O. HUNT,

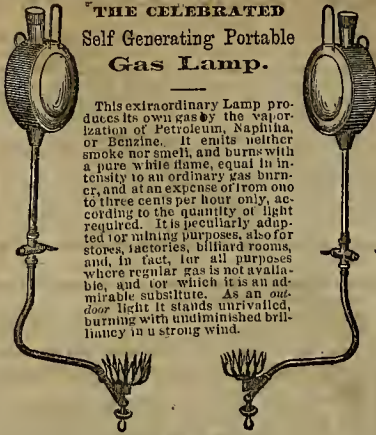
Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.

HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to give way to the wind when the mill is stopped. These can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Second St., and 108 and 110 Jessie St. 2v15qy San Francisco.

THE CELEBRATED Self Generating Portable Gas Lamp.



Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the top off, it will gradually go out.

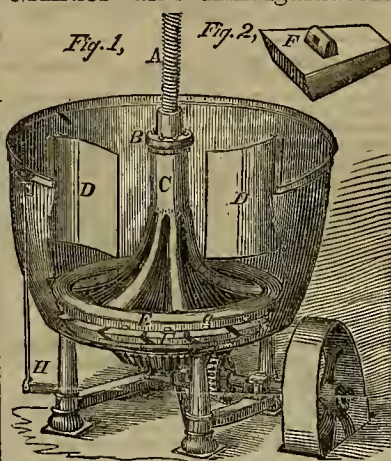
When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUGGS, original proprietor, Factory North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18v14-3m-8

STEWART'S

CELEBRATED HINGED

Grinder and Amalgamator.



The Cheapest and Quickest Pan now used.

It is flat-bottomed, loses far less power in throwing the pulp, and eliminates the same under the muller to better advantage than any other Pan in use, while the steam, owing to the thinness of the cone, has a more direct effect in heating the pulp. E is the muller plate; F the Grinding Shoe, attached by an adjustable hinge joint in the middle of the same—the bottom wearing down even with the dies. Mr. J. H. STEWART, the inventor, has had ten years of experience in mechanics, and may be addressed at San Francisco, or called on at the Miners' Foundry, First street, where his Pan is manufactured, and is to be seen at any time in operation. 14v15-lamtf

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation. GODDARD & CO., Pacific Iron Works, 3v16tt San Francisco, Aug. 29, 1867.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Pincer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15-6m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3v13tf SAN FRANCISCO.

A New "Iron Horse"—Wonderful, if True.

A new and wonderful iron horse has been privately exhibited at the recent Paris Exposition. The throng, during the regular hours of exhibition, would not admit of a public trial; it was therefore exhibited privately, at night, in the presence of the Emperor and a large number of invited mechanical engineers, inventors, etc. The Chicago Tribune gives the following account of this reported wonderful invention, from a private letter shown to the editors of that paper. We extract a portion, only, of the Tribune's account:

"The iron horse bears no resemblance to its equine namesake. Imagine a trunk-shaped box about seven feet long, and wide enough for a man to saddle, and about five feet high; the whole concern mounted on five wheels, the wheels concealed, however, under the machine. It is covered with leather, and has a saddle, only the saddle is very high in front and back, so there is no chance of being unhorsed. In front is a steering apparatus of the simplest kind—two silk cords—and just before the saddle is a steel bar, which regulates the speed. If you pull it up you start the machine; pull it higher up, you increase the speed; if you depress it, you decrease it until a point is reached, when the apparatus stops.

"The inventor, quite a young man, commenced winding up the machine with what seemed to me to be a crank motion, and as I distinctly heard the click of the ratchet, I therefore supposed it was worked by a coiled spring, but I have reasons since to think I was mistaken. I suppose it took two minutes to wind it, when he mounted it, and started it by pulling up the steel bar. It moved gradually off, so that for the first minute I could walk alongside of it; but presently it started at the speed of a fast horse, and in a moment more was lost, going round the curve of a circle, measuring some yards more than an English mile. It seemed to me to be incredible that he should have performed the circuit in two minutes and twelve seconds. A hearty clapping of hands greeted the machine as it came careering on, and gradually stopping without any apparent trouble.

"I noticed the Emperor, generally taciturn, loud in his applause, clapping his hands as lustily as I did. The inventor then said that he would put it up to its speed, but to do this he must give the machine a start. He then wheeled round, and just like a jockey starting a horse, got it up to a maximum; and as he passed us he seemed to be flying. The circuit was made in fifty-eight seconds. A new salvo of applause met him as he brought the machine to where the Emperor was standing, and I must say that I felt some just emotion when the Emperor took the legion of honor from his button-hole and placed it on the young inventor's breast."

The writer characterizes the performance of this machine as "extraordinary." He was informed that its highest rate of speed could be kept up for four hours. He thinks the mechanical power connected with it must be secondary, and that a galvanic battery, concealed in its interior, was its real motive power. The Emperor and the inventor are the only two human beings who know the secret of its mechanism. It is said that one of these motors is to be connected with a battery of the Emperor's newly invented artillery, elsewhere noticed in our present issue.

The writer saw four persons mount it, with whom it moved much more rapidly than a carriage could be driven. Experiments were made to show its capability of moving over a rough country. Several loads of earth were thrown over the floor, over which the machine passed with apparent ease.

The machine had been on exhibition, in a retired part of the Exposition building, from the opening of the same; but was sent away the next morning after the above trial, by order of the Secretary of War. The inventor's name is given as Victor de Nardea. This is either a great humbug, or a very important invention. It is decidedly Frenchy.

The receipts of the Alameda County Agricultural Society are reported about \$4,000, and the expenditures of the Fair about the same, leaving as a profit the property on race grounds, etc. The encouragement given this year will lead to greater efforts for a large Fair the coming year.



MINING SUMMARY—WASHOE.—Continued from Page 279:

A considerable body of pay ore was exposed by the recent cave in the Chollar-Potosi mine. It comes up to within a short distance of the surface.

Oct. 27th: Steele & Co. are still engaged in extracting ore from the Sacramento mine of a quality that pays well for crushing.

The Savago mine is now yielding an average of 320 tons of ore per day.

Brooks' mill, Washington District, is in operation. We learn that eight tons of second-class ore from the Eclipse mine worked at the mill yielded 100 pounds of amalgam.

There is a rumor that a strike has been made in the Hale & Norcross mine.

Gold Hill News, Oct. 28th: Palmyra District is beginning to loom up again. There are four or five companies now at work. Some ore has already been sent to one of the mills at Dayton, which yielded over \$40 per ton.

UTAH.

Salt Lake Vedette, Oct. 19th: There is an exhibition in Walter's jewelry window an enormous piece of gold quartz weighing some 50 pounds, and literally "lousy" with gold. We were informed it had just arrived from the California Mining District, Sweetwater, and was taken from the "Miners' Delight" ledge.

THE DISCOVERY OF THE LAWS OF GRAVITATION.—A claim has been lately set up in France to show that Pascal was the original discoverer of the laws of gravitation. This claim was based upon some correspondence, said to be in the handwriting of Pascal, produced by M. Chasles before the Academy of Sciences. The correspondence was pronounced in the English journals to be a forgery, and the same opinion is also entertained by many eminent Frenchmen, among them M. Fongere, who some years ago spent fifteen months in deciphering the manuscripts of Pascal's "Pensées," and who says that the forger has not even imitated Pascal's handwriting. The glory of Newton seems still untarnished.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1887.

TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc. per session of ten months, \$350.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace's College, Market street, San Francisco.

5vt3-1m REV. A. MASNATA, S. J., President.

THE CENTRAL PARK OF THE PACIFIC.

Woodward's Gardens, ART GALLERY,

MUSEUM, GYMNASIUM, AND ZOOLOGICAL GARDENS.

A GRAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SAUREO MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.

To all departments new attractions are being constantly added. These Gardens are accessible by the Howard and Market street Cars.

Entrances on Mission and Valencia streets, between Thirtieth and Fourteenth, OPEN EVERY DAY, admission to all parts, 25 CENTS. Children, under 12 years, half price. 10v15ar

FARMERS' AND MECHANICS' BANK OF SAVINGS.

225 Sansome street, near California.

Incorporated under the Act of the Legislature of California, approved April 11th, 1852.

CAPITAL STOCK, \$150,000.

DIRECTORS:

N. O. Fassett, George M. Condee, Reuben Morton, O. H. Wheeler, Isaac E. Davis, James Laidley, Henry Dutton, B. H. Freeman, Samuel L. Palmer, G. H. WHEELER, Cashier, N. O. FASSETT, President.

Deposits received in gold, silver or currency, payable in like kind, at sight. Funds may be sent by express, or in registered packages by mail. Receipts will be promptly furnished.

We will receive Gold Dust and Bullion, for refining or assay, make advances on the same, and return proceeds promptly.

Best Bankers' Drafts, on all parts of the world, furnished at lowest rates, by addressing us. Write names plain. Checks of all banks taken.

Money loaned only on first-class security, safety being our first consideration.

The Highest Rates of Interest paid on Gold Deposits.

DEPOSITS RECEIVED IN SUMS OF \$1 AND UPWARDS. We will keep safely all bonds deposited with us; collect and remit the interest to our friends in the country, as may be directed. For further particulars, address FARMERS' AND MECHANICS' BANK, 2v15-6mew

Advertisement for N. P. LANGLAND, STAIR BUILDER, No. 49 Beal street, San Francisco. Includes an illustration of a staircase and text: 'Newest Posts and Balusters CONSTANTLY ON HAND and for Sale.'

Advertisement for C. E. COLLINS, AMERICAN WATCH FACTORY, Superior Watches, In Gold and Silver Cases. Includes an illustration of a watch and text: 'WATCH REPAIRING AT NEW YORK PRICES.'

Advertisement for HAYWARD & COLEMAN, PAINT OILS, KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT. Includes text: 'Lamps and Lamp Stock!'

Advertisement for Golden City Chemical Works, LABORATORY, Corner of Seventh and Townsend Streets. Includes text: 'CAPITAL STOCK, --- \$500,000'

WE ARE NOW OFFERING OUR IMMENSE STOCK

Fine Custom Made Clothing

Gents' Furnishing Goods AT PRICES THAT DEFY COMPETITION.

Our Stock of Clothing Consists of ALL THE LATEST STYLES

BOTH OF MATERIAL AND FINISH.

A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc., AT EXTREMELY LOW PRICES.

J. R. MEAD & CO., 8v10 Cor. of Washington and Sansome streets.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates.

NELSON & DOBLE, AGENTS FOR

Thomas Firth & Sons' Cast Steel Files, Etc., Sugar, Spring, German, Plov, Blister and Toe Calk Steel, manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 10v14qr

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as Superintendent in the construction or operation of a quartz mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 26v143m

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out.

Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

J. M. BUFFINGTON, No. 5 Government House, San Francisco. 17v15tt

Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS-SULPHATE of Iron—for sale in lots to suit, by BENJ. BRADY, 103 California street, S. W. corner Davis, up stairs. 13.15-3m

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91. FIRE, OCEAN, MARINE, INLAND INSURANCE.

Advertisement for Golden City Chemical Works, listing directors and officers. Includes names like W. C. Ralston, J. B. Roberts, and J. H. Bioelow.

Advertisement for BLAKE'S PATENT QUARTZ CRUSHER, CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

Advertisement for California Steam Navigation COMPANY, listing steamers and routes. Includes names like CHRYSOPOLIS, YOSEMITE, CORNELIA, and JULIA.

Advertisement for Dr. Hufeland's Swiss Stomach Bitters, THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand, for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator.

Advertisement for LOWER CALIFORNIA Exploring and Prospecting COMPANY, This Company have procured the services of parties that are well acquainted with the country. This Company will also prospect for Mineral Lands, Water Privileges, Town Sites and Harbors, etc.

Advertisement for Pratt's Abolition Oil, FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Whoop, Swollen and Stiff Joints, Contracted Colds and Muscles, Colic, Diarrhoea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician.

Advertisement for BOWMAN'S AMERICAN WASHING COMPOUND, the best article for washing and cleaning yet discovered. It is acknowledged to be a saving both in money and labor. As the compound softens the dirt, the clothes require not more than one half the rubbing necessary in washing by the old method.



**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**PEOPLE'S INSURANCE CO.**—San Francisco. Oct. 31st. Capital stock, \$100,000; 1,000 shares, \$100 each. Directors: C. F. McDermot, John Flannagan, H. W. Bradley, Geo. T. Knox, A. Jacoby, James E. Damon, Philip Meagher, B. Mendessolle, William Fishel, D. Murphy, A. Eberhart, John H. Wise and William Dumphy.

**TEUTONIA PARK AND HOMESTEAD ASSOCIATION.**—San Francisco. Oct. 31st. Trustees: J. Gunderlack, J. Kimmel, H. Hinkle, J. E. Remhardts and J. H. Siegfried.

**THE HALL OF THE CHAMBER OF COMMERCE.** The Merchant's Exchange Association has leased in perpetuity, the new hall to the Chamber of Commerce, at the rent of \$1 per annum. It is soon to be opened in a formal manner, with appropriate ceremonies, which will conclude with a dinner.

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**JACOB SNEW, Pioneer Photographer,** 612 Clay street, north side, four doors above Montgomery, (Gate 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tf

**SECRETARYSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15tf

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with PURE GOLD—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v14tf

**MINING COMPANIES**  
Can get their Printing done cheaper and better by **TRUESDELL, DEWEY & CO.,** Than at any printing establishment in the city.

**COUNTY OFFICERS**  
Can get their Blank Books and Blanks cheaper of **TRUESDELL, DEWEY & CO.,** Than of any other printing house in the city.

**MERCHANTS**  
When you want Printing done cheap, send to **TRUESDELL, DEWEY & CO.,** Who do all kinds of Printing at the lowest rates.

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Will save money by having their printing done by **TRUESDELL, DEWEY & CO.,** Who have put prices down to the lowest rates.

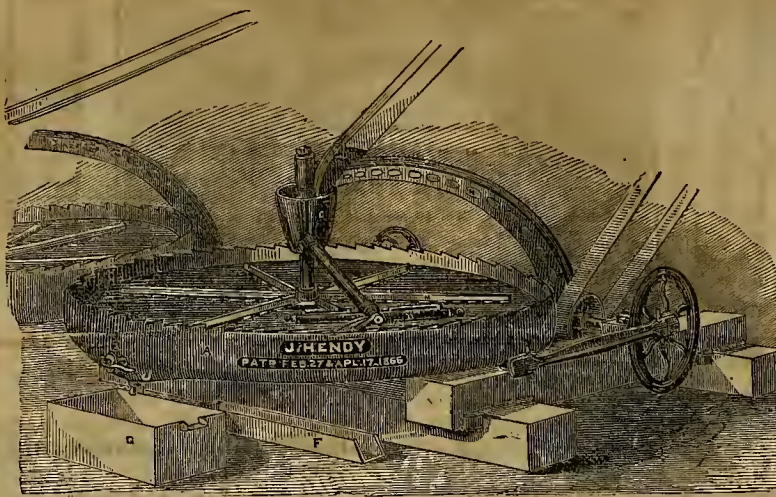
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Who wishes to save money and get good work, see **TRUESDELL, DEWEY & CO.,** Who are always ready to receive and fill orders. **TRUESDELL, DEWEY & CO.**

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**PRINTERS,**  
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**505 CLAY STREET,**  
SAN FRANCISCO.

**CHICKERING & SONS'**  
**PIANOS**  
Received the  
**FIRST PREMIUM**  
(Gold Medal)  
And Decoration of Legion of Honor, at the Paris Exposition.  
**KOHLER, CHASE & CO., Agents,**  
26v14r16p 421 Montgomery street, San Francisco.

**IN THE PROBATE COURT OF THE CITY AND COUNTY** of San Francisco, State of California.—In the matter of the Estate of **HENRY GANAHL**, deceased. Order to show cause why Order of Sale of Real Estate should not be made. It appearing to the said Court by the petition this day presented and filed by Andrew D. Smith, the Administrator of the Estate of Henry Ganahl, deceased, praying for an order of sale of real estate, that it is necessary to sell the whole of the real estate to pay the debts, expenses and charges of the administration of said estate. It is therefore ordered by the said Court, that all persons interested in the estate of said deceased, appear before the said Probate Court on **MONDAY, the eighteenth day of November, A. D. 1867,** at ten o'clock in the forenoon of said day, at the Court Room of said Probate Court, at the City Hall, in the City and County of San Francisco, to show cause why an order should not be granted to the said Administrator to sell so much of the real estate of the said deceased as shall be necessary. And that a copy of this order be published at least four successive weeks in the Mining and Scientific Press, a news paper printed and published in said City and County. M. C. BLAKE, Probate Judge. Dated October 17th, A. D. 1867. 16v15 3w

**HENDY'S LATEST IMPROVED CONCENTRATORS,**



**FOR GOLD AND SILVER ORES,**  
With Revolving Stirrers and Rotary Distributor.  
This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands, and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.  
The principle upon which HENDY'S PATENT CONCENTRATOR is constructed, is the only true and mechanical one for the purpose of concentration.

**CENTRIFUGAL FORCE AND GRAVITATION,**  
Combined as they are in this machine, CANNOT FAIL TO ACCOMPLISH the object sought.  
Many certificates from proprietors of mills, who have this Concentrator in use, can be had, if required, giving the most flattering accounts of its efficiency.  
A most substantial evidence of its worth is the fact that the proprietor is receiving repeated orders from those who are using them, and who have tested their merits.  
The proprietor has recently still further improved the machine, by the substitution of an iron frame for the former wooden one. While nothing is added to its weight by the change, it is thus made stronger and more compact; and at the same time the labor of setting it up is considerably lessened. He flatters himself that these added advantages leave nothing further to be desired as regards the perfecting of the machine.  
Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. **THEY ARE WARRANTED TO WORK SATISFACTORILY.**

**Directions for Operating Hendy's Concentrators:**  
The sulphurets are drawn off while the Concentrator is in motion, in the following manner:  
**FIRST**—Set the Pan, A, level, by its inner rim.  
**SECOND**—While in operation, keep the Pan, A, about half full of sulphurets.  
**THIRD**—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.  
**FOURTH**—The crank shaft to make 200 to 220 revolutions per minute.

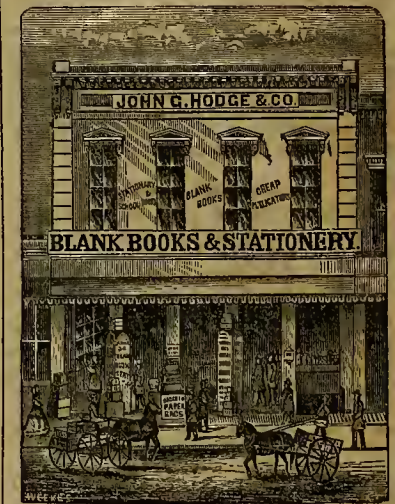
- References:**  
Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:
- EMPIRE MILL (7 Concentrators)..... Grass Valley, Nevada County.
  - NORTH STAR M. & M. CO. (4 Concentrators)..... Grass Valley, Nevada County.
  - NORRIDGEVOCK MILL. (2 Concentrators)..... Grass Valley, Nevada County.
  - VEATCH, VALENTINE & CO., Commercial Mill (3 Concentrators)..... Nevada County.
  - HUMBOLDT CANAL CO. (1 Concentrator)..... Humboldt County, Nevada.
  - ROBINSON & McALLISTER M & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.
  - PLYMOUTH ROCK MILL CO. (2 Concentrators)..... Calaveras County.
  - MIDAS MILL CO. (4 Concentrators)..... Virginia, Montana.
  - GOULD & CURRY G. & S. M. CO. (4 Concentrators)..... Virginia City, Nevada.
  - VULTURE CO. (4 Concentrators)..... Prescott, Arizona.
  - NOYES & CO'S MILL. (2 Concentrators)..... Prescott, Arizona.
  - LUCY MINING CO. (3 Concentrators)..... Owyhee District, Idaho.
  - MOREY & SPERRY (1 Concentrator)..... New York.
  - GUADALUPE & SACRAMENTO G. & S. M. CO..... Sinaloa, Mexico.
  - EL TASTE CO. (2 Concentrators)..... Sonora, Mexico.
  - B. F. BROWN (1 Concentrator)..... Melbourne, Australia.
- And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:  
SAN FRANCISCO, October 10th, 1867.  
J. HENDY, Esq.—Dear Sir:—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,  
S. W. LEE, Supt.

**SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. CO.,**  
VIRGINIA CITY, Nev., Sept. 17, 1867.  
JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours, very truly,  
LOUIS JANIN, Jr.  
The bill was presented in accordance with the above request, and duly paid.

**CAUTION.**  
All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."  
Orders for letters of enquiry, address,  
**JOSHUA HENDY, Patentee,**  
Union or Fulton Foundry, San Francisco.

**W. T. GARRATT,**  
City  
**BRASS AND BELL FOUNDER.**  
Cor. Mission and Fremont sts.,  
SAN FRANCISCO.  
Manufacturer of Brass, Zinc, and Anti-Friction or Babbit Metal Castings;  
CHURCH AND STEAMBOAT BELLS,  
TAVERN AND HAND BELLS AND GONGS,  
FIRE ENGINES, FORCE AND LIFT PUMPS,  
Steam, Lignor, Soda Oil, Water and Flango Coeks, and Valves of all descriptions, made and repaired. Hose and all other joints, Spelter, Solder and Copper Rivets, &c. Gauge Coeks, Cylinder Coeks, Oil Globes, Steam Whistles,  
**HYDRAULIC PIPES AND NOZZELS**  
For Mining purposes, Iron Steam Pipe furnished with Fit tings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."  
Highest Market price paid for OLD BELLS, COPPER AND BRASS. 6v1



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Importers and Dealers in  
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PAPER BAGS, ETC.  
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All the Year Round.....	
London Ill. News.....	15 00

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News Dealer  
AND STATIONER,  
Southeast corner Sanson and Washington streets,  
SUPPLIES ALL  
**EASTERN PERIODICALS**  
By the Year, Month or Number.

**Foundry for Sale.**  
A One-half Interest in the  
**UNION IRON WORKS,**  
SACRAMENTO,  
Owned by William R. Williams, is offered for sale on the most favorable terms.

**A Good Bargain**  
May be had, as the proprietor is going home to Europa. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 35 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets.  
Inquire at the office of the Foundry, or address  
**WILLIAM R. WILLIAMS,**  
Sacramento, Cal.  
26v13r19-16p

**FAIRBANK'S PATENT**  
**U. S. STANDARD**  
**COUNTER AND**  
**PLATFORM SCALES!**  
Also, large Scales for weighing loaded wagons of Ore, Hay, &c. from 5,000 to 40,000 pounds capacity. Manufacturers' Branch House.  
**FAIRBANKS & HUTCHINSON,**  
129 California street, San Francisco.  
Send for a Catalogue. 21v16eow6m



# Mining and Scientific Press.

Single Copies, Fifteen Cents.

Terms: One Year, \$5; Six Months, \$3.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS,  
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 9, 1867.

VOLUME XV,  
Number 19.

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## The Origin of the Yo-Semite Valley.

At a meeting of the Academy of Sciences of Paris, in July last, Prof. Blake, Commissioner from the State of California to the Paris Exposition, presented a paper describing the enormous action of ancient glaciers in the Sierra Nevada. He concludes that the glaciers were far more broad than the valleys now existing, and that the larger part of the central portions of the high Sierra were covered with a continuous sheet of ice.

The gorge of the Yo-Semite, with its majestic cliffs, is regarded as the result of the joint action of glaciers and of running water, and not as a fissure or break in the mountains. The paper refers to the celebrated photographs of Watkins, in illustration of the ice-worn summits of the mountains above the Yo-Semite. We translate the paper entire from *Comptes Rendus*:

*On the Action of Ancient Glaciers in the Sierra Nevada of California; and the Origin of Yo-Semite Valley.*—By W. P. BLAKE.

The traces of ancient glaciers are strongly marked in the elevated regions of the California Sierra Nevada. Almost the whole surface of these mountains, over hundreds of square miles, is wavy (moutonnée) striated, and polished.

The region in which these effects may be observed, is the central mass of mountains to the east of San Francisco, and between the 36th and 38th degrees of north latitude. It is the most elevated part of the chain; and many peaks or summits are there found of 13,000 feet (4,000 meters) or more, in height. It is the Alpine region of the United States, and it is remarkable for the grandeur of its scenery, and the number of its valleys and abrupt gorges. The western slope of these mountains descends toward the great interior valley of California; the eastern slope meets the desert region of the great interior basin. The western slope, lying under the influence of the ocean winds, is covered with magnificent forests; while the other slope is comparatively sterile. The principal rock of the elevated and central parts of the chain, is compact granite, generally porphyritic, from the surface of which crystals of feldspar, sometimes reaching the size of three or four inches (1 decimetre) project. It is this granitic rock which has been shaped and polished by the action of ice. The effect is everywhere visible above the elevation of 6,000 English feet (1,800 metres), up to the height of 11,000 feet (3,300 metres), and perhaps more.

In crossing the chain to go back from the Yo-Somite Valley to Lake Mono, the view extends over an immense expanse of summits, all rounded off by the action of ice, and in great part so highly polished that they glitter in the sun like a mirror. These

surfaces, in former times subjected to the action of glaciers, present all the usual phenomena, and those which have been observed in many other countries. They are as if planed, furrowed and striated,—generally in the direction of the valleys.

Near the defile which serves for the passage from Yo-Semite to Lake Mono, at a height of about 8,000 feet (2,400 metres), are found many subordiuate crests of granite which have been covered by glaciers from base to summit, probably 2,000 feet (600 metres) above the valley. Their flanks are not only striated and polished, but they are moreover deeply cut and scooped; and over so great an extent as to leave no doubt that they owe their present relief to the action of ice.

The glacial action has been on a gigantic scale; and the phenomena are sufficient to demonstrate that it was not confined solely to the deep valleys, but that the glaciers covered vast surfaces, and that they were of very considerable thickness. One object of this memoir is to call especial attention to this conclusion.

There were also limited glaciers which filled up numerous valleys, as is sufficiently indicated by the moraines, and the polished surfaces which they have left.

The glacial action has been more energetic upon the western declivity. This seems to show, that during the glacial period, as at the present epoch, the atmospheric moisture was more abundant upon the ocean slope than upon the continent side.

No glaciers at present exist in these mountains. The snow which falls in the winter to a great depth, melts and disappears toward the end of summer—except in the shade and in the deep gorges.

One of the most interesting portions of these regions of ancient glaciers, is situated in the famous valley of Yo-Semite. This valley is now a mark for tourists. Its picturesque character is sufficiently shown by the beautiful series of photographs, executed by Mr. Watkins, which appear in the Universal Exhibition, and some of which are here annexed.

This valley is a narrow gorge about six miles or ten kilometres long, where the traveler can contemplate a succession of granite walls or cliffs from 2,000 to 4,000 feet (600 to 1,200 metres) in height. The summits of these cliffs have the form of domes: and it is easy to recognize that this is a part of that region roughened (moutonnée) by ancient and very extended seas of ice.

Surfaces polished by ice are found in the tributary valleys of Yo-Semite, and they are not wanting upon the sides of the valley itself. The inference is drawn, that this valley is due to a *sub-glacial* erosion, caused by the flow of waters arising from the melting of ice above.

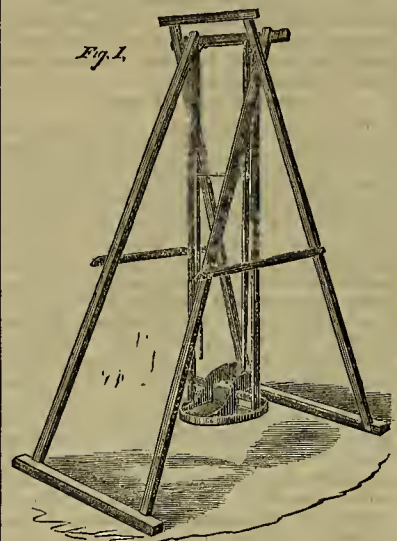
It has been thought that the Yo-Semite Valley is the result of a great fracture or fissure, transverse to the general direction of the mountain chain. The enormous action of ice in this valley and the neighboring regions, together with the fact that its upper part is divided into two or more gorges, which now receive such waters from the drainage of the gorges and valleys above, render it unnecessary to have recourse to any other explanation.

In our next issue we hope to commence a series of papers on the most recent improvements in the extraction of gold and silver from their ores—whether by pan or barrels, or without the use of mercury.

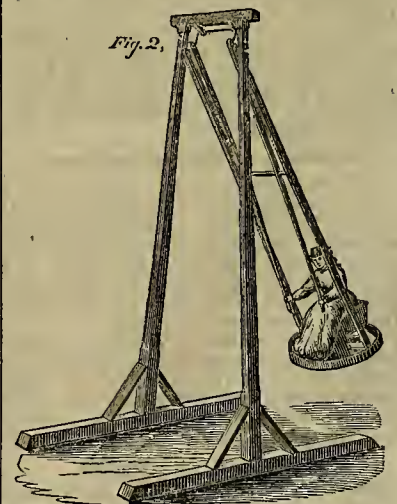
**BUSSEY'S SAFE LOCK.**—We would call especial attention to the advertisement of Bussey's Lock in another column.

## Payson's Gymnastic Swing.

Swinging is one of the most pleasing and healthy amusements in which children can indulge, and some physicians advocate it for adults for certain diseases. The ordinary rope swing, however, has so many disadvantages that it is not very generally used.



Such a swing requires the second person to assist in operating it, which is very inconvenient and tedious; in fact, it is every way imperfect, when compared with improvements presented in the annexed illustration, which is the invention of Alonzo P. Payson, of this city.



The object of this invention is to provide a swing which can be impelled by the person occupying it, and which will combine a healthy exercise with innocent amusement. To this end, a swing is constructed with rigid oscillating arms, which move about a point of suspension near the top. Between the sides or supports of the swing, and attached near the points of their suspension, are two levers, extending down to a point where they can be conveniently grasped by the occupant of the swing. These levers are attached to the arms of the swing, at

some point below their point of suspension, so that the motive levers form second levers, while the supporting arms form third levers. The manner of construction of the swing, as well as its operation, will be very readily seen from the two illustrations given herewith.

The exertion employed in alternately pushing and pulling at the levers to vibrate the swing affords the best possible exercise for the chest and arms—a fact which should especially encourage its introduction into families and public play-grounds. These swings are made either stationary or portable. The portable or parlor swing can be made of suitable sizes for rooms, and can be put up and taken down very readily. A patent for this invention was issued on the 25th of June last, through the MINING AND SCIENTIFIC PRESS PATENT AGENCY.

THE LONDON CHEMICAL NEWS, for a quarter of a century has represented the progress of chemistry in all its applications to pharmacy, manufactures and the arts generally. During the entire period of its existence, it has also given its readers a complete and faithful record of all new discoveries and advances in physical science—comprising electricity, mineralogy, metallurgy, mining, mechanical, and all collateral branches of science. It has ever occupied a foremost rank as a practical and scientific journal. The only drawback to its utility has been the high price at which its publishers have seen fit to place it, and which has hitherto resulted in preventing the general circulation which its value so justly merits. Especially has this been the case in America, where cheapness is a great feature, even in our most choice literature. W. A. Townsend & Adams, of 434 Broome street, New York, are deserving the thanks of the American public for taking the necessary steps to place this important publication within the reach of all. In July last this firm issued the first monthly number of the American edition of the *Chemical News*. The London edition is published weekly. At the first of the succeeding month the London weekly numbers are thrown into one and issued by Messrs. Townsend & Adams at the low price of \$2.50 per annum, postage paid; while the English publication is sold for \$12 a year! No interested person can afford to do without this publication at this reduced rate. The work will doubtless reach a wide circulation throughout this country. A large edition should find its way to this State, especially.

**TELEGRAPHIC.**—A most noticeable instance of American newspaper enterprise, and the advantages derivable from oceanic telegraphy, may be instanced in the fact that the New York *Tribune* obtained and published the news of Garibaldi's arrest before it was even known to a single person in London or all England. The fact was transmitted through England by the *Tribune's* special correspondent, in cypher—so that it was not even known to the telegraphic operators themselves.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

## THE METALS OF THE EXHIBITION—COPPER AND ZINC.

The most attractive display of copper in its raw state, is in the section of the United States, and I need hardly add, is from Lake Superior. The collection consists of crystallized native copper, and of the various interesting minerals and crystallizations which accompany it. There are also some of the products of smelting, and a stack of the metal in ingots of a brilliant red color, like that of the celebrated copper bars of Japan, some of which may be seen in the representation of that Empire. The various copper ores of California are displayed in the same and an adjoining case, but are more interesting for their number and variety than for their beauty. The brilliant mass of variegated ore from Plumas county, and the wonderfully rich and pure masses of red oxide of copper from the old Arizona mine, are most admired. Neither the Union or Keystone, the Newton and the Cosmopolitan, or the Del Norte county mines, did themselves justice in not sending a complete suite of their different grades of ore. As it is, the few specimens that are found here will at least gain the mines a place in the catalogue, and a mention, perhaps, in the official reports to the various governments. A series of specimens from each of our leading mines, trimmed to a uniform size, say into blocks about eight inches square, would have made an array of rich ores far finer than any other display of copper in the Exposition.

The duty of making an official report to the United States upon the copper of the Exhibition, devolves upon Mr. H. Q. D'Aligney, of Lake Superior, a mining engineer, and one of the U. S. Commissioners, who has had general direction and care of the mineral department of the United States in the Exposition since the opening. This report, with the others upon other portions of the Exposition, will be made this autumn, and will probably be printed in the spring at Washington. Although the collection from Lake Superior is quite good, as respects variety, there are no very large masses and no effort appears to have been made by the mining companies to send any. As a consequence, Russia has the credit of sending the largest mass of native copper, weighing 1,560 pounds. It was sent by Nicolas and Alexander Popoff, from the distant Kirghiz Steppes in Siberia. In this mass the sharp eyesight of Descloizeaux, the distinguished French mineralogist, detected an isolated grain of native silver. This is exceedingly interesting to mineralogists, for it shows the same association of the metals as at Lake Superior, and it indicates a similarity in the deposits, and in their origin. It is generally known, although it may not be a familiar fact to some of your readers, that at Lake Superior large lumps of pure silver are found in the midst of masses of copper; the two metals being as perfectly united as if soldered, yet there is no mingling or alloy at the junction. It is now generally conceded that these metals were deposited from solutions, under the influence of electrical currents. With this fact before me (of native silver existing in native copper at Lake Superior and at the Siberian deposits), I venture to predict that silver will also be found in the as yet unexplored native copper region of our newly acquired territory, Alaska. I have seen very large masses of copper from that place, and there is every reason to believe that we will find there copper deposits, fully equal to those of Lake Superior.

## MINES OF PRINCE DEMIDOFF, SIBERIA.

Paul Demidoff, of Siberia, has sent a large collection of the products of his various mines of copper, iron, gold and platinum. His property extends on both slopes of the Ural Mountains, and comprises over a million and a half of acres of mineral and forest lands, with a population of 54,000 persons. In this estate there are 24 copper mines, all in operation, 107 gold veins, and 20 mines of platinum. The copper mine of Medno-

Roudiansk, discovered in 1814, has yielded nearly a million of pounds of fine copper, and is worked to a depth of 574 feet. This is the mine that affords the beautiful malachite. This mineral was discovered in 1840 in an enormous mass, and over 70,000 pounds have been taken from it. The fragment sent to the Exhibition is five or six feet long and nearly three feet thick. It weighs 4,686 pounds, and is valued at \$15,000. The portions of this mass which have been polished, reveal a very beautiful grain and a fine color.

There are some very fine malachite vases, from one to three feet high, sent from different establishments, besides paper weights, inkstands and a variety of small ornamental objects, attractive in appearance and excellent in workmanship.

The Prince has 24 copper smelting furnaces on the estate, some of which smelt 35 tons of ore in 24 hours.

## MALACHITE FROM QUEENSLAND.

There is another large mass of malachite in the Exhibition, contributed from Queensland, by the Peak Downs Copper Co. This specimen is nearly six feet long, three feet wide, and one and a half thick. Its weight is not stated. It is rather dark-colored, and is not as solid as the specimens from Siberia.

The famous Burra Burra mines of South Australia are not fully represented; but there is an extremely interesting collection of the beautiful blue carbonate crystals associated with malachite.

The English and Australia Copper Co. make a good exhibition of their products in bars and slabs of refined copper, and ordinary black copper, for which they have obtained a bronze medal.

## COPPER ORES OF CHILI.

Chili makes a very heavy exhibition of copper ores. They have been sent in great masses and are piled together in magnificent confusion, with the figure of a miner in full costume standing at one end of the heap, as if upon guard. These blocks are chiefly yellow copper ore, and the variegated ore, with some gray copper and some masses of cupriferos silver ores. The copper mines are the most important and profitable in Chili, and employ the greatest number of workmen, as the following figures will show. There are now in actual working or development, 1,668 copper mines, 268 silver mines, 663 coal mines and the total number of miners is 23,743. In 1863 there were 347 high, or cupola furnaces, for the smelting or fusion of copper ores. The provinces richest in copper and silver ores are those of Atacama and of Serena in the north. They afford nearly three-quarters of the annual production of the country. The most important mines, also, are not far from the coast, and are connected by railroad with some of the best ports, so that the facilities of transport and exportation are great and comparatively inexpensive. Copper, and its ores, is, however, not confined to any particular part of the State, but is very generally distributed in the interior along the Andes, from Talco in the south to Majellones in the north, or over a distance of nearly twelve degrees of latitude.

The value of copper and its ores exported from Chili in 1865, was over \$14,000,000, most of which went to England. A large part of it is sent in the form of matte (concentrated ore by fusion), and some in the form of bars and ingots.

## DECLINE OF THE ENGLISH MINES.

The production of copper ores in Cornwall has been steadily diminishing, and now many of the mines are closed, for they can no longer be worked with profit while the price of copper is so low. The mines are in general very deep, and the ores very poor compared with those of California, Chili and other parts of the world.

There are very few exhibitions of these ores, or from the extensive copper smelting establishments of Great Britain. In one small collection from Swansea, I saw samples of our ores from Calaveras county and from the Colorado river.

## COPPER SMELTING FURNACES.

There are several extremely interesting collections of copper in its various stages of progress by smelting from the ore up to the refined or rose copper for use. These collections show not only the metal in its various stages, but the fluxes, the scoriae and the fuel used. They are accompanied by carefully made models of the furnaces employed. The models are so constructed that they open into two portions, and thus not only show the exterior, but the interior construction. They are carefully made to a scale, and are intended to serve as a guide for the erection of large furnaces. They would be of great service to us in California, and I have regretted that the State has no institution provided with a fund which might be applied to the purchase of such

models, for the benefit of our mining population, and the instruction of our young men who are turning their attention to mining and metallurgy.

## MANSFIELD COPPER SCHISTS.

The company occupied in the working of the Mansfield copper schists, has made a fine display of the products of the mines and of their works for the manufacture of sheet copper and copper boilers. The production of the mines in 1866 was not less than 21,712 quintals of rosette copper, and 24,554 quintals of refined copper. Among the articles of manufactured copper may be noted a sheet nineteen feet nine inches long and nine feet wide, weighing 4½ pounds to the square foot. Another sheet ten feet long and three feet wide, and a boiler or kettle 8½ feet in diameter and three feet deep. It is claimed that the works can turn out copper sheets ten feet wide and thirty feet long. The mines and works of this company give occupation to 5,500 men.

## ZINC ORES AND MANUFACTURES.

The principal exhibitions of this metal and its products are made by the Prussian and French companies, foremost of which is the *Vielles-Montagne*. This company is not exclusively occupied with zinc mines; it owns, also, deposits of lead, iron pyrites and coal. It has establishments in Germany, Belgium, France and Sweden. It employs in all 6,223 workmen, of which 2,693 are in Belgium. It produces 70,000 tons of zinc ores annually, 2,700 tons of lead ores, 2,000 tons of copper ores, and 110,000 tons of coal. Its manufactures are metallic zinc, 32,000 tons, sheet zinc, 25,000 tons, besides some 800 tons of zinc nails and small articles. The manufacture of zinc-white—the white oxide of zinc—used for painting, has reached the figure of 6,000 tons. The sales of the company per annum are, in round numbers, as follows:

	Tons.	Value in francs.
Metallic zinc.....	35,200	26,400,000
Zinc white.....	6,800	4,272,000
Ores of lead, &c.....	5,800	1,685,000

The white zinc is made near Paris, by the combustion of the metal, and not directly from the ore, as by the American method. The specimens of ore exposed by the company consist chiefly of blende—the sulphuret of zinc—in large masses weighing from 400 to 800 and 1,000 pounds each. This company has a formidable competitor in the Silesian Zinc Company, of Breslau, which was established in 1853 with a capital of 5,000,000 Prussian thalers, since then increased to ten millions. One of the chief merits which this company claims for its zinc, is that it is all made from calamine and not from blende, and is therefore supposed to be free from sulphur and to be stronger and more ductile. There is a very fine show of zinc plates, corrugated sheets for roofs, perforated plates, nails, wire and tubes. The largest plate is 17 feet long and 54 inches wide, and three-quarters of an inch thick, and it weighs 2,100 pounds. It could have been made twice as long and heavy, if the space had been allowed for it. The new exchange building at Berlin is roofed with the corrugated zinc plates of this company's manufacture.

But in all the zinc exhibited by these two companies, and several others, there is none equal in quality to that produced by Wharton from the ores of Lehigh county, Pa., and exhibited by him in the American section. This zinc is nearly chemically pure, and may be used as such in analysis when testing for arsenic.

The New Jersey Zinc Co. of New York, is represented here by samples of the ores from the mines of Sterling Hill and Franklin, New Jersey, and by the products of the works at Newark. These consist chiefly of white zinc, dry and ground in oil for paint, and of the hard, white, manganiferous iron, generally known as "Franklinite iron." This industry of zinc and iron combined has assumed large proportions, and is very successful. It was founded chiefly through the exertions and enthusiasm of James L. Curtis, of the city of New York, who had a correct appreciation of the importance and value of these ores and of zinc oxide for paint as compared with poisonous lead, long before the incredulous public could be convinced.

I do not know of any extensive deposits of calamine in California. There are some localities of blende, but it is not probable that they can be worked to advantage for several years to come.

The only *contre-temps* that I have experienced in the Exhibition was in gaining some information for this letter. I was interested in taking measurements of portions of one of the furnaces exhibited, and was finishing a drawing of the retort when one of the omnipresent *gens d'arme* laid violent hands on the sketch and notes, under the authority of the law, expressly forbidding persons to make designs or measurements without the consent of the exhibitors. A pertinacious

protest secured the return of my notes without the drawings, which I was able to reproduce in much better style on my return to my room in the evening. In this case, the exhibitor had evidently no desire to conceal anything; for the exhibition of the retorts was complete, and was in no way essential as a part of the exhibition of his manufactures. The incidents show the strictness with which the rules of the Imperial Commission are enforced.

Paris, Sept. 2d, 1867.

## Brain Development.

A correspondent of the *American Phrenological Journal* propounds the following:

"Is there anything made or lost in the whole brain? Or, can any organ or group of organs be increased by cultivation without a proportionate decrease in the opposite extreme? If the higher faculties, by culture, are increased, do not the lower or the selfish faculties decrease, and *vice versa*?"

The editor, in reply to the query, says:

Let us suppose a child ten years of age to have a brain developed in perfect harmony. If the culture of every faculty and propensity be equal, the brain, at full maturity, will possess an equal development, every part growing in just proportion. If, however, one set of faculties are exercised chiefly from ten years of age upward, the corresponding organs will become enlarged and strengthened—not necessarily at the expense of the others; but those which are exercised most will increase in size and activity much more rapidly than those which are exercised but little. \* \* \* \* The brain is not shut up in a tight box, which cannot be enlarged to make room for the growth of the brain. When one organ grows, it is not obliged to do so at the expense of the others. If one organ wants more room, or if the whole brain requires more room, the skull is absorbed on the inside and built up on the outside. It often happens that a single organ is more active than others by which it is surrounded, and the activity of the one organ causes the absorption of the skull directly over it to such an extent that the skull in that place becomes so thin that a slight pressure would break it or crush it in; and we have known cases where *post-mortem* examination showed the skull to be worn quite through over organs which for many years had been uncommonly active. Thus sometimes a man after twenty years of age will have such an increase of the size of the head that the whole skull changes place; if we may so speak, the skull at twenty would be swallowed by the skull at forty. It is sometimes a mystery to people how a hard, bony structure like the skull can give way and make room for a pulpy substance like the brain. The same reason might be applied to oysters and clams. They are soft and pulpy, and their shells are as hard and a trifle thicker than the human skull. But everybody knows that a clam or an oyster half grown can be placed, shell and all, into the empty shell of a clam or oyster a year or two older. The whole substance of the shell changes place; it is not enlarged merely, but completely dissolved and thoroughly reconstructed.

In addition to the above, we may remark that in most skulls, especially in those of persons who possessed marked characteristics in their lifetime, or whose particular organs have been largely developed while others have been allowed to lie dormant, a great variation in the thickness of their different parts may readily be detected by holding a lighted candle on the outside and looking in towards the candle. The light will show *thin* places at the localities of all the organs which have been particularly active during lifetime.

The bones of the body are also usually smaller, in proportion to the crania, in persons of sedentary and intellectual habits, than in those whose life is devoted to severe physical labor, and *vice versa*. In holding a candle to the skull of the man who has been noted for his intellectual character, the base will appear dark, from its great thickness, while the light will clearly glimmer in the region of the intellectual and moral faculties. The operations of nature are scarcely more clearly developed in the fossiliferous indications of the earth's crust than are the habits of the human being in the records indelibly stamped upon the cerebral covering.

ENGLAND is still adding to her iron-clad navy. A large vessel of the size of the *Minotaur* is to be constructed.



Mechanical.

Working Steam Expansively.

(Continued from page 275.)

If the valves giving admission to and exit from a cylinder could be opened suddenly at the proper time, and if, further, the steam admitted worked without expansion, and entered and escaped from the cylinder without sensible frictional retardation, then would an indicator diagram taken under



such circumstances, be a perfect rectangle, shown by *c, f, d, g*; and if its altitude represented the boiler pressure and vacuum combined, while its length represented the stroke of the engine, then would the diagram represent the greatest possible amount of power which could be got out of the engine during any one stroke under the given limitations of boiler pressure and vacuum. We have now lying before us a diagram taken from a steam fire-engine, the valve of which has very little lap or lead, which is nearly a perfect rectangle; but such diagrams are never taken from engines in which economy of fuel is studied—a matter of no importance whatever in steam fire-engines. In all such cases the diagram shows a portion only of the complete rectangle, and it may be divided into two parts; one of these represents the power exerted while steam continued to enter the cylinder, the other the power exerted after the admission port was closed by the steam expanding. Now, as a perfect rectangle would represent the greatest amount of power which can be obtained through any single stroke, so will a perfect rectangle represent the maximum development of power through any portion of a stroke to which that rectangle corresponds. In the case of the practical steam engine this rectangle can only be contained between a line, *a, b*, drawn across the diagram from the point where admission ceases and the terminal line of the diagram, *c, d*, representing the maximum pressure in the cylinder. Under any circumstances that portion of the cylinder corresponding to the rectangle must receive the same volume of steam from the boiler, that is to say, it must be filled; and it is therefore important that during this, the first portion of the stroke, the engine should develop the greatest possible power; but this condition can only be insured when the action of the valves is such that the first part of the diagram, as we have said, is approximately a rectangle. If the valve opens too slowly the line of maximum pressure will be shown by *e, d* in the cut, and the space between it and *c, d* represents a loss of fuel, because while the piston moved through the space corresponding to *e, c*, it was not submitted to a pressure equal to that attained subsequently; but before this maximum pressure could be attained at all, the space, *e, c, d*, had to be filled up to the maximum pressure by steam doing no work on the piston; the loss, in a word, exactly resembles in character that due to clearance. If, on the other hand, the valve opened too soon a space would be cut off the rectangle at the lower corner (as shown by the dotted line), which would represent a loss of power but not a waste of fuel, as the steam compressed would be available for the return stroke. Still, it is not expedient, from many reasons well understood, that compression should be carried to excess, and therefore the more nearly a perfect rectangle the full pressure part of the diagram is, the better, within certain limits.

So much for the influence exerted on the shape of the diagram by the opening of the admission and the closing of the exhaust port. We have now to consider the influence of the mode in which the admission closes. If the valve acts quickly, expansion will commence at the point, *a*; and if the cylinder be kept hot, the curve of expansion will be nearly that due to the operation of Mariotte's law. If the port is not closed quickly, steam will continue to find its way into the cylinder, and the curve will be too high. It is true that the steam so entering will act to impel the engine and increase the total power of the machine; but this steam acts to a disadvantage, a great portion of its pressure being lost through wire-drawing. Its effect, indeed, will be as though it acted almost altogether without expansion. We find a precise parallel in the case of an engine working steam which is wire-drawn, and therefore is worked at a

loss. It is unnecessary to point out how essential it is to economy that the exhaust port should be opened as quickly as possible to its full area.

The deductions from the foregoing statement of facts lie in a nutshell. The valve of a steam engine should open and close the ports as quickly as possible at the proper time, and any arrangement which will effect this sudden opening and closing will give first-class results as far as economy is concerned; whether the action is the best possible may be at all times determined by taking a diagram. Now, it so happens that diagrams taken from engines with the common slide valve with a good lap and lead, and a long stroke, may be, and frequently are, quite equal to any which are taken from engines with the most complex gear; nor can we ascertain that any economical results have ever been obtained from complicated engines, as a consequence of the action of their valves, which cannot also be paralleled with ease in the case of engines of the simplest construction. The fact—and that it is a fact admits of the fullest proof—demonstrates that the use of complicated valve-gear is a mistake. It adds to the first cost of the machine and to the expenses of its maintenance; while the assertion that by such means, and such means only, economy of fuel can be realized, tends to retard the adoption of the principle of expansion to the fullest extent which is desirable. It appears, upon the whole, the distribution of steam can be effected by two D valves, one at each end of the cylinder, each controlling an exhaust and admission port, about as well as in any other way. The valves may be of the gridiron or marine engine type, worked by a single eccentric, and provided with an amount of lap corresponding to the required point of cut-off. The valves when large may be balanced by a simple ring at the back. If it is deemed desirable to introduce a still sharper action of the valve than can thus be had, a second eccentric may be employed working cut-off valves on the backs of main valves, and these cut-off valves can easily be made to act the part of equilibrium rings. The ordinary link motion, or a modification of it, with but a single eccentric, may be used when it is desirable that the cut-off should be variable. An engine constructed on such a principle will cost less money, be less liable to get out of order, require less care in its management, and give more satisfaction, even as regards economy of fuel, than complicated machines, delicate in their operation, and extracting, or pretending to extract, a fraction more power from each pound of coal burned than their apparently commonplace rivals. Cam-gear and puppet valves constitute in some respects a better arrangement than any modification of the slide valve, but unfortunately one not very well suited for engines running much over twenty revolutions per minute. The maximum degree of complication admissible in stationary engines is represented by the use of a second slide worked on the back of the main valve by a distinct eccentric, and even this is only required in the case of engines expanding largely in a single cylinder. When compound cylinders are used a very early cut-off is not required, and the ordinary slide valve will upon the whole give, over a series of years, more satisfactory results than any other arrangement.—*The Engineer*.

STEAM BOILERS, iron bridges and iron ships are rated in strength only about one-fourth and one-sixth that of the iron as tested by experiment. This is for the purpose of making allowance for flaws that may be in the metal, and which cannot be detected by simple inspection. There is also such a great difference in the quality of the iron plates turned out in the same establishment that it is prudent to make allowance for all defects.

The inhabitants of Quito manufactured magnificent mirrors from "obsidian," and those of the Azores and Ascension Islands, and Guiana, used splinters of obsidian as points for their lances, razors, etc.

THE FIVE MECHANICAL POWERS. — The lever, the inclined plane, the wedge, the screw and the pulley, are termed "the five mechanical powers."

DENSITY OF LEAD.—The density of lead is not materially increased by hammering or pressure. It is but very slightly increased by any means whatever.

AMERICAN CARS are to be put on the rail-road from London to Liverpool.

EIGHTEEN new bridges have been built across the Seine during the reign of Napoleon III. at a cost of about \$5,000,000.

Scientific Miscellany.

BEST LIMESTONE FOR MAKING IRON.—Notice was given through the papers some months since that the Iron Master's Laboratory at Philadelphia, would carefully analyze, free of expense, 100 specimens of such limestones as were found most beneficial, in actual practice, as a flux for blast furnaces. A large number of samples were sent in from various parts of the country; but only 35 out of the entire number sent could be taken "as a fair average of the kind found by actual use the best adapted for furnace purposes." The result of these analyses (the average result as we understand it) was as follows:

Water.....	49
Siliceous matter.....	4.13
Oxide of iron and alumina.....	2.40
Carbonate of lime.....	85.83
Carbonate of magnesia.....	6.36
Solid carbonaceous matter.....	1.19
Manganese.....	trace
Loss.....	.74
	100.00

A WONDERFUL MOLLUSK.—A correspondent of the *Bulletin*, writing from Santa Barbara, refers as follows to a *Tridachna Gigas*, which will hold in each half of its shell from one to four gallons. This shell contains an animal mass of tough pulpy meat like the large *Cytheria* or California white muscle of the Santa Barbara Channel, and it may be seen walking about with its heavy feelers on the coral reefs in calm weather, and bearing a weight of from 10 to 20 pounds of shell according to age. The meat is used by the natives for food, and the shells for domestic purposes, and it is said to be the largest of the mollusca known to naturalists. It is in the central parts an inch thick, the inside beautifully white, and on the outside ribbed and grooved like the Palmer's shell, so common on the Lower California coasts, which is a picture of those figured on the dresses of the old Crusader Pilgrims or Palmers; hence its name. The hinges to these *Tridachnas* are strong as iron while moist, and the edges or openings of the feeding parts dovetail together most cunningly. There seems to be two species of them, one found in the East Pacific, and the other in the Molucca Archipelago, and they are among the most curious, useful, and interesting objects in marine zoölogy.

A subsequent correspondent of the *Bulletin*, "Oakland," in referring to the above, says:

\* \* \* Instead of but two species, Woodward gives six recent ones and a fossil. \* \* \* These shells are not of recent discovery. Darwin, in his journal, accords the fact of his remaining a long time in the lagoon of Keeling, Ist, examining the fields of coral and *gigantic clam shells*, into which, if a man were to put his hand, he would not, as long as the animal lived, be able to withdraw it. Dr. Good, in his Book of Nature, states that the entire crew of a British frigate feasted on the animal of one *Tridachna Gigas*, found in the Indian Ocean. Your correspondent very truly says that this is the largest known species of shell fish; but scarcely conveys a correct idea of the great size to which it sometimes attains. Whoever has visited the Church of the Sulphice, in Paris, has probably seen a pair of valves of this shell, measuring more than two feet across, and said to weigh over 500 pounds. It would indeed be a strange and most wonderful sight to see the animal with such a shell "walking about;" for when alive, the large excavation in each valve provides a forearm or hole for the passage of a byssus or strong short cord, which binds the shell to the coral rock in a fixed position, with very slight powers of moving from infancy to old age. The range of this genus is quite extensive, including the Indian Ocean, Northern Australia and a large portion of the tropical, Pacific islands.

COPPER FOR CHOLERA.—Dr. V. Burg having observed in 1852 that about 200 persons working in and around a copper foundry were not attacked by cholera, even during the worst stages of the epidemic, made further inquiries, and found that all persons handling this metal, whom he met, enjoyed the same immunity. He, therefore, concluded to try the use of copper as a medicine for those attacked by cholera. He administered sulphate of copper internally and applied metallic copper externally. It was asserted by some medical authorities that the plan was not successful, but a late communication to the French Academy by Dr. Lisle of the luatic asylum at Marseilles, contains the statement that he had cured 20 out of 24 patients by administering sulphate of copper, even in smaller doses than those prepared by Dr. Borq.

SOUND MADE VISIBLE.—At the Royal Institution in London, recently, Professor Tyndall repeated some of the interesting experiments by which he has on previous occasions given ocular proof of the effects of sonorous vibrations. When a jet of gas is burning under an amount of pressure which is but just short of the "flaring" point, it becomes excessively sensitive to a momentary increase of pressure, and will respond in the readiest manner to the slightest acute sound, vibrating actively to the merest "ohirrup" of the lips. A still more remarkable demonstration was made with a thin column of smoke, of which the shadow was cast on a screen by means of an electric light. Here the smoke became so sensitive that the slightest vibrations of the air affected it, and two tuning-forks making a discord produced the well-known heat, which was attended by a marked pulsation of the edges of the shadow. Perhaps the most beautiful ocular demonstration of the effect of sound was produced by throwing the electric light through a minute stream of falling water, the effect being to produce a string of glittering drops of the most brilliant appearance. When musical notes were sounded in the vicinity, these drops altered their arrangement in obedience to the waves of sound, and clearly indicated by their modified appearance the effect produced upon them.

SULPHURETED HYDROGEN.—This gas, which for experimental purposes is usually obtained by means of sulphuret of iron, may be procured more conveniently, and in a state of greater purity, by the use of sulphuret of calcium. The latter is formed very easily by mixing uncalcined powdered gypsum with one-fourth of its weight of calcined gypsum, and powdered pit-coal equal to one-third of the whole of the gypsum used, and working up the mixture to a stiff dough with water; next forming it into pieces four inches long, two wide, and one and a half thick, sprinkling them with powdered coal, and drying them, then placing them with coke in a high temperature two hours. When cold they will be found externally to consist of oxo-sulphuret of calcium; but internally of pure peach-colored sulphuret of calcium, which may be broken in pieces about the size of nuts, and preserved in a well stoppered glass bottle. If water is added to these, and then sulphuric acid in small quantities at a time, sulphureted hydrogen is given off with great uniformity.—*Scientific Review*.

CLARIFYING ACTION OF SULPHATE OF ALUMINA ON TURBID WATER.—Whatever be the nature and quantity of the earthy substances held in suspension in turbid water, it becomes fit to drink in from seven to fifteen minutes if to each liter there be added .04 grammes of finely-powdered alum, care being taken to agitate the liquid when the alum is introduced (this is about three-quarters pound per ton of water. If potash alum is used, the alum is decomposed into sulphate of potash, which is all dissolved by the water; and sulphate of alumina, which, by its decomposition, purifies the water. The alumina separates in an insoluble form, and carries down with it as it precipitates the matters which render the water troubled and the organic matter. The acid attacks the alkaline and earthy carbonates, and transforms them into sulphates. The water becomes slightly richer in bicarbonates and free carbonic acid, whilst all organic matter is destroyed. Seven parts of sulphate of alumina will purify as much water as ten parts of rock alum or potash alum, and the sulphate of alumina does not introduce any alkaline sulphate into the clarified water.—*Technologist*.

WATER AS A GAS ABSORBER.—Set a pitcher of water in a room, and in a few hours it will have absorbed nearly all the respired and perspired gases in the room, the air of which will have become purer, but the water utterly filthy. The colder the water is, the greater the capacity to contain these gases. At ordinary temperatures a pail of water will contain a pint of carbonic acid gas, and several pints of ammonia. The capacity is nearly double by reducing the water to the temperature of ice. Hence, water kept in the room awhile, is always unfit for use. For the same reason the water from a pump should always be pumped out in the morning before any of it is used. Impure water is more injurious than impure air. This shows the economy and the convenience of a modern ice pitcher,—a splendid invention, which, as it seems, is more than ornament and show; aye, it is really and absolutely a necessity. Let these hints be heeded by our health-loving and life-preserving readers.



New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to Inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

69,393.—TOOTH POWDER LOZENGES.—Chas. E. Blake, San Francisco, Cal.: I claim the making of tooth powder in the form of lozenges.

69,453.—SEWING NEEDLE.—G. A. Lloyd and S. Felton, San Francisco, Cal.:

We claim making the eye so far from the rear end of the shaft that it will carry the right of the thread or twine through the cloth sewed when the needle is pushed through the cloth by the thimble or palm, substantially as described.

We also claim diminishing the shaft of the needle from a little behind the eye gradually to the end, both in width and thickness, substantially as described.

69,554.—WAGON BRAKE.—Corydon A. Fargo, Soquel, Cal.:

I claim, 1st. The brake constructed with the arm, E, and link, G, together with the connecting-rods, D and I, having a variable connection with E and G, respectively, or their equivalents, operating substantially as and for the purpose herein described.

2d. The vibrating suspending arms, c, c, and the cross-bar, d, attached to the bar, K, for producing parallel motion, substantially as herein described.

This invention consists in so constructing wagon brakes that a great increase of power and efficiency is attained without lengthening the lever or complicating the mechanism; while, at the same time, the brake may be moved to such a distance from the wheel, when not in use, as to entirely avoid clogging in any weather. In consists in so suspending the brake from the body of the wagon that it is in the same relative position to the wheel, whether close to it or removed to its greatest distance. To effect this, the brake is made with a lever, within convenient reach of the driver, and a connecting-rod reaching to the arm which rotates the shaft and short lever under the wagon, which in turn actuates the brake-bar, extending entirely across the body of the wagon, and having a brake-block, on each end, to operate upon the hind wheels of the wagon, when desired. The connecting-rod has a variable attachment to the rotating arm to increase the leverage, while the short lever, operating directly upon the brake-bar, has a cam-like or eccentric motion, greatly increasing the power of the lever, as the blocks are pressed hard against the wheels. When the brake is not in use, the levers, by their variable action, throw it to a greater distance from the wheel than the ordinary levers can do. The brake-bar is suspended from the wagon-body by a system of rods, so that it keeps its parallel motion as it moves, and all parts of the block are equally distant from the wheel.

69,564.—AMALGAMATOR.—Fred. G. Hesse, San Francisco, Cal.:

I claim, 1st. Separating as to size, by means of the separating channel, h, wherein the particles are acted upon by the two opposing forces, centrifugal force and resistance of a current of water, said current being produced by a centrifugal head, and made adjustable in the manner and for the purpose substantially as described.

2d. Combining separation with grinding, in order to prevent the grinders from acting upon particles already fine enough, substantially in the manner as described.

3d. The revolving amalgamating chamber, A, in combination with the stationary cylinder, t, and also in combination with the current of water, as described.

4th. The discharge, T, in combination with the filtering-chamber, F, and a current of water produced by centrifugal action, for the purpose and in the manner substantially as described.

5th. The annular channel, g, e, formed behind the grating surfaces and in combination with the annular disk, a, a, forming an annular channel under C, which communicates with g, for the purpose of producing by centrifugal action an upward current therein, the strength of which may be regulated by the dimensions of n, for the purpose substantially as described.

69,663.—WASHING MACHINE.—Samuel R. Holmes, Salem, Oregon:

I claim, 1st. The rollers, D, and roller-frames, B and C, placed in a vertical position and vibrating at the same time in opposite directions, in combination with each other and with the box, A, substantially as herein shown and described and for the purpose set forth.

2d. The combination of the double crank, G, and pitman, I and J, with the vertical roller-frames, B and C, and with the box, A, substantially as herein shown and described, and for the purpose set forth.

3d. The combination of the lever, K, connecting-bar, L, crank-shaft, M, and slotted plates, f, with each other and with the box, A, and sliding frame, F, substantially as herein shown and described, and for the purpose set forth.

59,575.—WRENCH IMPLEMENT.—John Mott, Danville, Cal.:

I claim the above described wrench or implement, constructed and arranged to operate as and for the purposes set forth.

The object of this invention is to provide an improved wrench, which shall combine, in one implement, a wrench easily adjustable to any sized or shaped nut, and which shall at the same time answer for the purpose of a hammer and a claw for extracting nails, while the handle, being made hollow, shall also serve as a receptacle for such small tools as may be found most convenient or necessary to be so kept for ready use. The wrench is made of cast or wrought iron or steel, according to the quality or price desired, and also of different grades or sizes, according to the nature of the work for which it is intended. The body or stationary joint to which the handle is attached, has a projection below, forming the hammer, and having the claw connected to it. Through this lower jaw are made two vertical openings or slots, through which pass two guides or supporting bars; these bars being sufficiently separated to give firmness to the upper jaw, to which they are attached, and to ensure it an up and down motion, parallel with the lower jaw. A screw passes through the two jaws, either before or between the two guides, the female screw being cut in the lower jaw, while a collar or pin insures the proper motion of the upper jaw as the screw turns.

This invention was exhibited in the shape of a neat iron model, at the recent State Fair at Sacramento. Honorable mention was made of it by the Committee on Awards.

69,581.—BALL ALLEY.—J. D. Patrick, San Francisco, Cal.:

I claim the above described arrangement of the targets, D, and oblique backs, C, in combination with the alley, A, and return-alley B, substantially as set forth.

This invention consists of a peculiar construction and arrangement of a ten-pin alley, the object of which is to provide an improvement in that class of games in which balls are rolled upon an alley or table, and made to count in the game by knocking down pins or other devices. Instead of the pins usually employed, a series of targets are so arranged across the end of the alleys, that there is more difficulty in striking one than the other with the balls, and a greater or less count is made accordingly; by which means there may be an equal amount of dexterity displayed as in the use of the pins, without the trouble and delay of setting them up, or the noise and confusion created in knocking them down. A target, when hit, is removed from its place so as to be distinctly seen from the opposite end of the alley, and after the count is made, it is returned to its place by a spring, operated by a lever at the forward end of the alley. Thus all necessity for assistants to the player are dispensed with, and the ball-alley may be made a convenient place for exercise on any gentleman's premises.

69,726.—WASHING MACHINE.—John Vail, Yankee Jim's, Cal.:

I claim, 1st. The combination and arrangement of the sliding box or tub, B, the pounders, D, shafts, E, cam, H, and shafts, I, with each other and with frame, A, substantially in the manner herein shown and described and for the purpose set forth.

2d. The combination of an ordinary wash-board, C, and movable side b, with the tub, B, substantially as herein shown and described and for the purpose set forth.

3d. The combination of the levers, N and O, and block, P, with the sliding tub, B, and with the frame, A, of the machine, substantially as herein shown and described and for the purpose set forth.

4th. The combination of the lever, K, shaft, L, arm, M, and movable frame, G, with the pounder-shafts, E, and with the frame, A, of the machine, substantially as herein shown and described and for the purpose set forth.

To BE DEDICATED.—The elegant rooms of the Chamber of Commerce, in the new Merchant's Exchange, are to be formally dedicated, with suitable services, a supper and speeches, on Tuesday next. The event promises to be one of a notable character.

Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 9, 1867.

Money Market.

The market is plentifully supplied with Bullion, Gold Bars ruling at \$70@85—dull. Silver Bars sell within a range of 1/2 per cent. discount to par. Exchange on the East ruled as follows on the 8th inst: Currency Bills, 36 per cent. premium on gold; Sight Drafts, payable in coin, 2 per cent.; Telegraphic Transfers, 2 1/2 per cent.; Sterling Exchange, 4 1/2 d; Commercial do. 4 1/4 @ 4 1/2 d. On Paris, 5 frs for 30-day bills.

The duties paid at the Custom House in this city since October 29th, and previously this year, have been as follows:

Table with columns for dates (October 29th, 30th, 31st, etc.) and amounts in dollars and cents.

Total since January 1st, 1867, \$6,767,380 73

The shipments of Treasure from October 1st to date have been as follows:

Table with columns for dates (October 7-10, 14, 18, 19, 30, 31) and destinations (California to Victoria, New York, France, etc.) and amounts.

Total since October 1st, 1867, \$3,039,397 30

Previously this year, \$1,726,944 52

Total since January 1st, 1867, \$34,768,341 82

Corresponding period, 1866, \$8,499,629 19

Decrease this year, \$26,268,712 63

City Stocks.

The very general and unlooked-for depression in the mining share market since our last reference, seems to have operated as a check upon the introduction of other stocks, and, in the absence of the ordinary line of transactions in shares other than mining, we have to report a very dull market. California Steam Navigation Co. is a shade better, selling at 76@77 per cent. Spring Valley Water Co. is in less favor, selling at \$66 per share. San Francisco Gas stock sold at \$66@67, then at \$66 50, and at the close \$67 is bid. At the close, we note sale of Sutter Street Railroad stock at \$11.

Mining Share Market.

The mining share market has been characterized by a still further decline from closing quotations of last week. The rapid recession has produced more than the usual amount of speculation, and several stocks were heavily dealt in, particularly Savage and Kentuck, both showing a very material decline under the pressure. During the past three months the various claims on the Comstock Lode have yielded a materially lessened amount of bullion than formerly, and until developments are carried to a greater depth, we may look for a decline in this respect for some time to come. The setting in of winter will also contribute to this result. The aggregate receipts of bullion from the Savage, Confidence, Gold Hill Quartz, Gould & Curry, Kentuck, Crown Point, Imperial, and Empire during the month of October amounted to \$667,263, against \$717,392 in September, showing a decline of \$50,119. Several monthly dividends have already been announced as noted below.

CROWN POINT—has met with less inquiry at declining rates, dropping from \$585 to \$470, and closing at \$325. A telegram of the 6th inst., says the north and south drifts on the lower level look about the same. They have started to drift south on the 600-foot level, and from the 500-foot level they continue to obtain considerable ore. The average assays of ore produced in October have been higher than usual. Preparations are complete to carry the shaft to a further depth. At the close of October this company had 600 tons of ore at the mill and dump. The bullion receipts for October foot up \$42,000 against \$49,000 in September. Assessment of \$100 per foot delinquent on the 11th inst.

CHOLLAR-POTOSI—has been more active, but sold at greatly lessened rates, receding from \$157 50 to \$114, and closing yesterday at \$127. The various stations of this mine yielded 1,886 tons during the week ending October 31st, against 1,921 tons in the previous week. It is said that the Pinto station is nearly exhausted, while the Pinto switch station promises well for the present month. The Santa Fé third is improving at the north end. Work has been steadily prosecuted in the new shaft since the 28th ult., and the drifts north and south, as well as those going east, run in clay and porphyry. On the 4th inst., 192 tons of ore were delivered. No dividend will be disbursed during the present month.

YELLOW JACKET—opened at \$370, receded to \$320, then sold at \$327, and closed at \$325. The old works of this mine are yielding a small amount of ore. The shaft is being rapidly sunk toward a new station, which will be opened at the depth of 900 feet from the surface. The winze toward the Kentuck line continues in about the same quality of quartz and ore as before. Assessment of \$100 per share will be delinquent on the 11th inst.

GOULD & CURRY—sold at \$310@225, and at the close realized \$300. The work on the east drift, 600-foot level, progresses satisfactorily, but as yet little has been done to notice any material change in the appearance of the rock. An inadequate supply of water continues to be a drawback at the mill. The yield of the old works is about 100 tons of ore per day.

HAILE & NORCROSS—sold at improved figures early in the week, advancing from \$655 to \$930, falling to \$685 and closing at \$740. We are informed that the drift south from the north winze, on the 780-foot level, is in good ore, said to mill about \$40 per ton. The other drifts are about the same as heretofore reported. The receipts of bullion for October will fall short of \$50,000; in September the yield was nearly \$72,000.

SAVAGE—exhibited great activity under a very serious decline, selling as low as \$88 per share, or \$1,760 per foot, not having sold at this price within the past year, rose to \$97, and closed at \$92, ex dividend. The amount of ore extracted during the past three weeks compares as follows:

Table with columns for dates (November 2d, 26th, October 19th) and amounts in tons and dollars.

The Superintendent writes that the north breasts on the third station open out fairly at the 60-foot station, and the same have been developed sufficiently to produce a larger quantity so soon as thought advisable. No work has lately been done in the extreme north drift on this level. The Potosi drift on the same level has been turned north in order to get under the works of the seventh station. The south drift on the fourth station shows no improvement, and it is believed that they are still to the west of the ore seam. The south winze from the third station is down eighty feet, and is still over one hundred feet distant from the above drift; the north-west drift is said to show some improvement. The main shaft is now thirty feet below the fifth station. Receipts of bullion in October amounted to \$362,066 62, against \$360,295 29 in September. A dividend of \$7 50 per share is payable on and after the 8th inst., and after this disbursement they carry over a balance of \$60,000.

KENTUCK—has been in the market to a large extent, experiencing a serious decline, dropping from \$150 to \$95, advanced to \$120, and closed at \$125. This company reduced about 3,600 tons of ore during October. The yield of bullion for the same time has been \$95,620, with the clean up of one mill to hear from; in September the yield amounted to \$101,000. The 14th dividend, \$7 60 per share, is payable on and after the 9th inst.

AMADOR—was in the market at \$210. The yield of bullion in October amounted to \$38,665, being the product of 1,650 tons—over \$23 to the ton. The holder ledge of this mine, previously alluded to by us, produced more than half of the above amount. They have crossed this ledge some nine feet, and as they proceed continue to improve; the main ledge is from seven to ten feet wide. In the south stopes the rock looks well, averaging over twelve feet in width. The Badger shaft is thirty-three feet deep. A dividend of \$6 per share is payable on and after the 9th inst.

CONFIDENCE—sold at \$40 seller 30. We extract the following statement from the Secretary's annual report for the fiscal year ending October 31st, made at a meeting of the stockholders held on the 8th inst.:

Table with columns for Receipts (Bullion account, Mill account, Mine account, etc.) and Disbursements (Book account, Mine expense, etc.) and amounts.

The real liabilities of this company at present amount to \$10,423 56. During the fiscal year ending Oct. 31st, 11,828 tons of ore were worked, and 3,364 1/2 tons sold, showing an average yield of \$15 67 1/2 to the ton. The losses of mining and milling have been \$53,638. The following officers were elected for the ensuing year: A. E. Head, President, in place of Geo. W. Stewart; Geo. W. Weaver, Vice President; R. E. Morrow, Wm. S. Head, and F. Livingston, Trustees; A. Wegener, Secretary; Chas. Foreman, Superintendent.

IMPERIAL—is in good favor, and has fluctuated very little, advancing from \$125 to \$138, receding to \$130, and closing at \$136 seller 30. The bullion returns for October aggregate \$68,397 94 against \$97,980 in September. EMPIRE—continues to be firmly held, a few shares selling at \$170. Receipts of bullion during the month of October foot up \$20,579 48; in September the returns amounted to \$18,689 40. Nothing of special interest to report. It is believed that the machinery at the Imperial-Empire shaft will be started within a week or so.

GOLD HILL QUARTZ—is dull of sale, a few shares realizing \$80. It is indisputably believed that the expenses will be considerably reduced during the present month, and that the bullion yield will be larger. It is expected that the 450-foot level will be reached very soon. The 150-foot level continues to yield a few tons per day, but will soon be exhausted. The 290-foot level, it is thought, will last during the present month; it produces a fair quality of rock.

OTHER—sold at \$50@60. The shaft is now 98 feet in depth, and the water continues to decrease. OVERMAN was in the market at \$44@41, closing yesterday at \$45. The receipts of bullion in October amounted to \$34,000, against \$29,000 in September. Since the 1st inst. the receipts have been about \$3,000.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$937,395. The sales in the open auctions amounted to \$228,333, showing a combined aggregate, including the past week of 215,73.

ESTABLISHED [MAY, 1860.] VOLUME FIFTEEN — OF THE — Mining and Scientific Press, COMMENCING JULY, 1867. DEWEY & CO., Publishers. Issued every SATURDAY, at our Book and Job Printing Office, 505 Clay street, corner of Sansome, SAN FRANCISCO. Terms in Advance—One year, \$5; Six months, \$3; Single copies, 12 cents; Monthly Series, \$5.50 per volume, or 65 cents per number. Back Volumes from January, 1864, \$3 per volume; bound, \$5 per volume. THE MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal in this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity. DEWEY & CO., Proprietors, Mining and Scientific Press Patent Agency, Newspaper, Book and Job Printing Office, 505 Clay street, San Francisco.



Fluctuations in Leading Mining Shares for the past Six Months.

Table with columns for Name of Company, May 10th, May 20th, May 30th, June 10th, June 20th, June 23rd, July 10th, July 20th, July 30th, Aug. 10th, Aug. 20th, Aug. 30th, Sept. 10th, Sept. 20th, Sept. 30th, Oct. 10th, Oct. 21st, Oct. 30th.

MINING SHAREHOLDERS' DIRECTORY.

Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.

Table listing names of companies, locations, amounts, and dates of assessments or meetings.

Table listing San Francisco Market Rates for various commodities like flour, sugar, and oil.

San Francisco Market Rates.

Table listing Wholesale Prices for various goods such as flour, sugar, and other commodities.

Wholesale Prices.

Table listing Retail Prices for various goods such as butter, sugar, and other commodities.

Retail Prices.

Table listing prices for various types of iron, steel, and other metal products.

Latest Stock Prices Bid and Asked.

Table listing stock prices for various companies and bonds, including California State Bonds and various insurance companies.

San Francisco Metal Market.

Table listing prices for various metal products and materials, including iron, steel, and copper.

THE AMERICAN TUBE WELL, which has already been described in this journal, has been introduced into England, where it is said to be meeting with great favor.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

Table listing various books for sale, including 'ANSTED'S Gold Seekers Manual', 'ANTISELL—The Manufacture of Photogenic or Hydro-Carbon Oils', 'BLAKE, W. P.—Geological Reconnaissance in California', etc.

AN INSTRUCTIVE BOOK!

Prof. LAYRES' ELEMENTS OF COMPOSITION, BELLES-LETTRES AND ORATORY. For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, \$1.10

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner) in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Nov. 2d: The Merrimac mine continues to exhibit rich ore wherever tapped along the course of the tunnel. Some samples have been taken out, during the past week, of a favorable character, and Mr. Ray will thoroughly test the lode.

Ore has been taken from the Morning Star mine which contains considerable metal, and some which assays as high as \$40 to the ton.

Good ore is being taken out of the Tarshish mine at several points, and five bars have been shipped from the Silver Creek mill, the product of 30 tons of this ore, worth about \$2,500.

## Amador County.

*Ledger* November 2d: The Italian mine, Soracco Bros. & McLane, yielded \$35 to the ton the last run.

The Amador Canal Co. is replacing several miles of its ancient flumes by ditch.

The fine quartz mill, erected by John Atchison, at the Gate, has been taken down and moved to the Oneida mine, and will, in a few days, be ready for operation.

Billy Boyle and Dick Lowry cleaned up their arastra, on the Middle Fork, last week, and found that their ore had paid \$54.15 per ton.

The Union Mine is now down 30 ft. below the original shaft, and will be continued 30 ft. further; making the main shaft over 300 feet in depth. The mine seems to be slightly improving.

Last Sunday the owners of the Kentucky mine cleaned up a run of 150 tons, which yielded the sum of \$3,445.85. The rock was worked in Tubbs & Co's mill, at the Gate, and nothing but free gold was obtained—the sulphurets were saved but not worked; they are known to be very rich.

The Alturas Quartz Co. have their mill ready for operation, and will start it as soon as they can get a stream of water into the batteries.

Monday night, one of the boilers and smoke stack intended for the Coney & Bigelow mine, was received, and will soon be placed in its proper place.

## Butte County.

*Marysville Appeal*, Nov. 5th: We were informed on Saturday, by a gentleman who saw the gold, that George Seiler, of Yankee Hill (near Forbestown), picked up one day last week a nugget of pure gold weighing three pounds.

## Calaveras County.

*Chronicle* Nov. 2d: Thirty-three tons of rock taken from the quartz lead owned by Mr. T. S. Bever, at Rich Gulch, by the lessees, Messrs. Cole & Sheldon, paid \$10 per ton. The rock was taken out the entire width of the lead, and was unassorted.

*Register*, Nov. 2d: At Cat Camp, the newly discovered mining region at the tail end of our county, everything seems prosperous and encouraging. The mew-sic of the carpenter's hammer is heard in every direction, and people as lively as mice are spinning around in close pur-suit of what they—most desire, with a fair prospect of gaining—gold.

The Chucbee correspondent says that most of the mining claims in that locality are worked out. Only a few remain, and another season or two will finish them.

## Kern County.

*Havilah Courier* Nov. 2d: A rich strike has been made in the Mountain Queen lode, Washington district. The mine is worked by Emory Bros., who are down 80 ft. in their main shaft, where they have found rock which exceeds in richness anything heretofore obtained. The vein is about 12 inches wide. The yield of rock is from \$75 to \$100 per ton.

## Klamath County.

*Yreka Union*, Nov. 2d: It is reported a very rich lode of copper has been struck on Red Cap Creek, near Orleans Bar, Klamath county. Parties have been prospecting for the lode since 1863.

## Mariposa County.

*Gazette*, Nov. 2d: The Hunter's Valley correspondent writes that Robinson's new mill started on the 18th, and everything works admirably. The copper croppings, even, prospect well in gold.

Floyd's mill has had a long rest, and will likely rest awhile longer.

Carson's mill has been running on rock from Woolcox & Johnson's mine, in the Gimissal. It costs \$12 per ton for hauling and crushing. Last week Carson made a run of a few tons from their own vein, which paid about \$600 per ton. About a month since the rock paid \$800 per ton.

The Richards vein is said to pay well, so also the Lafayette mine.

*Mail*, Nov. 2d: Page, Dyer & Co., at Hornitos, are doing a fine business. They are working on the Washington vein, near Quartzburg, and hauling their ore a distance of four miles, to the old French mill. This company are putting up machinery for working the sulphurets, and when completed they expect their ore to yield \$125 per ton. They contemplate moving the mill to the mine in the Spring.

## Nevada County.

*Gazette*, Nov. 1st: Nine tons of quartz from a ledge lately discovered near Shelby Flat, crushed at Murchie's mill, was cleaned up yesterday, and yielded a little over \$200. The ledge is small, but where they are now working two men are taking out five tons a week, and to the depth reached there is no water to interfere with working.

The bullion shipments from Grass Valley in the last ten days, have amounted to \$92,000—principally the product of the quartz mines.

Nov. 2d: Black & Young; Commercial and Birchville mills, as well as the arastras of Booth & Co., at Eureka, are running steadily, and all doing a good business; also every ledge in the district which is being worked, is paying more than expenses, while the most of them are yielding good profits. The Birchville mine, especially, is looking finely, improving in quality of rock and size of vein the more it is opened.

Nov. 4th: The Dromedary and Ophir mines, at Grass Valley, are now yielding large quantities of specimen rock. The amount taken out of the Dromedary, within the past week, it is said will not fall short of \$5,000. The Ophir is also said to be paying better than ever before.

*Grass Valley National*, Nov. 4th. The Allison Ranch Co. has been engaged since February last in grinding the accumulated tailings of the mine since its commencement, and expect to have them all worked over in about two weeks. They have in operation 16 grinding pans, which work over about 40 tons per day—and clean up from \$1,500 to \$1,800 a week.

Very few are aware of the large number of quartz ledges now lying unprospected. As an instance—from Rocky Bar mine on Massachusetts Hill, running south less than a mile and a half, in a district bounded by New York Hill and the Auburn road, there are not less than 18 known leads. Of these but two are being worked by machinery—New York Hill and North Star, and work being done occasionally on one or two of the balance.

**EXCELSIOR.**—*Meadow Lake Sun*, Nov. 2d: The Kentucky Co. are driving their work ahead with great vigor. The lower tunnel is now in a distance of 68 feet, and the shaft which is being sunk from the surface above to connect with the tunnel, is down 20 feet. They are now erecting a house over the shaft in order to protect the workmen from the inclement weather of winter. The work is prosecuted night and day.

*Virginia Enterprise*, Nov. 1st: The new roasting furnace of the Enterprise Co., Excelsior District, is completed, and the mill will be in about a week. It is a five-stamp mill, and, from the soft nature of the ore, it will crush about 15 tons per day. The engine is powerful enough for 10 more stamps, which will be put in next Spring. Crushing will be commenced some time during the present month. The company have 400 cords of wood at the mill, together with plenty of ore, and everything will soon be in readiness for a steady and successful winter's run.

*Dutch Flat Enquirer*, Nov. 2d: The Mohawk mill at Meadow Lake recently cleaned up \$12,000, the result of 50 tons of rock crushed at their mill.

## Placer County.

*Auburn Herald*, Nov. 2d: McGonigle & Co. still continue to be successful in taking out gold on the Black Ledge. The company took out gold enough last week to build a five-stamp mill, and will proceed to erect one as soon as they can make the proper arrangements.

Messrs. Lyon Spear are pushing their work on the old Buckeye Ledge, and are now having a lot of their quartz crushed at Pugh's mill, at Ophir.

The Ophir Co. have sued the Good Friday Co. for jumping a portion of the Ophir ground.

Cahill & Co. are prospecting their work on the Black Ledge as fast as possible. They are sanguine of striking something very rich in the next 20 ft. Peter Walter's claim continues as rich as ever. He had pounded out in a hand mortar last week, in a day and a half, by one man, \$1,500. And still the quartz holds out as rich almost as ever.

The Hagan mill, near Ophir, which was burnt down some time ago, is now being re-

built, and will soon be ready to be crushing quartz again.

Dake & Co. are running their arastra and working their quartz out of a claim, which is located between Auburn and Ophir.

A five-stamp mill has recently been erected on the Webdell mine.

*Auburn Stars and Stripes*, Oct. 30th: The Black Lead is paying more richly than ever. \$500 to the pan was washed out several times last week. There seems no end to the deposit, no limit to its richness, and yet no end to the improvement as the parties advance with their work.

The Peter Walter claim is also bolder out remarkably well. Although they have found no masses of gold requiring the cold chisel, sheets of quartz and gold have been taken out, in which the gold largely predominated. The "rich streaks" on this ledge are wonderfully rich, and any just description of them would be pronounced or believed to be a fable.

## Santa Clara County.

*San Jose Advertiser*, Nov. 2d: Recent discoveries in this neighborhood indicate that vast quicksilver mines abound in this valley. Many well defined veins of copper sulphurets have been discovered in the same range of hills in which cinuabar is found; and whenever capital and labor are judiciously applied, there is little doubt that our copper interests will compare favorably with those of Calaveras county, or any other copper mines in this country.

## Sacramento County.

*Folsom Telegraph*, Nov. 2d: The Union Cement Co. held an annual election at Folsom on the 31st of Oct. Their claim is situated near Placerville with rich prospects, and the Co. design the immediate erection of a mill upon their claim.

## Shasta County.

Parties from San Francisco have purchased Ludwig's water ditch, and taken up quite a tract of mining land in the immediate vicinity of Piety Hill, and are making preparations to inaugurate an extensive mining enterprise during the coming winter. The land taken up embraces what is known as the Hardscrable diggings, and is known to contain gold in paying quantities.

## Sierra County.

*Downville Messenger*, Nov. 2d: Some gentlemen from Nevada have purchased the Old Craycroft diggings on the North Fork, and dug a ditch about five miles long for the purpose of bringing in water.

Parrott & Co., of San Francisco, have bought the old Seventy-Six and the Roubt and Ready claims on Jamison Creek, near the Eureka mills, and are about to put up machinery and works of sufficient capacity to work them to the best advantage.

The Docile mill, near Alleghany, will be ready to crush ore in a few days.

P. A. Lamping is getting ready to work the blue banks near the bridge above town by hydraulics.

A rich discovery has been made in the Union Hill Co's claims. This company have been working for four or five years in red gravel, with moderate success, and the discovery of the blue gravel was the result of an accident. The blue lead, where they first struck it, was only a few inches wide, but at the distance of 25 ft., where they now are, it is 4 ft. in width, and prospects from five to six colors to the pan, said colors varying in size from a pin head to the size of a finger nail. The bed rock is soft and easily worked.

## ARIZONA.

*Miner*, Oct. 12th: Poland & McCrackin, Uncle Billy Pointer and others have rented the Thunderbolt mill and arastra at Walker's on Lynx Creek, purchased and hired teams, and on Monday will commence hauling and crushing ore from the Deadwood No. 2, the Pointer and other good lodes on Eureka Hill. It is not their intention to keep the mill running permanently, but only to crush a few tons from each lode to "raise a stake" for the winter.

Hardy's mine in San Francisco Dist., Mohave county, is looking better. Plenty of good rock is being extracted, and arrangements are being perfected to have it crushed at the Moss mill.

San Bernardino *Guardian*, Oct. 26th: The Wickenburg mill will soon be ready for work. There will be added five stamps to its former three.

Mining operations are to be carried on in the Williams Fork copper region with renewed energy.

The owners of the Great Central Mining Co. intend to put on additional force and push the work along. There are 100 tons of ore on the banks of the river waiting transportation.

The Planet mine, on which work has been suspended, will soon be opened up again.

## COLORADO.

*Georgetown Miner*, Oct. 17th: We saw at the works of Garrott, Martine & Co. a

day or two since, a ton of closely selected ore from the W. B. Astor lode. They commenced crushing this ore on Tuesday last.

The shaft on the Hunkadora lode is down 50 ft., the crevice being five ft. wide, with a two foot ore vein of rich sulphurets of silver and argentiferous galena.

Mining is being actively prosecuted upon many of the lodes in this district. A large amount of ore is being raised, and nothing prevents large bullion shipments but the want of works for reduction.

The Nuckolls lode is being actively worked and a large quantity of first class ore is being raised to the surface.

The Young America lode in Downville Dist., is being actively developed, and shows the finest vein of silver ore in these mountains. The accessible position of the lode is far ahead of any yet discovered.

There was, at the Fair in Denver, a fine lot of copper ore from the Partridge lode. The lode is situated on North Boulder, and has a 12-ft. crevice with a solid vein of ore seven ft. wide. The ore shows considerable quantities of native copper; and assays from 60 to 85 per cent. of its weight in that metal.

Among the many new and rich discoveries made the present season, is the Silver Eagle lode on Republican Mountain. The lode has permanent, smooth walls, a crevice of between five and six feet, with a 15-inch ore vein of sulphuret of silver, that assays from \$1,200 to \$2,000 in silver to the ton of ore.

Our bullion report for the week is as follows: Garrott, Martine & Co. 972.3 ozs., coin value, \$979.46, currency value, \$1,273.29. Dr. Johnson bullion to the amount of \$500 in coin, currency value, \$650. Total coin value, \$1,479.43, currency value, \$1,923.29.

We have just been shown some very fine specimens of ore from the Rainbow lode. The ore, principally argentiferous galena, assays \$1,600 per ton. Besides the galena, the vein carries some very fine and almost pure white quartz intermingled with iron and copper pyrites.

While in Denver the editor saw some fine specimens of gold bearing ore from the Nettie lode.

Denver *News*, Oct. 23d: Mr. A. D. Cooper this morning showed us 44 ozs. 9 pwt. of silver bullion which was taken from 12 lbs. of ore from the W. B. Astor lode at Georgetown.

Col. W. H. Fry has bought the interests of his partners, Messrs. McGlashen & Tomlinson in arastras, and the Tip and Tom lode.

*Times*, Oct. 23d: While some miners were sinking a shaft on the May lode below Black Hawk, they came on a vein about 10 in. wide, of some of the richest silver ore that has ever been discovered in these mountains. The mine is the property of Mayor Teats, who took a chunk of the ore to the Excelsior mill. Mr. Reese looked at it, and immediately said that it contained large quantities of chlorides of silver, the first he had seen in any specimens of Colorado ores. He scraped a little of it on to the point of a knife, and bringing the blowpipe to bear on it, soon developed the pure silver. The chlorides are scattered through the ores, in places running in seams of an inch or more in width. They contain 80 per cent. of silver, and the large piece of ore, weighing several pounds, will, every bit of it, go as high as \$1,000 to the ton. Besides the chlorides, it contains sulphuret of silver and green carbonate of copper.

At Warren Hussey & Co's bank, we noticed a lot of scale gold, weighing 72 ozs., taken from the Spanish Bar diggings, on Clear Creek. It is worth nearly \$18 in coin per oz., and resembles the gold from Tarryall Creek in quality. The largest percentage of gold and silver yet saved by the "California process" was obtained yesterday from four tons of Gregory ore. Its value per assay was \$50 per ton, and the parcel yielded after treatment, \$182.08, being 91 per cent. of the assay. We were shown a gold bar, from the mill of Krause, Reese & Bruckner, bearing the following inscription: Ounces, 38.90; gold, 0.700 fine; silver, 0.290; value \$506.60. This was taken from a lot of 17 tons Pebabic ore, and is within 88 per cent. of the fire assay.

## IDAHO.

*World*, Oct. 26th: The Malheur diggings are reported to be deep, quite extensive, and to pay fair wages.

*Lewiston Journal*, Oct. 17th: About 30 tons of ore has been taken from No. 1 East, of the Hie Jacet, which is of an excellent quality. The lead has increased in width.

No. 1 ore is being taken from the Winfield Scott.

## MONTANA.

*Post*, Oct. 19th: Messrs. Bohm & Molitor received two lots for assay recently—one 205 ozs., 9½ pwt., the other of 260 ozs. 5 pwt.—of which the first lost but 1½ per cent., and the second lot lost below three



per cent. The L. X. L. Co. turned out the first and the Philadelphia Co. the second lot.

The Turnley mill is again in complete repair, and is now running.

A gentleman just arrived from Flint Creek says the S. L. & M. Co. started the entire machinery of their mill for day and night running on the 17th inst. The pans were charged with 3,500 lbs. of quicksilver. From 100 lbs. of average rock, by the same process as that employed in the mill, \$12 were obtained. The ore it is believed will equal or exceed this yield. The crushing capacity of the mill is 15 tons per day.

The St. Louis & Montana Co's mill has started up.

There is on exhibition in the window of Weir & Popo's drug store, some of the richest specimens of gold bearing rock we have seen for a long time. It was taken from the discovery claim of the Esmeralda lode at the head of Deadwood Gulch. The rock is of a dark brownish color interspersed with a little white quartz and literally covered with gold. There has been nothing seen like it since the discovery of the Uncle Sam in 1865.

#### Humboldt.

#### NEVADA.

The Dun Glen correspondent of the Unionville Register of Nov. 21, says: The Monroe and Essex mines are still being developed, and the precious metals daily being extracted. A specimen of the Monroe rock being furnished me yesterday, not only surprised but astonished me to such a degree that when asked this morning by Mrs. Jeems, what I would have for breakfast, I meekly answered, "a little Monroe rock."

There is quite a settlement gathering in and around the Essex mill, one mile from town. The mill will be completed by the 1st of December. It is proposed to name the settlement "Bellview."

The same paper says: We were shown this week several hundred pounds of very fine looking ore from Battle Mountain. It would be hard to separate this ore from the ore of Gold Run Dist., if mixed with it, as the ores are very similar in many respects.

The Arizona ledge is strong three ft. wide and contains the richest quality of ore, which keeps the mill constantly at work.

#### Reese River.

Reveille, Oct. 28th: Arrived, 2,400 ozs. of bullion from the mill of the Social and Stepote Co. at Egan Canon; also 2,000 ozs. from Coover's mill at Bunker Hill Dist.

The California mill, last week, worked some of the richest ore ever produced in the district. Two tons of first class ore from the Great Eastern mine yielded \$1,210 per ton by assay of the pulp. Ore of the second class—which is the principal quality sent to mill—yielded \$354 per ton; and that of the third class, of which only a small quantity was worked, yielded \$80 per ton. The small batch of richest ore puzzled the amalgamators somewhat. The pan was charged with half a ton of pulp, and only 300 lbs. of quicksilver, and after a few revolutions the pan became clogged by the stiff mass of dry amalgam, which had reached the consistence of a bank of clay. The proprietor perceived the difficulty at once, and the pan was thrown out of gear, and 600 lbs. of quicksilver were added to liquify the solid mass. With the additional mercury—the whole amount of quicksilver being about 22 times greater than the silver—the amalgamation went on successfully to the end.

This morning, 7,000 lbs. of ore from the Fisherman ledge, of the Bullion Co., in the Reveille Dist., passed through the city for the Metacom mill where it will be reduced. A glance at the ore showed the greenish and purplish horn silver which abound in the mine.

This morning J. S. Currie, assayer showed us several large samples of gold-bearing quartz, which yielded by assay at the rate of \$500 of gold per ton. The ore exhibited only a trace of silver. It is singular looking quartz, of grayish white color, with faint tints of green and pink, and is entirely different in appearance from the general gold-bearing quartz of this State or California. The person who brought the ore to the assay office declined to give information of the locality whence it was obtained other than that it was found about 20 miles south-east of Austin.

Oct. 31st: Two furnaces are being added to the mill of the Old Dominion Co. at Hot Creek, which, when completed, will develop the full capacity of the works. With only two furnaces, \$11,000 were produced in the first month's running of the mill, which was not covered in and was stopped for several days by snow storms. The mill is well supplied with ore from the district, as well as from the districts of Morey, Danville and Reveille. Its Old Dominion mine is developing finely in the greater depth attained, and the foreman of the work is quite confident that with a start of only 90 days in

opening the mine, he would be able thenceforward to supply the mill steadily with ore.

Nov. 1st: The Fisherman ledge of the Bullion Co., Reveille Dist., continues to produce ore of a high grade. The 7,000 lbs. reduced at the Metacom mill yielded \$420 silver per ton.

There were shipped from this city through Wells, Fargo & Co., during the month of October, 223 bars of bullion, weighing 15,075 lbs., and valued at \$223,075.58.

Nov. 2d: Peter Brandow is successfully working the Yosemite mine of Santa Fe Dist. A ton and a half were brought to this city and worked at the Manhattan mill, producing at the rate of \$216 per ton. The vein is now six ft. in thickness, and all bearing ore of fine quality.

A number of mines in Reveille Dist. are producing ore for transportation to Hot Creek for reduction. The Atlantic and Mediterranean ledges of the Reveille Co., are yielding ore, which is estimated to give \$150 per ton. The owners of a ledge called the Davis are working in with much energy, and the ore which they have taken out shows largely of horn silver; they expect heavy returns from the first working in the mill. The Amazon ledge is also producing fine ore. Brobant & Co. are stirring among their ledges on South Mountain, and are extracting ore for the mill at Hot Creek. The Bullion Co. is engaged altogether on its Fisherman ledge. The ore produced by the mine is of a remarkably high grade; for instance, three-quarters of a ton which were reduced at the Keystone mill near this city, yielded at the rate of \$1,647 per ton; and several lots of several tons each have been worked here since which yielded from \$300 to \$714 per ton. We have before us a certificate from the superintendent of the Old Dominion mill at Hot Creek, which gives the result of the working of six tons of second class ore at \$175.35 per ton.

Silver Bend Reporter, Nov. 2d: Nearly 4,000 ozs. of bullion were received at Austin from the Knickerbocker mill, near Inone, on Friday of last week, and upwards of 4,000 ozs. from the mill of the Old Dominion Co. at Hot Creek.

Ten tons of ore from the Buckeye mine, in Summit Cañon, North Twin River Dist., worked in the Twin River Co's mill at Ophir Cañon, gave a pulp assay of \$300 per ton.

Three and a half tons of ore were recently sent from the Fisherman ledge, Reveille Dist., to Austin for reduction. It was taken to the Metacom mill.

Coover's little mill in Bunker Hill Dist. is now doing a fine business, if we can judge by the shipments of bullion therefrom to Austin.

The following is the yield of some of the principal mines in Lander county during the last quarter: Manhattan, 760 tons yielding \$251.20 per ton; and 9½ tons yielding \$284.59 per ton; Mt. Tenabo, 527 tons yielding \$63.32 per ton; St. Louis, 107½ tons, \$182.14 per ton; Diana, 82 tons, \$209.40 per ton; Buel North Star, 68½ tons, \$230.05, and 21½ tons, \$158.56 per ton; Timoke, 52 tons, \$292.31 per ton; Florida, 62½ tons, \$199.37 per ton.

Virginia Enterprise, Nov. 2d: The following well known gentlemen, all mining experts, have purchased seven-twelfths, or 700 ft. in the Wheeler mine, situated in Pine Grove, Wilson Dist.; Gov. Blasdel, Capt. Cheever, Capt. Pray and Mr. Todman. The parties purchasing are the owners of a 10-stamp mill, situated about three-quarters of a mile from the mine. The price paid for the 700 ft. of ground was \$10,500. Mr. Wheeler retains five-twelfths, or 500 ft. of the ground included in the mine. The mine is of gold-bearing quartz and is one of the most promising "outside" mines in the State. At present a tunnel is being run for prospecting purposes, lengthwise of the ledge, at a considerable depth, by Goodrich & Co. who do the work for a certain proportion of the ore taken from the tunnel. The width of the lead where they are at work is not known, but the whole tunnel is in paying ore.

#### Washoe.

Virginia Enterprise, Nov. 2d: Wells, Fargo & Co. shipped from their offices in Virginia City and Gold Hill, during the past week, 5,972 ozs. of assayed bullion, valued at \$129,852.39.

Parties have lately retimbered the shaft of the old Milton mine. It is said that much paying ore can be obtained in the Milton, the works of which, with timbers of the shaft, were destroyed by fire some two years since.

#### OREGON.

Jacksonville Sentinel, October 26th: The Crandall copper mine has been prospected this summer, and found to be rich in both gold and copper.

The Umatilla paper says: Our friend Me-Bicker, showed us on Wednesday 25 ozs. of Columbia river gold, the result of one week's work, with seven men.

[Written for the Mining and Scientific Press.]

#### Notes on the Mines of Cerro Gordo.

EDITORS PRESS:—I am pleased with these mines. On the whole I decidedly prefer them to those of the Kearsarge district. It is true that, in the latter, I have met with richer ores; but they do not appear to exist in sufficient quantity, while in Cerro Gordo the accessibility of the mines, and apparent abundance of paying ore, give promise of a flourishing mining country, the only important drawback being the scarcity of water, which will probably be found in sufficient quantity for steam mills so soon as tunnels are run into the mountains. Meanwhile the ores are being worked to a small extent by smelting at the mines, by patio process at a spring on the shore of Owen's Lake, and by pan process at the Silver Sprout company's mill in the Kearsarge district, forty miles from the mines.

I visited quite a number of veins, of many of which I took what I considered fair samples for assays, the results of which I give, together with my notes as made on the ground:

The *San Lucas* is the only mine in the district which is opened to any extent, and actively worked. Depth of shaft, 60 feet; width of ore at this depth, 2½ feet. The vein is eight inches wide at the surface, traced 1,800 feet under different names; course nearly east and west; character of ore cupreous, contains stetefeldtite, carbonates, and sulphide of copper, and a little galena; gangue quartz interspersed with streaks of carbonate of lime; ore assays \$250 per ton.

*La Esperanza*—About four inches wide; not open.

*San Pascual*—Similar to the preceding; the ore is good in both.

*La Principia* or *El Principio*—Eight inches wide at ten feet in depth; ore good.

*Santa Maria*.—There is a shaft on this vein, but it is closed. The ore is galena; the vein is said to be fourteen feet wide.

*Union*.—Galena in a mass of limestone debris; no defined vein. This mine is open to the public, and is resorted to by the Mexicans to procure lead with which to smelt the cupreous ore. The galena is said to yield 20 per cent. of lead and forty ounces of silver per ton.

*Buckingham*.—Galena in limestone; no defined vein; assays \$45 silver to the ton.

*Portuguese*.—Ore cupreous and very good; from a width of two feet, near the top, it gradually pinches out.

*Metallic*.—A heavy vein; course nearly N. and S.; ore contains copper and lead; sample of croppings assay \$45.

*Buena Vista*.—An immense vein, visible twenty miles off. Well named for the magnificent view it commands, embracing Owen's river, lake and valley, backed by the granite peaks of the Sierra Nevada. This vein crops out twenty-five feet wide in a straight line almost continuously for half a mile; course nearly N. and S., and shows mineral in several places; assay of sample of croppings gave \$35 silver per ton. A contract has just been made to sink twenty feet—a mere flea-bite for such a vein. This ledge is worthy the attention of capitalists.

*Hahn*.—Vein four to six feet wide; shows good ore.

*Buena Suerte*.—Vein lies very flat, and not very well defined, 1½ foot wide; sample assay, \$130 per ton.

*Belmont*.—Nine inches wide; \$100 per ton.

*Schiller, Goethe and Richter*.—Small veins; \$250 per ton. I am informed that since my visit the Schiller has opened to six feet wide.

*Bismarck*.—Another immense lode, crops out twenty feet thick; shows some good mineral. Below is a valley forming a pass to the lake, on the east side of which a road might be made connecting with that to Los Angeles, but the ground is said to be sandy. Plenty of wood here, but no water, yet.

*Escondido*.—I have seen some fine ore from this vein. Many of these ores contain a little gold.

The ore of the *San Lucas* may be taken as a type of all, except the galenas; which latter, so far as my observation goes, are not very rich in silver, that metal appearing to be usually associated with copper in this district. There are many more veins located which I did not see. Select lots of ore yield from \$400 to \$600 per ton by smelting. With the exceptions noted, none of these veins are opened, and there is no good reason to doubt that many of them will prove as good as the *San Lucas*, which is a very nice little mine at present. The smelting of these ores has been, so far, accomplished exclusively by Mexicans and Chileans, who, in such a country as this, will often do more with a rawhide and a batch of mud, than we, with all our wealth and science—a fact from which a hint might be taken by many, who, while boasting of their rich mines, are starving on beans, and waiting for "capital."

From Owen's Lake to these mines, there is a good natural road most of the way, which could be made passable for wagons with but little expense. The distance is about seven miles, and the ore could be carried across the lake in launches to the west side, where wood and water abound.

I am not a geologist, but cannot forbear remarking the great contrast between these mountains and those which bound the valley on the west. There they are lofty, abrupt, granitic, snow-capped. Pine trees and manzanita flourish in the ravines, from which flow crystal streams of snow water. Here the slope is more gradual, the aspect less majestic; though scarcely more dreary. Water, there is none, except a very few springs, brackish or sulphurous, which issue from the parched ground near the borders of the lake. Nut pines abound on the eastern side of the range; but on the western, sage brush and bunch grass are almost the only vegetable productions. The rocks encountered in the ascent are, after passing the debris at the base, first, slates of various kinds, some of them ferruginous, whose bright hues, with the white and yellow of the calcareous strata higher up, mitigate, in some degree, the monotony of the scene. Next comes limestone, both white and blue, in vast masses. In this formation most of the richer ores have been found, though some of the larger veins are in the slate. Beyond the summit, on the eastern slope, where the great Bismarck appears, is feldspathic granite. As with the Sierras, though in less degree, the eastern side of the range is abrupt, while the rock assumes a granitic character; and, as the next range presents the same peculiarities, the idea is suggested, that the corrugations or upheavals at this point, have taken place along meridional lines, in a step-like form, the line of fracture being on the east side of each range.

Owen's Lake is not a pleasant piece of water. It looks well enough at a distance, but a closer acquaintance develops disagreeable features. In the spring its shores exhibit winrows of those disgusting larvae which abound at Lake Mono, and now, myriads of equally disgusting flies, at once the parents and the offspring of the grubs, cover the water to a great distance. A fetid, sickening odor pervades the air, and the scene, with the dark desolate mountains of slate bounding the eastward view, carries the imagination back to the time when ichthyosaurs, and other hideous, scaly monsters chased each other through the reeking atmosphere and seething waters of a half-made world. The water of this lake is said to have the property of tanning a hide in a day. I took a bath in it, on my return from the mines, and was quite satisfied on that point. I shall pursue my investigations as opportunity offers; but my next experiment with this water will be conducted with my clothes on.

Talking of monsters, some large bones have been found in the river bank, near Bend City. They were discovered at a depth of sixteen feet. Only a few were exhumed, and those somewhat damaged, although it appears that the whole skeleton may be obtained. The bones are those of a herbiferous animal. The remains of a large cedar tree were also found. C. H. A. Kearsarge, Inyo Co., Oct. 18.

ANOTHER HERMES.—A citizen of Washington claims that after devoting years to the subject of aerial navigation, he has perfected a plan by which he can transport passengers and mails from Washington to New York in three hours. All he now requires is money.

A RICH MINISTER.—The pastor of the Second Presbyterian Church at Troy, N. Y., is said to be the richest minister in the world. In his own name he counts \$5,000,000; his father is worth \$3,000,000; and his wife \$5,000,000. His salary is \$4,000.



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

C. W. M. SMITH, W. B. EWER, A. T. DEWEY.  
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POSTMASTERS are requested to punctually inform us of the removal of subscribers of the Press from their locality, or of neglect to take the paper out of the office from any cause—when the subscriber omits that duty himself. It is not our intention to send this journal to any party longer than it is desired. If we inadvertently do so, subscribers and others will please inform us.

## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Nov. 9, 1867.

## Notices to Correspondents.

A FENIAN.—If not able to grant more material aid to down-trodden or oppressed nationalities, such will always command our warmest sympathies. Before, however, attempting to revolutionize a country, the feasibility of success ought to be well weighed; a Quixotic attempt can only result in disastrous consequences to the parties implicated, and also to those attempted to be served. Compared with the magnitude of the attempt, the abstract which you have forwarded of the forces and material available, is puerile in the extreme. Still more silly is the programme sketched forth by President or Head Centre Roberts, by which he has attempted to delude his followers and wheedle them out of their hard-earned gains by inducing them to believe that he expected aid from "advanced Italy." Either excessive ignorance or the most brazen impudence must have given birth to such an idea. Mazzini is known to be the leader of "advanced Italy," whose settled principle, as well as that of Garibaldi and his followers, is to drive the Pope out of Rome and all territorial power in Italy. Yet, in opposition to the desires of these well known liberal leaders, that section of the Irish of which the Fenians are solely composed sent one or more regiments of volunteers to assist the Pope in maintaining his position. "Advanced Italy" and Fenianism are as opposite as fire and water. The Irish women of New York are the only portion of the Fenians who have shown common sense, denouncing, as we also believe the movement to be, under existing circumstances, merely a dying effort to extort from honest enthusiasm the means for supporting lazy bummers in luxury and idleness.

JUVENIS expresses a strong desire of making himself not only thoroughly conversant, but also to obtain practical efficiency as a metallurgist, believing, as he does (and we consider justly so), that it is only by means of such that our exhaustless mineral riches will ever be developed to the extent which they ought to be, and at the same time be remunerative to the explorers. In the absence of any public schools of instruction specially devoted to the subject alluded to and the cognate sciences of geology and chemistry, we can only commend to our young friend the purchase and earnest study of the most recent and best works relating to such matters. These may be selected out of the long list which we weekly advertise. After such are secured, careful, serious and indefatigable study is required at all hours not occupied with some of the essential duties of life. Master every principle as you proceed, no matter how slowly. An example of what perseverance can do will be found in our last week's "Notices to Correspondents," in the case of Nicholas Breakspeare, the only Englishman who ever wore the triple crown. Do likewise. At home you may learn much calculated to greatly facilitate future practical knowledge by chemical experiments on a small scale; but real practical ability can only be acquired by being some time occupied in metallurgical operations on a working scale. Eventual success will be the undoubted reward of steady industry and indomitable will.

## New Mill in Hunter's Valley.

A new quartz mill, owned by L. L. Robinson and Hall McAllister, of this city, was completed and started about two weeks since on the Oaks and Reese vein, in Hunter's Valley, in Mariposa county. The engine and machinery for this mill were turned out at the Union Foundry, in this city, and it is considered one of the best constructed and best arranged mills in the State. The battery consists of twelve 600-pound stamps, driven by an engine on which has been placed one of Scott & Eckart's patent cut-offs. This new cut-off seems to be meeting with much favor. It is said to work with very little friction, and, by its economical use of steam, to effect a most important saving in fuel. We propose, at an early day, to give a full description of this invention, setting forth its precise advantages, with the practical details of its work, obtained from parties who are using it.

The engine at this mill has a 12-inch cylinder, with a 24-inch stroke. In addition to the twelve stamps, dropping seventy-five times per minute, it also drives a seven-inch Cornish pump, raising water 160 feet, with a six-foot stroke, and hoisting works, with three reels, five feet in diameter and three feet wide. The hoisting works are situated 360 feet from the main building, the steam being conveyed that distance in a steam-pipe.

The mill itself is most admirably arranged. The ore is dumped upon a platform even with the top of the feed-trough, and after passing through the battery and over copper plates, it drops into a Hendy's concentrator, which discharges its debris through a trough in a Baux & Guind's pan, from whence it again passes to a *lavadero*, a large settling tub, described in our last issue, under the head of "A Virginia Gold Mine." The arrangement of all this machinery is such that there is no handling of the rock or pulp after it is placed under the stamps. It passes from one process to the other by the aid of water and its own specific gravity, each machine being set at a proper grade below that which precedes it. The copper plates are arranged upon an apron, the inclination of which can be regulated by a set screw to any angle required by the nature of the pulp which is passing over it.

The machinery for this mill was designed and built at the Union Foundry, in this city, and the mill was put up under the immediate direction of Mr. E. L. Robinson, a brother of one of the proprietors. The lode connected therewith is accounted a very rich one. It is narrow, and impinges, at nearly right-angles, against the well known "Big Blue Ledge," in Hunter's Valley. We expect to hear favorable accounts of the working of this mill.

WORKING STEAM EXPANSIVELY.—We would call especial attention to the concluding portion of the article from the *Engineer*, which will be found under our mechanical head to-day—with an indicator diagram. This is one of the best articles ever written upon this subject, and is well worth a careful perusal.

SURGICAL SELF-SACRIFICE.—Three physicians recently lost their lives in Heidelberg, by sucking the blood, in turn, during a surgical operation as the only means of saving the life of their patient, upon whose throat they had performed an operation to prevent suffocation. The blood was poisonous.

A VALUABLE MAP IN PROSPECT.—The Commissioner of the United States Land Office, Hon. J. S. Wilson, is preparing a map which will accompany his next annual report, on which will be represented a view of the world, with the relative commercial connection of the United States with every country on the globe. Such a publication will be not less novel than useful.

## Award of Gold Medals.

The Committee appointed by the managers of the late State Agricultural Society to award gold medals for the most meritorious articles exhibited at the late State Fair, met at the Society's rooms, in Sacramento, on Thursday of last week, to attend to their appointed duty. The Committee consisted of Gov. Leland Stanford, Attorney-General McCullough, B. B. Redding, Secretary of State, J. F. Houghton, State Surveyor-General, W. R. Gluyas, Superintending Engineer for the California Steam Navigation Company, Horace D. Dunn, State Commissioner of Emigration, and W. B. Ewer, of the *Mining and Scientific Press*. Four of the Committee are residents of Sacramento and three of this city. The meeting being organized, it was decided to award the medals in the order of the departments, as arranged by the managers of the Society. These departments were as follows:

First Department, Live Stock; Second Department, Machinery, Implements, etc.; Third Department, Mechanical and Domestic Products; Fourth Department, Agricultural Products; Fifth Department, Horticultural Products; Sixth Department, Fine Arts, etc.

We condense the following from the *Evening Bulletin*:

FIRST DEPARTMENT.—In this department there were four claimants, viz: J. D. Patterson, of Alameda, and Thomas Cotter, of Elk Grove, Sacramento County; Seneca Daniels, Sonoma County, and Joseph Gillis. The two first named claimed on account of fine woolled sheep, while the third on behalf of blooded stock, and the last for swine. The statements of each of the contestants were read, and the Committee decided unanimously to award the prize medal to sheep, on the ground that there was greater need and value to the State in the improvement of the wool crop, and that that branch of stock raising most required encouragement. The gold medal was awarded to John Patterson, on the grounds that his efforts were more decided toward improving the quality of wool, and his flocks comprising the largest number of pure-blooded animals owned by one person in California.

SECOND DEPARTMENT.—The contestants in this department were numerous, the articles exhibited being particularly valuable. There had been improperly classed together many valuable articles which could not be compared with each other competing for the medal. This condition of affairs rendered the labors of the committee very difficult, and occasioned much debate before a decision was had. After discussing the merits of the various contestants at considerable length, the committee finally divided upon the respective merits of the exhibit of Howland, Angell & King of this city, and Thomas Hanshrow's exhibit from Sacramento, compromised by awarding the regular gold medal of the department to Hanshrow and an extra gold medal to Howland, Angell & King.

THIRD DEPARTMENT.—In this department the difficulty of making awards increased, as all the material manufacturing interests and industries of the State were classed together. The statements made by these parties were in several instances most valuable for the history and statistical data of the different branches of manufactures, and doubtless when made public will surprise readers with their extent and pecuniary value to the State. The committee, after considerable debate, finally awarded the gold medal to the Pacific Woollen Mills of this city, for knit woolen goods, on the grounds of most extensive scope of manufacture, newness of enterprise and need of encouragement on the part of the public as against importations. A portion of the committee were in favor of awarding or recommending an extra medal to Messrs. Newman & Brennan of the San Francisco Glass Works.

FOURTH DEPARTMENT.—In this department were the following contributors, viz: D. L. Perkins of Oakland for seeds, B. M. Bugbey of Folsom for foreign varieties of vines, I. Landsberger for wines made from native grapes, M. S. King for canned fruits and preserves, and L. Prevost for silk cocoons, etc. A portion of the committee favored giving the medal to I. Landsberger for native vines, but the majority awarded it to L. Prevost for silk culture.

FIFTH DEPARTMENT.—This department embraced horticultural products only. The

contestants were C. A. Reed for apples and pears, and B. N. Bughey for raisins, the latter being awarded the gold medal.

SIXTH DEPARTMENT.—This department was headed "fine arts," but included several branches of manufactures as well as essays in hop and silk culture. The majority of the committee decided to only consider paintings, photographs and sculpture, throwing the other articles out, on the grounds that they could not be properly embraced in the division. On voting, the award was made to Norton Bush for oil paintings, the essays, which were of ten fold practical value to the State, receiving only a small vote.

THE IMPROVED GERMAN BARREL PATENT CASE.—BRODIE ET AL. vs. THE OPHIR S. M. Co.—The result of this trial in the U. S. Circuit Court, was briefly reported in our last week's issue; with the statement, at the same time, that a motion for a new trial had been heard; the case for the defendants being argued by Mr. C. McAllister and that of the plaintiffs by the Hon. P. G. Buchan and Mr. Hastings. At the period of our last publication, the matter was then under advisement by the Court. We may mention that the motion for a new trial, according to the notice served, was based upon two points, viz: "The judgment being contrary to law," and "contrary to evidence." The first point, however, was withdrawn by the defendants; thus legally establishing the validity of the patent, which will have the effect of making all subsequent infringers of the patent liable to treble damages, at the discretion of the Court. The case came up for final adjudication on Monday last, when Judge Field gave a judgment modifying the former one, so far as damages are concerned, reducing the amount from \$2,500 to \$1,162.50. As no appeal can be made to the Supreme Court at Washington for a less sum than \$2,000, the case under notice is now finally concluded. The patentees, however, have succeeded in establishing the unequivocal validity of the patent, the chief point aimed at by the action, the question of damages being only a secondary consideration, and was consequently not entered upon so explicitly as will be the case in future cases. We mention this last fact, because other infringers who may in like manner be sued for infringing the rights of patentees, may possibly be widely misled by deeming the damages awarded in the present case as a settled question. The legality of the patent having been established, we understand it is the intention of the patentees to shortly depnte some person to ascertain the particulars respecting other parties who have infringed, or continue infringing their rights, and commence suit for their immediate recovery, unless previously compromised. From the advertisement of Brodie and Radcliff, which will be found in our advertising columns, it will be learned that all wishing to compromise for past infringements, and desirous of obtaining licenses for the future, will be equitably treated with, provided the patentees are not previously forced to commence stay of proceedings in order to obtain damages.

THE RYERSON PROCESS.—In describing the Ryerson mode of amalgamation, the *Atlas* of the 6th inst., omits the important fact, that several, say five or six gallons of cold water, are thrown in upon the pulverized ore before the *dry* steam is introduced; also that wet or ordinary steam is introduced before the dry. The reason for this introduction of water and wet steam is obviously to prevent the dry steam from blowing, as it would do, the finely pulverized ore and consequently mercury, through the escape pipe, on the safety valve. The safety valve is weighted with from sixteen to eighteen pounds, and is raised in less than three minutes after the introduction of the dry steam. If this valve is not used, the escape must be opened, or there would be danger of explosion. The above is in accordance with the practice of Ryerson, and those who worked under his instruction.



**New Books**

**SULPHURETS: What They Are, How Concentrated, How Assayed, and How Worked;** with a Chapter on the Blow-pipe Assay of Minerals; **Wm. BARSTOW, M. D.**

We have received a copy of this book from the publishers, A. Roman & Co. It is a neat volume of 114 pages duodecimo. We cannot give a better idea of its object than by quoting from the author's preface:

"There is no reason why the intelligent miner should not make his own assays, and determine for himself how to work his own ores. It is hoped that this work may serve the purpose of giving a 'start' to such. In it, clearness and conciseness of language have been aimed at. Technical terms have, as far as possible, been avoided. \* \* \* The wish has been to give practical details, rather than theory."

We welcome this as likely to be found a most useful book. We have seen no work which seemed to contain the same amount of information upon these subjects in the same space. The reader is shown at once into the manner of preparing ores for assay, and a method of procedure laid down which is adapted to the limited means usually at hand in interior towns. An assay balance is described, which any miner can make with his jack-knife, and which will answer his purpose almost as well as those elaborate ones which usually constitute the most expensive item in an assayer's outfit. Simple rules are given for the calculation of the amount of metal to the ton of ore, varying according to the quantity used as the assay sample. The blowpipe, that valuable but too much neglected little instrument, which, with a few simple re-agents, furnishes a pocket laboratory in itself, forms the subject of a single chapter, which, though necessarily brief in a work of this size, serves to suggest an infinite source of instructive amusement.

By the aid of this book, considerable progress may be made in the assay and working of ores; and those who may have an appetite for such studies awakened by it, and who may desire to pursue them further, will find other books for their perusal, named therein. The low price at which it is issued, \$1, places it within the reach of all.

We have added it to the list of scientific works kept for sale at this office, to be found in another column.

**THE INDUSTRIAL FAIR OF 1868.**—In answer to several inquirers, we would state that the only correct publication of the sub-committees appointed by the Executive Committee on the 25th ult., was made in the **MINING AND SCIENTIFIC PRESS**. The city dailies were all in error, having left out entirely the Chairman of the Committee on Classification, Mr. H. Rosekrans, and having substituted Mr. Harrison for Mr. Hanscom on the Committee on Machinery for the exhibition building. As it is very important that there should be a full and correct publication of these sub-committees, we republish them in our present issue:

**Finance.**—Messrs. Bohlen, Coffran and Plum.

**Building and Sites.**—Messrs. Nunan, Elliott, Harrison, O'Conner and Macdonald.

**Circulars and Address.**—Messrs. Harrison, Pritchard and Williams.

**Printing.**—Messrs. Dunn, Corcoran and Pease.

**Machinery for Building.**—Messrs. Spiers, Hanscom and Austin.

**Premiums.**—Messrs. Macdonald, Lewis, Tilden, Plum and Spiers.

**Classification.**—Messrs. Rosekrans, Elliott, Young, Mosheimer, Dunn, Pritchard and Pease.

**Rules and Regulations.**—Messrs. O'Conner, Lewis, Rosekrans, Corcoran and Coleman.

**Application from Legislature.**—Messrs. Williams, Young and Nunan.

The Executive Committee met again, last evening, to hear the reports of the sub-committees.

**PATENT OFFICE REPORTS.**—We are under special obligations to T. C. Theaker, U. S. Commissioner of Patents, for the early reception of the three volumes of the Patent Office Reports for 1865. The increasing dimensions of these annual reports fully attest the rapidly increasing business of the Department.

[Editorial Correspondence.]

**The Patent Department.**

WASHINGTON, D. C., Oct. 10th, 1867.

Commissioner Tbeaker has succeeded—after a long course of just and judicious efforts—in securing additional rooms in the Patent Office building for the transaction of the business of his department. Notwithstanding the building was intended especially for the Patent Office, it has been largely occupied by the Department of the Interior—for the Pension Bureau, Land Office, Agricultural Department, etc., to the great hindrance and detriment of the Patent Office business. The Pension Bureau has now been obliged to contract and vacate a number of rooms; and a new and commodious brick building is being erected by the Government, near the Smithsonian Institute, for the Agricultural Department, which Bureau also vacate the Patent Office building in the spring.

More room being secured in the Patent Office Department, additional examiners and clerks have been appointed and new divisions created in the various classes. To assist the Commissioner in his desire to clear the docket, by the 1st of November, of all applications which were on hand on the 1st of October, the examiners have generously volunteered an extra hour's service per day until the undertaking shall be accomplished.

The great accumulation of business in the department the past year, has caused much extra work and increased expense to the Government, and an extra number of cases on hand at a time necessarily increased the list of interferences.

The increase of applications for patents is truly remarkable. The number in 1866 was 16,000, while in 1867 it is expected to reach fully 25,000. Thus, every year the service in the office of examining each application for a patent is enlarged, while the difficulty and labor of attorneys, soliciting claims for inventors, is correspondingly enlarged, as is also the necessity for inventors to secure the services of competent agents. D.

**MORNING STAR LEDGE.**—This mine is located near Madden's Station, Colfax, Placer county. A shaft has been sunk upon it to the depth of 50 feet. Quite a number of specimens from this shaft have been placed upon our table, illustrative of the general character of the ledge. There is nothing in the appearance of the rock which would lead one to think it promised much value; yet from certificates of assays and working tests before, it would appear to give promise of becoming a very valuable mine. We have before us the report of seventeen different assays, made by Mr. M. A. Hunter, of Sacramento, which vary in their results all the way from \$3 to \$537 per ton. Mr. Varney, of this city, recently worked 20 pounds of rock from this mine, which yielded at the rate of \$51.22 per ton of 2,000 lbs. There appears to be a notable quantity of silver in the bullion from this mine. Mr. Hunter, in his Sacramento assays, returns an average of about \$10 in silver to \$100 in gold. Mr. J. J. Reed, the principal owner of the mine, informs us that he is about shipping 20 tons of the rock to the Golden Rule Mill to be worked; 20 tons more will be shipped to Grass Valley, and 10 to Mr. Hunter's works at Sacramento. We trust the most satisfactory results will be returned from each lot. The vein is a very heavy one, being about 30 feet in thickness. There are several other ledges in the immediate vicinity and running parallel with the Morning Star.

**INFORMATION WANTED.**—The whereabouts of Bernard Fanning, or his representatives, is anxiously desired by his nephew. Mr. Fanning was formerly engaged in mining, and lived at the time on Natoma street, in this city. Any person conveying information of his present whereabouts, to this office, will confer a great favor upon the party seeking the information.

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**JACOB SNOW, Pioneer Photographer,** 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14tf

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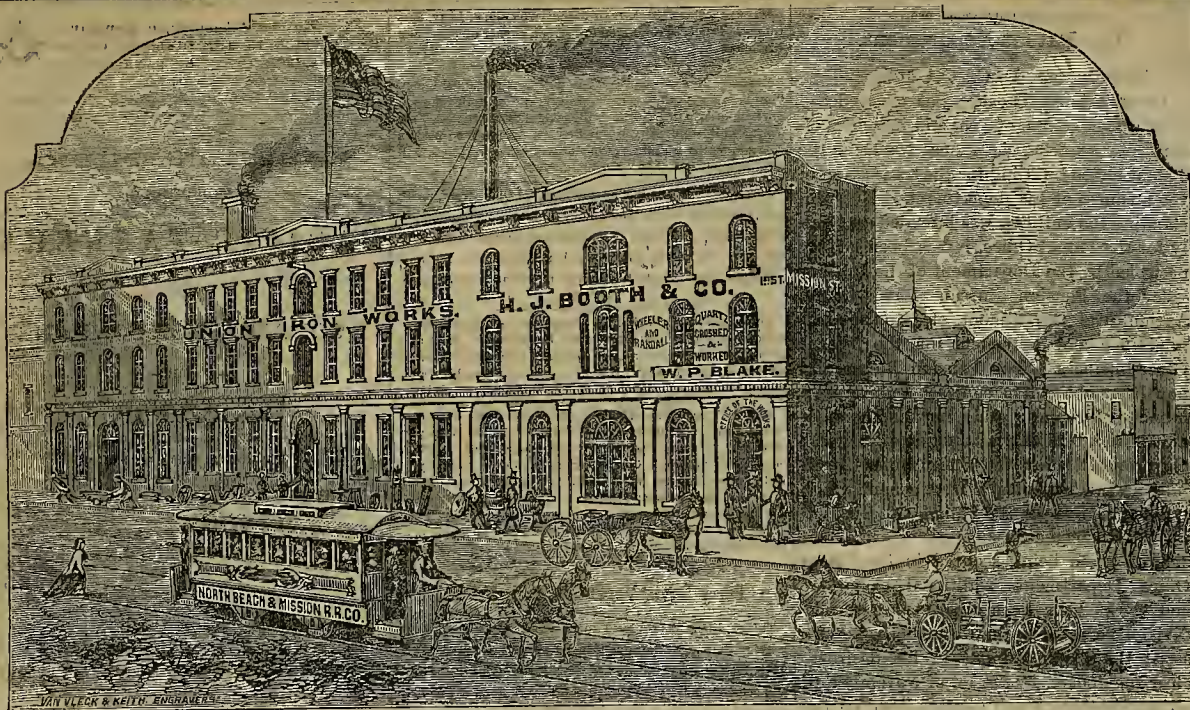
Orders addressed to **PACIFIC ROLLING MILL and FORGE CO.,** Post Office, San Francisco, Cal., will receive prompt attention.

The highest price paid for Scrap Iron. 9v14n3p

**DR. FONDA'S San Francisco Eye Infirmary.**

Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. F. W. FONDA, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite Weil, Fargo & Co's. 4v16j3p





Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Fly, Race, screw and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. R. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

**BOILERS.**—Locomotive, Fluo, Tubular, Upright, Cylinder and Cornish, and every variety of Boiler Work. All sizes of tubes and pipes for pumps.

**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's Improved Tractory Curve Pan, Zenas Wheeler's Improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arasta Oaring, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

**OIL BORING TOOLS AND MACHINERY.**—Of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron Screens, of all degrees of fineness and of all qualities of Iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH. GEO. W. PRESCOTT. IRVING M. SCOTT.  
24-12 H. J. BOOTH & CO.

A Word to Readers in the Atlantic States.

Much complaint has reached us, through various sources, at the general lack of knowledge at the East, with regard to mining and other operations on this coast, and the frequent impositions practiced upon the public there, in consequence, by irresponsible persons passing off upon unsuspecting victims worthless mining stock, or persuading them, by false representations, to organize companies and advance moneys upon worthless ground, or ground which oftentimes has neither value or locality. If our friends at the East, who are still anxious to engage in the laudable venture of mining enterprise, would do so intelligently, let them subscribe for and carefully consult the only journal on the Pacific coast where every mining enterprise that is worth naming is, from time to time, noticed, as its merits may warrant. A mining enterprise on the Pacific coast, which is not referred to in this journal, in some way or other, as often as once in three or four months, is certainly one which people in the Atlantic States should beware of. Our advice to people at the East is never to venture small amounts in mining. If you must start small, let a number of such club together, so as to make the aggregate amount to be invested, such as may be worth your while to inquire into. Jan. 1, 1867.

**TOWNE & BACON,**  
Book and Job Printers,  
Have the Largest Office,  
Do the most work,  
And do it better  
Than other offices

In this City,  
**536** Try them  
With a Job,  
And you will be  
Satisfied the above  
Statements are facts.  
Their office is at 536  
Clay St., below Montgom'y,  
Over Pacific Fruit Market.

**BAURHYTE & McAFEE,**  
Steam Boiler and Sheet Iron Works.  
Owned and conducted by Practical Boiler Makers.  
**High and Low-Pressure Boilers, Stationary and Marine.**  
Howard street, bet. Fremont and Beale, San Francisco.

Having had twenty-two years experience in this business, we feel confident of being able to compete—as to quality of work—with any establishment on the Pacific Coast. 7-15-67

**CALIFORNIA TOOL AND FILE FACTORY.**  
Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
4-15-67 J. WEICHHART, Proprietor.

**LINCOLN IRON WORKS,**  
No. 51 Beale st., bet. Market and Mission.  
D. & W. FOURNESS, Prop'rs.

**STEAM ENGINES,**  
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.  
Particular attention paid to repairing Reynold's Cut-off 5-15-67

J. NEWSHAM. J. McWOOD.  
**SOUTH BEACH IRON WORKS,**  
Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
AND ALL KINDS OF

**MACHINERY FORGING.**  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done warranted. 13-15-67

**JOHN LOCHHEAD'S Steam Engine Works,**  
Beale street, near Mission, San Francisco.

**STEAM ENGINES OF EVERY DESCRIPTION BUILT TO ORDER.**—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES.**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.

The attention of the parties engaged in shipping or inland navigation is called to the  
**Superior Workmanship**  
of Mr. LOCHHEAD who has been in the business in San Francisco for the last fourteen years, and gives the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25-12-67

**Machinists and Foundries.**  
**PALMER, KNOX & CO.,**  
Golden State Iron Works,  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
**STEAM ENGINES AND QUARTZ MILLS**  
DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing,**  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.  
WHEELER & RANDALL'S  
**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 13-11-67

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.  
**Steam Engines, Boilers,**  
**SAW AND CRIST MILLS,**  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
13-13-1y One block north of Couch's Wharf.

**UNION IRON WORKS,**  
Sacramento.

**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
**CROSS' PATENT BOILER FEEDER,**  
**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
**Dunbar's Patent Self-Adjusting Steam Piston PACKING,** for new and old cylinders, manufactured to order.  
Front Street, between N and O streets,  
14-11 SACRAMENTO CITY

**I. H. SMALL,**  
**MACHINE SHOP,**  
BUILDER OF  
**Steam Engines, Sawmills, Mining Machinery,**  
and Wood Planes,  
Repairing of all kinds done with promptness and dispatch. Gears of all kinds cut at short notice, corner of Market and Beale st. San Francisco. 6-15-67

**GLOBE Foundry and Machine Shop,**  
STOCKTON, CAL.  
**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF  
**Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,**  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, Hoouse Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited 13-13-1y and promptly executed.

**GEORGE T. PRACY, MACHINE WORKS,**  
Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.  
**STEAM ENGINE, FLOUR AND SAW MILL**  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. 25-12-67

**SAN FRANCISCO Foundry and Machine Works,**  
N. E. Cor. Fremont and Mission streets,  
Manufacturers of  
**Marine and Stationary Engines**  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.  
—ALSO—  
**Wine, Cider, Cotton and Tobacco Presses** of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
**Dunbar's Improved Self-Adjusting Piston-Packing,** requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**MACHINERY OF ALL DESCRIPTIONS** Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
6-11-1y **DEVON, DINSMORE & CO**

LEWIS OFFEY. J. S. DODD  
**LEWIS COFFEY & RISON,**  
**Steam Boiler & Sheet Iron Works.**  
THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna, SAN FRANCISCO.  
ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Shoathung Nails, Rudder Braces, Hinges, Sbrin and Steamboat Bells and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE. 25-12-67  
V. KINGWELL. 19-13-1y J. H. WEED. 6-12-1y

J. O. HANSCOM } **HANSCOM & CO.,** { T. PENDERGAST,  
H. A. SMITH. } (W. W. HANSCOM.

**Etna Iron Works!**  
Southeast corner Fremont and Tehama streets, SAN FRANCISCO.  
**Practical Machinists and Iron Founders,**  
MANUFACTURE  
**STEAM ENGINES,**  
**QUARTZ MILL MACHINERY OF ALL KINDS,**  
**SAW MILLS, FLOUR MILLS,**  
**Dunbar's Improved Self-Adjusting PISTON PACKING,**

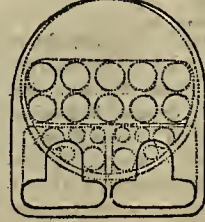
Now so extensively used in the East and in this State. Requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**HANSCOM'S CRUSHER,**  
The best of the kind now in use in this State or anywhere else; Wheeler & Randall's New Grinder and Amalgamator,  
Which only needs examination to be appreciated.  
**Tyler's Improved Water Wheel,**  
Giving greater power, at lower cost, than any wheel in use. Send for one of our circulars, giving full tables. All wheels warranted to give the power as set forth, or the money will be refunded.  
**Sole makers for this coast of the "Pendergast White Iron Stamp Shoes and Dies,"**  
None genuine unless obtained from us. Every one warranted.  
Patented Machinery of all kinds will be furnished by us at market prices. Particular attention given to drawings and specifications of machinery, which will be made to order. The patronage of the public is respectfully solicited. 19-12

**FULTON Foundry and Iron Works.**

**HINCKLEY & CO.,**  
MANUFACTURERS OF  
**STEAM ENGINES,**  
**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.**  
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-4y

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets, SAN FRANCISCO.

**MARINE LOCOMOTIVE,**  
And all kinds of HIGH PRESSURE Steam Boilers MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc.  
Manufactured to Order.  
**Old Boilers Repaired**  
D. CAMERON.  
6-12-1y





**IMPORTANT COAL DISCOVERY, PROBABLY.**  
The *Territorial Enterprise*, of October 29th, has the following:

W. Troop and Henry Donnell arrived in this city last Saturday from Pine Grove, Wilson District, bringing with them specimens of coal, or something like it. The stuff burns, and may be coal, bituminous slate, or something of the kind. Coal oil has been distilled from the stuff, and it has a strong bituminous smell. It is from a deposit about 100 feet in width, situated on the side of a hill about two miles from Pine Grove. The strata of coal are from six inches to two feet wide, with layers of slate intervening. Nothing has been done as yet towards the development of the deposit. Experiments to test the value of the mineral will shortly be made, when, should it be deemed advisable, the mine will be properly opened.

The same paper of Nov. 2d, adds: Mr. Henry Donnell gives the following as the result of an experiment tried upon some of the coal brought in by him from Pine Grove. The coal was tested by an expert at Dall's Mill, Washoe county. Ten pounds of the coal placed in a retort yielded sufficient gas to supply one burner for twelve hours, while from a joint of the pipe leading to the burner there was saved of oil resembling crude petroleum, about a common wine-glass full. The discoverers of the vein are satisfied they have a good thing, and Mr. Donnell leaves on Monday to secure the land on which the vein is situated. Although the vein is said to be 100 feet thick there is no such unbroken thickness of coal. The coal is found in seams ranging in thickness from six inches to two feet, with intervening strata of shale. It is supposed that where the vein is followed into the hill a short distance, many of the coal seams now separated by slate will be found to unite. As yet no work has been done for the development of the mine—all the specimens brought here having been obtained from the surface.

**IMPORTANT DECISION.**—It seems that the officers of Alpine County had a bill passed by the last Legislature, authorizing the supervisors of that county to levy a tax of one dollar per cord for all wood floated down the Carson River from that county, and intended for consumption in the State of Nevada; also, the same for every 1,000 feet of lumber. Their right to levy such a license was denied, and a case was taken up to the Supreme Court, which has just decided that the license is virtually a tax on the exportation of wood from this State to another, and is a usurpation of the exclusive power of Congress to regulate commerce between the States.

**BLASTING POWDER.**

PRICE, \$3.00 PER KEG.

—ALSO—

PORTING, CANNON AND MUSKET

**POWDER,**

Of superior quality

**FUSE AND SHOT,**

Always on hand and for sale at the office of the

**CALIFORNIA POWDER WORKS,**

No. 318 California Street.

JOHN F. LOHSE, Secretary.

25v14qr

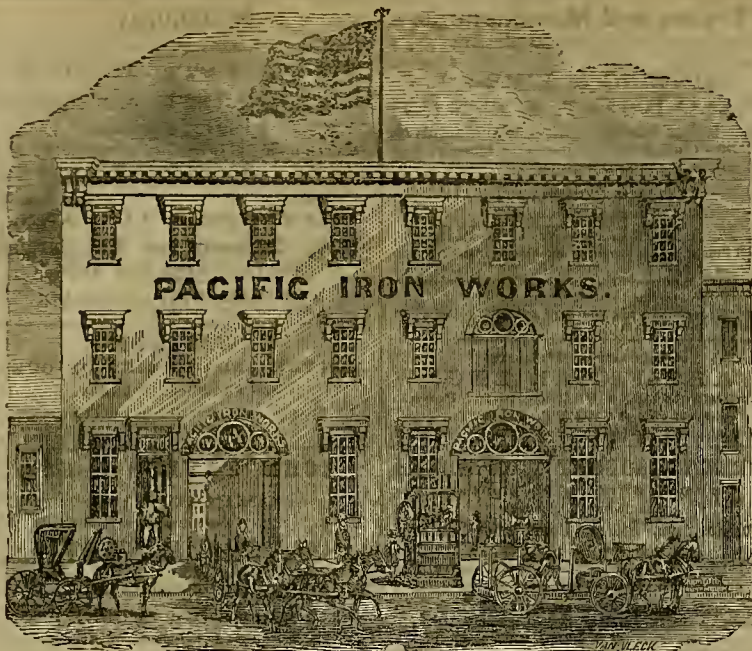
**Piles! Piles! Piles!**

**NOT PILES OF GOLD, NOR YET OF SILVER,** so much coveted by all men; but the BLEEDING, BLIND or EXTERNAL PILES, can be easily and speedily cured by the use of

**WOOD'S SUB-POSITORY.**

It is a preparation totally distinct from anything heretofore offered as a remedy for this painful and often fatal complaint. The SUB-POSITORY is neither a pill, powder, wash or salve, and yet it has proved to be a certain remedy for the Piles. Do not doubt this assertion, or delay to reach the truth of it if you are troubled with the Piles—you will not be deceived in it.

Sold wholesale and retail by J. H. REDINGTON & CO., Nos. 416 and 418 Front street; GEO. ORISWOLD, corner of Mission and First streets; OLD FAMILY DRUG STORE, corner Mission and Second streets; UNITED STATES DRUG STORE, Bush st cor, between Montgomery and Kearny. C. WOOD, Proprietor, No. 63 Tehama street, between First and Second. 21v14-3



**THE PACIFIC IRON WORKS,**

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call especial attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Eyerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.



Office Pacific Business College and Telegraphic Institute.

Mechanics' Institute Building, Post Street. [Exterior View.]

A. de LEO de LAGUNA.

[7v15-8m]

JAMES VINSONKALEK.

PACIFIC POWDER MILL

COMPANY'S

**BLASTING POWDER!**

MANUFACTURED

IN MARIN COUNTY,

CALIFORNIA.

FOR SALE BY

HAYWARD & COLEMAN,

AGENTS,

414 Front Street, San Francisco.

3v14-1m

**STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,**

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the *Mining and Scientific Press*.



FIRST PREMIUM 1857 1858 1864 1865

MACCARONI, VERMICELLI, PASTE & FARINA.

(706 Sansome St. 706) SAN FRANCISCO.

BRIGNARDELLO, MACCHIAVELLO & CO. 12v14-6m

**Important to Californians.**—Many inventors have lately had their claims for Patents seriously, and in some cases fatally, delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. THE MINING AND SCIENTIFIC PRESS PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

Machinists and Foundries.

**Miners' Foundry**

—AND—

**MACHINE WORKS**

Nos. 245 to 255 FIRST STREET,

San Francisco.

**HOWLAND, ANGELL & KING, PROPRIETORS.**

Manufacturers of Machinery for

QUARTZ MILLS, SAW MILLS, FLOUR MILLS, SUGAR MILLS, POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds.

Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS, OIL WELL TOOLS, ROCK BREAKERS,

—AND—

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screws, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND, E. T. KING, H. R. ANGELL, CYRUS PALMER, 13v14-qr



JAMES MACKEN,

COPPER SMITH.

No. 226 Fremont st., bet. Howard & Polson

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v14-1

FIRST

**Paint Manufactory** IN CALIFORNIA.

EPES & E. H. R. ELLERY

Have the Patent Right for the Pacific Coast to manufacture, sell and use

Ellery's Patent India Rubber Cement & Paint. It is for all exposed surfaces, impervious to wet, will not rot, peel, blister or crack in any climate. A superior Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, was in such bad condition it was about to be taken off ten years since they put on the INDIA RUBBER CEMENT AND PAINT, making a good tight roof. A coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Atlantic Lead Works use our Paint only.

NEW CLOTH ROOFS put on copings and all seams cemented and saturated, then coated with the India Rubber Cement and Paint, in the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others, the roofs of all the horse and steam cars, decks of steamships, etc., around New York—for eight dollars per one hundred square feet. NEW OR OLD TIN ROOFS cemented and painted with the India Rubber Cement and Paint guaranteed, at from one cent to two and a half cents per square foot, according to size and condition of roof. Good men and the best materials used.

We have just cemented and painted old tin roofs of Dr. H. D. Cogswell, Tubbs & Co., D. J. Oliver, etc., and the wood work of Sheriff Davis's building, 88 feet front, on Polson street, between First and Fourth streets—only one coat. The work will speak for itself. Now painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—the coat. See the above and further references at our office.

ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT is composed of India rubber and other gums, dissolved in linseed oil, mixed with the various coloring matters, and ground in any color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—retaining sufficient elasticity to give and take with the heat and cold. Fifteen hundred fishing vessels at Cape Ann use the India Rubber Paint, finding it superior to all others.

EPES & E. H. R. ELLERY are now prepared to make good roofs, and cement and paint new or old ones, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No asphaltum on coal tar roofs. Office, No. 226 Jackson street, corner Battery, San Francisco, Cal. 6v15

**International Hotel,**

JACKSON STREET,

BETWEEN MONTGOMERY AND KEARNY STS.,

SAN FRANCISCO, CAL.

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.

Terms belonging to the House will be in attendance at all the boats and cars, convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 21v12 F. E. WEYGANT, Proprietor.

**SACRAMENTO SEMINARY.**

Boarding School for Young Ladies,

I street, between Tenth and Eleventh streets, Sacramento

The present Session commenced July 29th, and will close December 20th. A full course of instruction is given. Six Teachers are employed. For further particulars, Address H. M. GIBSON, Sacramento, Cal. 11v15-4m

**Just Published.**

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE Nervous System and Reproductive Organs, to be had by addressing and inclosing twenty-five cents, postage stamps to secretary PACIFIC MUSEUM OF ANATOMY, Montgomery street, San Francisco. 21v13-17



Business Cards.

NATHANIEL GRAY. H. M. GRAY. N. GRAY & CO., UNDERTAKERS, 641 Sacramento St., cor. Webb, San Francisco.

T. B. RODGERS, CUTLER, 108 Leidesdorff Street, Corner California, adjoining the Pacific Insurance Office.

JONES & Wool, Looking-Glass and Picture DEALERS, 643 Market street, near Montgomery.

Shot Guns and Rifles Selling at Five Dollars Each! THE AMERICAN ARMS COMPANY, are closing out their large stock of Heavy and Light Single Barrel Guns, suitable for Geese, Duck, Pigeon or Quail Shooting.

Schmiedell & Shotwell, Stock and Money Brokers, and dealers in Government Bonds, State, City and County Securities, Gas, Water and Insurance Stocks, etc.

REMOVAL. The well known establishment of LUCY & HYMES, MANUFACTURERS OF Genuine Pale and Chemical OLIVE SOAPS.

Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged.

MEUSSDORFFER, Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867.

Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dressy Hat ever introduced on the Pacific Coast.

ASPHALTUM For sale in any quantity to suit, by the Pacific Asphaltum Company, No. 533 Kearny street, corner Sacramento, San Francisco.

This Asphaltum is the purest to be found in the market, being free from rock and clay, or other impurities.

T. R. CHURCH, FASHIONABLE

CLOTHING EMPORIUM No. 223 Montgomery st., Russ Block. WHOLESALE AND RETAIL DEALER IN

FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices.

GOVERNMENT HOUSE, Corner of Sansome and Washington sts. SAN FRANCISCO, CAL.

THE STREET CARS PASS THIS HOUSE IN every direction, every ten minutes. The rooms of the House are well furnished, large and airy, are let by the month, week or day, and are kept in superb order.

WESTERN HOTEL, Nos. 43 and 45 K street, between Second and Third streets, SACRAMENTO. Board, per week \$4 Meals 25 Cents.

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WM. BASTLING. HENRY KIMBALL. BARTLING & KIMBALL, BOOKBINDERS, Paper Rulers and Blank Book Manufacturers.

JOHN DANIEL, (SUCCESSORS TO D. GORR) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco.

Palmer's Patent ARTIFICIAL LEG, Manufactured in Philadelphia, Penn. JARVIS JEWETT, AGENT.

EUREKA WROUGHT IRON WORKS, Corner Howard and Fremont sts., Manufacture all kinds of Iron Railings, Stairs, Doors and Shutters.

LEATHER HOSE AND BELTING, ALL SIZES. SUCTION HOSE MADE TO ORDER At short notice, by M. M. COOK & SON, No. 801 Battery street, SAN FRANCISCO.

McNALLY & HAWKINS, Plumbers and Gas-Fitters, No. 645 Market Street, Adjoining R. C. Orphan Asylum, nearly op. Montgomery street, San Francisco.

BUILDINGS FITTED UP WITH GAS, Water and Steam Pipes, and all work warranted. Have constantly on hand an assortment of Gas-Fixtures, Lead and Iron Pipes, Marble Slabs, etc.

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LUBRICATING OILS & AXLE GREASE, From Petroleum of California, and ask to be encouraged by the citizens of California.

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National Mineral Land Law, Instructions. Blanks, Etc. Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the United States Registers and Receivers and Surveyors General, from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office.

BEAN'S HISTORY AND DIRECTORY -OF- NEVADA COUNTY, CALIFORNIA. Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

Compiled by EDWIN F. BEAN. Price, \$5 - For sale at the office of the Mining and Scientific Press, San Francisco.

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WE are receiving direct from MESSRS. LADD & OERT LINDO (London) and BEEKER & SONS (Antwerp, Belgium) their superior ASSAY and BULLION BALANCES, And from Franco and Germany, as well as the Eastern States, FURNACES, CRUCIBLES, MUFFLES, BLOW-PIPE CASES, GOLD SCALES, CHEMICAL GLASSWARE, and every article required for ASSAY OFFICES, LABORATORY, etc.

To the People Of the Pacific States, And Especially those Engaged in Mining. Gold is the attractive element which has brought more than half a million people to this coast.

That our mines are rich beyond calculation, is plainly proven by the thirty millions of gold we annually produce, and which is still on the increase, in spite of the many failures and the imperfect mode of working, by which more than fifty per cent. of the precious metals is lost.

MANHATTAN Metallurgical and Chemical Works, Nos. 552 and 554 West Twenty-eighth st., NEW YORK. Assays of Gold, Silver, Copper and Lead Ores.

SPECIAL ATTENTION GIVEN TO THE ANALYSIS OF Ores, Minerals, Clays, Waters, and General Commercial Products of all kinds. Tests of Gold, Silver, Copper and Lead Ores, by Smelting, in quantities of fifty pounds to five, ten or fifty tons.

BEAN'S HISTORY AND DIRECTORY -OF- NEVADA COUNTY, CALIFORNIA. Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

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Professional Cards.



SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco, Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.

FREDERICK MANSELL, Mechanical & Architectural Draughtsman, No. 422 California street, corner of Leidesdorff. Drawings of Monuments made for parties applying for patents at Washington or London.

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ISAAC LOBBREE & CO., GOLDEN STATE POTTERY, ANTIOCH, CAL. Office in San Francisco, 516 Commercial st. Constantly on hand a large assortment of Earthenware, Fire Bricks, Fire Clay, and Stoneware.

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RADICAL CURE -OF- RUPTURE! Treatment of all Deformities of the Body, by DR. A. FOLLEAU'S process, 622 Washington street, up stairs, Washington Baths Building, between Montgomery and Kearny streets.

DR. A. FOLLEAU Has his studios and manufactories in the same building. Every kind of Apparatus, Trusses, Orthopedic Instruments, Artificial Limbs, etc., are manufactured and applied by himself.

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Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA. LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK.

On the 10th, 19th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following.

Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 15th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America.

Department of 10th is expected to connect with English steamer for Southampton and South America, and Australia, and P. E. R. Co's steamer for Central America. Through tickets can be obtained.

The following Steamships will be dispatched on dates as given below: November 9th - CONSTITUTION, Capt. J. M. Cavarly. Connecting with HENRY CHAUNCEY, Capt. Oray.

November 18th - MONTANA, Capt. E. S. Farusworth. Connecting with the GREAT REPUBLIC, Capt. S. Donne. November 30th - GOLDEN CITY, Capt. W. F. Lapidge. Connecting with ARIZONA, Capt. Maury.

Cabin passengers berthed through. Baggage checked through - 100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas - if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.

For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. 227 THE STEAMSHIP GREAT REPUBLIC, Capt. S. Donne, will be dispatched December 4th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI.

For passage and all other information, apply to the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.



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Founded in 1851, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast.

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BROOKS & CAPP, San Francisco.

New Mining Advertisements.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1887, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at the office, No. 423 Pacific street, San Francisco.

Ethan Allen Gold and Silver Mining Company.

Location of Works: Anstin, Lander County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like M L McDonald, E D Sawyer, Nathan Porter, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, at No. 418 Montgomery street, San Francisco, Cal., on Monday, the second day of December, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Great Central Mining Company.

Location of Works: Yuma County, Arizona Territory. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirtieth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Burke, M J, Jagers, A J, etc.

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney Co., at No. 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of November, 1887, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Huacomo Copper Mining Company.

Location of Works: Low Divide District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of November, 1887, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on and after November sixth, 1887, in United States gold and silver coin, to the Secretary, at his office, 609 Market street, San Francisco, Cal.

I. X. L. Gold and Silver Mining Company.

Location of Works: Silver Mountain District, Alpine County, Cal. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of September, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like John H Williams, Martin C Miller, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of September, 1887, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Thursday, the twenty-first day of November, 1887, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Mount Tenabo Silver Mining Company.

Location of Works: Cortez District, Lander County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 331 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twelfth day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirty-first day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

Mount Tenabo Silver Mining Company.

District, Lander County, Nevada. Notice is hereby given, that the Annual Meeting of the Stockholders of the above named Company will be held on THURSDAY, the twenty-eighth day of November, 1887, at 11 o'clock A. M., at the office of the Company, No. 331 Montgomery street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of Certificate of each parcel of said stock, were sold, as by law provided, at public auction, on the twentieth day of October, 1887, for delinquent assessments thereon, and will not be transferred by said Company:

Table with columns: No. Cert., No. shs., No. Cert., No. shs., No. Cert., No. shs. Lists certificate numbers and share counts.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of November, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

Sophia Consolidated Gold and Silver Mining Company.

Location of Works: Tuolumne County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1887, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

Mining Notices—Continued.

Cordillera Gold and Silver Mining Company.

Location of Works: Chihuahua, Morelos Mining District, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Chilpanca Mining Company—District of Ures.

Location of Works: Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1887, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Chalk Mountain Blue Gravel Company.

Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Gold Hill Tunneling Gold and Silver Mining Company.

Location: Gold Hill Mining District, Conny of Storey, State of Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 9) levied on the nineteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like C L Gayard, R Pasquale, etc.

Kelsey Gold and Silver Mining Company.

Location of Works: El Dorado County, California. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twelfth day of September, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like Noble Lovely, Wm Seares, etc.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Lady Bell Copper Mining Company.

Location of Works: Low Divide District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1887, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

Nuestra Señora de Guadalupe Silver Mining Company.

Location of Works: Tayoltita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1887, an assessment (No. 2) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. FRIEZE, at the office, No. 210 Post street, or to the Treasurer, A. H. WILKINS, at his office, No. 637 Washington street, San Francisco.

North Star Gold and Silver Mining Company.

Location of Works: Reese River Mining District, Lander County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1887, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Quail Hill Mining and Water Company.

Location of Works: Quail Hill, Galavaca County, Cal. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Lists names like G W Weaver, A E Hill, etc.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

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Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

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Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

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Whitman Gold and Silver Mining Company.

Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman O. & S. M. Co. nov9



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits. They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

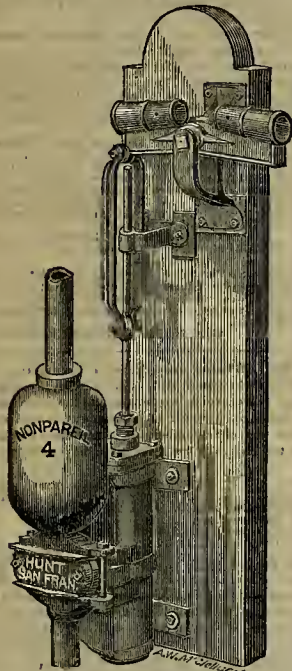
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 108 Jessie street. 13v15tf

E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boiler Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 6-Horse Power, \$140
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- Two Engines, Boilers, Port., 16-Horse, 1,200
- One Engine, 40-Horse, 1,200
- One Iron Battery of 4 Stamps, 500

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15qr

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco.

23v12 3m

PATTINSON'S

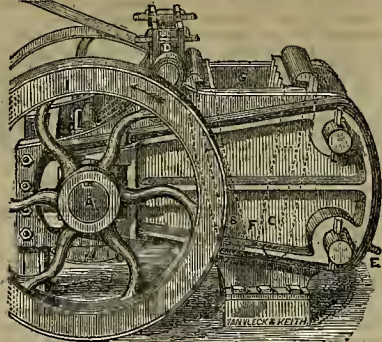
HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15qr

THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages the advertisers are enabled to offer these machines to the public at the following low terms:

- No. 1.—Or 10 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut.—Price, \$600
- No. 2.—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour. 850
- No. 3.—Or 18 inch Crusher, with in a similar manner crush from seven to eight tons per hour. 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient light to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, S, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Marinosa county, Rawhide Ranch, Tuolumne county, and at Lake Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne county:

RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1865. JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, E. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

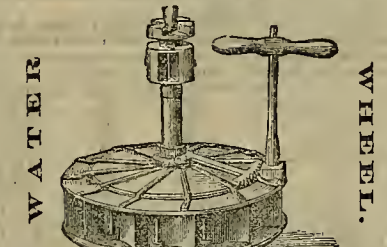
BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of compromise, without having recourse to legal proceedings, for past infringements, or desirous of receiving Letters of License for the limited period named, are requested to address as below. A diagram, with explanations of this machine will be found in the Mining and Scientific Press, of September 29th, 1865.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press, of Sept. 22, 1865. JAMES BRODIE, Fulton Foundry, or CHARLES RADOLPH, Express Building, 402 Montgomery street, San Francisco. 12v13tf

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc.

CALIFORNIA REFERNCES.—E. Steaton, Polson, O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GRANT, Agents for California, 310 Washington street, San Francisco. 25v13-lyq

NELSON & DOBLE,

AGENTS FOR

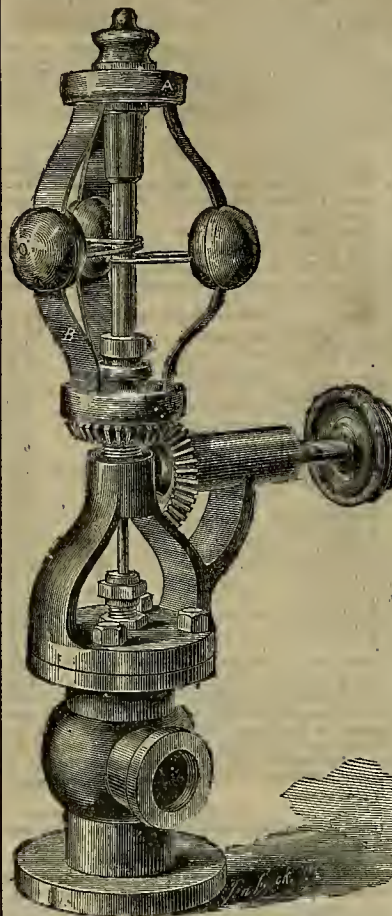
Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel, manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 14v14qr

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent for the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 25v14cm

PICKERING'S ENGINE REGULATOR,



Warranted the Best in Existence.

Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2am1q

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 25 Second St., and Nos. 110 and 112 Jessie St., San Francisco. 2v15qr

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-Off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO.,

Pacific Iron Works, 9v15tt

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest freeness can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15 6m

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

—BY—

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 5v13r SAN FRANCISCO.

A Mechanical Course for Our Public Schools.

We are pleased to observe that a movement has been made in the Board of Education for this city for the establishment of a Mechanical Course in our public schools. This is a movement in the right direction, which, if properly carried out, cannot fail to be productive of the most beneficial results. We have understood that the real mover in this matter was Mr. R. Bragg, of the 10th Ward, who personally urged the matter upon the attention of Mr. Scott, Director for the 9th District, who introduced it to the Board. In support of the measure, Mr. B. has sent a very carefully prepared communication to the Times, which we fully endorse and reproduce, slightly condensed, as follows:

The Eastern cities are alive to the importance of educating the working class. There have been legacies bequeathed from time to time for this purpose by men who knew the need of some system for their education. In Boston, for instance, there is a Mechanics' Apprentice Association, for the elevation and education of the apprentices. There is the Lowell Institute, where we have listened to many lectures, free to all. There is also an association of the leading mechanics, called the Mechanics' Charitable Association. The course adopted by the members of this association in their shops for apprentices is a model course. For machine shops, for instance, it is this: The first year the apprentice serves in the blacksmith's department, by which he is enabled to manufacture his own tools. The second and third year is passed in the machine shops, where he receives instruction. He is not worked to the utmost of his physical capacity; he is taught to take time and do his work well, and during the winter he is sent to a mechanical evening school, where mechanical drawing is made a specialty. In the last year of his apprenticeship he is taken into the counting-room and taught the business. We have seen graduates of the high schools, sons of the wealthy and influential, laboring at the forge and vice in the shops of members of this association.

By educating the mechanic, we elevate him socially. We add that dignity to labor which we often hear spoken of, but seldom seen in practice. We enable him to fill almost any position in the business world. We do not wish in any manner to discourage a commercial course; in fact, we believe we should have one. But how many young men there are, loafers on the corners of streets, waiters in saloons and bar-rooms, and occupying all sorts of menial positions, who have been highly educated to fill a commercial position, or more particularly educated to gain a livelihood without physical labor, because work was undignified. Had these young men received a mechanical education, how much better it would have been for society and themselves. From almost the earliest history of the world, we have accounts of sending from one country to another for mechanics, owing to the neglect on the part of certain nations to educate their mechanics. This we are doing, and it is wrong. It is an urgent necessity that we have a mechanical course, that we may make our own mechanics. The capital that is expended on flying machines, perpetual motion, and other machines and contrivances, whose principles are contrary to the mechanical laws, on this coast alone, would educate mechanics to that extent that they would be able to give an approximate estimate and an elaborate opinion on any machine or undertaking which might be brought before them.

Who are the prosperous mechanics? They are the self-educated, who from the time of their apprenticeship have devoted their leisure to self-culture. Let any professional man who has had the benefit of a collegiate course, visit the workshops of one of them, and I will venture to say that not one in ten could tell, whilst reviewing their sectional drawings, whether they were for a ship, a steam engine, a mill, or a suspension bridge; and could they, while reviewing these drafts, deny the importance of a mechanical course? Every one will become aware of the importance of a mechanical course, if they will examine any one of the mechanical works that are published, for it is almost impossible for a work of this kind to be placed in print that may be comprehended by any one of the graduates of our grammar schools, under their present system.

The future of this city is not known. Paris, London and New York will sink into insignificance, for this is the great mart of the Pacific. The whole Pacific Coast naturally looks to us for mechanical, commercial



and scientific men. On the educational system of this city depends the future of this coast. If, in our search for riches, we neglect to educate the young, who are to fill positions in every branch of industry, we retard the progress of civilization.

Let us take a financial view of the case. A mechanic without an education—a machine—receives \$2.50 per day, while one mechanically educated receives \$5.50 per day. The difference in favor of the educated is \$3 per day. Calling three hundred days, working days in a year, \$900. This is equivalent to \$10,000 capital invested on good security, for there are no taxes. In fact, there is no capital like a good trade, and no person can have a good trade without the education, for capital will vanish as a shadow, while the trade is ever your friend.

MINING IN UTAH TERRITORY.—From the Salt Lake Vedette, Oct. 26th: Paul Engelbrecht, arrived last evening from the Salmon mines, and reports favorably of that semi-arctic mining region. He says that new and good claims are constantly being found, and that by next season they will have a lively camp there. There are a large number of claims that will pay from \$8 to \$20 per hand as soon as water is brought on to work them. From 500 to 600 miners will winter there.

We noticed quite a large loaded pack train pass our office this morning bound for the Sweetwater mines.

John R. Murphy informs the Salt Lake Vedette, Oct. 10th, that everything is lovely at these mines; all highly pleased with their prospects; that he had crushed in his astras and amalgamated seven tons of average "carcosa rock," which yielded \$2,158, being an average of a little over \$300 per ton; and he assured us that, on account of the imperfect facilities for working the rock, he did not save over two-thirds of the gold it contained.

"Four Eights."—An English paper, anxious to get an insight into the opinions of working men, passed the greater part of an evening, not long since, at a public house resorted to by artisans on a strike. While there he was greatly puzzled by a toast which was given unctuously and received rapturously. It was the "Four Eights." He did not like to display his ignorance by asking what it meant, so he waited, and by-and-by his patience was rewarded. The whole company burst into a song, and the refrain of the ballad they sang was this:—

"Eight hours' work and eight hours' play,  
Eight hours' sleep and eight shillings a day."

These were the "Four Eights," and the "Four Eights," it was subsequently found, was the workmen's millennium.

NAPOLEON has paid a delicate compliment to the United States in naming the iron-clad ram Dunderberg, the "Rochambeau." It was Count Rochambeau who commanded the French auxiliaries that aided the Americans in capturing the British at Yorktown.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL.

Conducted by the Fathers of the Society of Jesus.

The SEVENTEENTH ANNUAL SESSION of this College will commence on August 28, 1867.

TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.

5v15-1m REV. A. MASNATA, S. J., President

THE CENTRAL PARK OF THE PACIFIC. Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, AND ZOOLOGICAL GARDENS.

AN ORAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SACRED MUSIC, appropriate to the occasion.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.

To all departments new attractions are being constantly added. These Gardens are accessible by the Howard and Market street Cars.

Entrances on Mission and Valencela streets, between Thirtieth and Fourteenth. OPEN EVERY DAY. Admission to all parts, 25 Cents. Children, under 12 years, half price. 10v16or

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Advertisement for N. P. Langland, Stair Builder, No. 43 Bond street, San Francisco. Includes an illustration of a staircase and text: 'Newest Posts and Balusters CONSTANTLY ON HAND and for Sale.'

Advertisement for C. E. Collins, Watch Repairing at New York Prices. Exclusive Agent for the American Watch Factory. Includes text: 'NEW YORK PRICES. WATCH REPAIRING AT NEW YORK PRICES.'

Advertisement for J. R. Mead & Co., Fine Custom Made Clothing. We are now offering our immense stock of Gents' Furnishing Goods at prices that defy competition.

Advertisement for M. S. Whiting & P. G. Berry, Tea, Wine and Spirit Merchants. Importers and Wholesale Dealers in Fine Brands, Whiskies, Gins, Port, Sherry and Champagne.

Advertisement for Whiting & Berry, Notice to Miners, Well-Borers and Water Companies. M. Pragg is now prepared to manufacture Hydraulic and Artesian Well Pipes.

Advertisement for M. Pragg, Assayer and Chemist. A Gentleman well versed in Assaying and Analytical Chemistry, is desirous of securing a position.

Advertisement for Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

Advertisement for Hayward & Coleman, Importers and Refiners of Illuminating, Lubricating, and Paint Oils. Includes text: 'KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSSEED, CASTOR AND CHINA NUT.'

Advertisement for Golden City Chemical Works, Laboratory, Corner of Seventh and Townsend Streets. Capital Stock, --- \$500,000.

Advertisement for Dr. Hufeland's Swiss Stomach Bitters. THE WORLD RENOWNED REPUTATION, TOGETHER with the extensive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters.

Advertisement for Pratt's Abolition Oil. FOR ABOLISHING PAIN—THE BEST REMEDY IN EXISTENCE for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lanic Back, and all aches and pains.

Advertisement for Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than one half the rates now charged by daily newspapers.

PACIFIC Insurance Company, SAN FRANCISCO, CAL. Office, No. 422 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91. Includes list of directors and officers.

Advertisement for Blake's Patent Quartz Crusher. The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

Advertisement for California Steam Navigation Company. Steamer CAPITAL, CAPT. E. A. POOLE. Steamer CHRYSOPOLIS, CAPT. A. FOSTER.

Advertisement for It is a Fact, ROWMAN'S AMERICAN WASHING COMPOUND is the best article for washing and cleaning yet discovered. It is acknowledged to be a saving both in money and labor.

Advertisement for Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS-SULPHATE of Iron—for sale in lots to suit, by BENJ. BRADY, 103 California street.



California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Nov. 4, 1867.

President Whitney in the chair. Thirty members present.

George C. Johnson was elected a resident member.

Donations to Cabinet.—Mr. Bolander presented four packages of plants from France and Australia.

Mr. Stearns exhibited some fossil shells collected by Mr. Schmidt near Orleans Bar, Klamath county. Mr. Schmidt explained the method in which the Indians use an Indian relic, exhibited by himself. Mr. Whitney called attention to two mineral specimens obtained in Humboldt. These specimens consisted of oxide of antimony and antimoniates of lead.

Professor Whitney gave some statistics with regard to the occurrence of mineral species, and of the elementary substances contained in them, on the Pacific coast. He stated that the number of minerals occurring in California, and on the Pacific coast in general, taking the country from Northern Mexico to British Columbia, was quite small in proportion to the area of the region. Especially among the silicates is there a great deficiency in species, and very few of those which do occur are found sufficiently well crystallized form to be valuable as cabinet specimens.

The total number of species (following the fourth edition of Dana's Mineralogy for names, etc.) believed to exist on the Pacific coast, including Northern Mexico, Arizona, California, Nevada and Oregon, is 110, of which, however, 13 are somewhat doubtful. Of the 110, there are 89 which occur in California. Some of the mineral species most common in other parts of the world, and especially in mining regions, are either entirely unknown here, or else exceedingly rare. Thus, barytes, which is so abundant a veinstone in England and Germany, is almost unknown in the Sierra Nevada, having been only found in one or two localities, and there in minute quantity. Fluor is entirely wanting in the Sierra Nevada, although found in some quantity in Arizona and Nevada. Not a trace of this elsewhere so common mineral has been found, so far as known, in California.

Among the silicates most universally diffused, but which are, up to this time, entirely unknown in California, the following may be mentioned as some of the most predominant: Beryl, topaz, zircon, Wollastonite, scapolite, spodumene, Allanite, iolite, staurolite, kyanite, spinel, nepheline, datholite, and all the zeolites in other countries so abundant where volcanic rocks occur. Not a well defined specimen of a zeolite has yet been found within the borders of California.

Another curious fact in the mineralogy of California is the occurrence of some mineral species which are common as ores in other mining countries; but which, in California, or at least in the mining region of the Sierra Nevada, are disseminated through a great number of localities, but nowhere existing in workable quantity. Galena and blende may be particularly referred to as occurring in this way. There is hardly a gold-bearing vein in the Sierra which has not some galena and blende in fine particles in the veinstone; but not a locality is known where the quantity of either of these ores is anything like sufficient to justify mining, even were the other conditions as favorable as in the Eastern States or in Europe. Galena occurs in considerable quantity in the extreme southeastern portion of the State, or, just over the borders, in Arizona and Nevada; but no considerable deposit of zinc-blende has yet been made known anywhere in the Pacific States or Territories; nor is any other ore of zinc known to occur in workable quantity in any one of the Pacific States or Territories.

The mineral region with which ours most nearly agrees, in the character of its ores and mineral substances, is that of the South American Andes, especially of Chili. In Mr. David Forbes' recent catalogue of the Chilian minerals, there are about two hundred species enumerated, of which about sixty have hitherto been discovered in California and the other Pacific States and Territories. The Chilian mineral list, like that of California, is remarkable for the absence of many of the almost universally distributed silicates mentioned above as wanting in the Pacific States, namely: beryl, topaz, zircon, Wollastonite, Allanite, iolite, staurolite, kyanite, spodumene, spinel and datholite. Many other silicates, abundantly distributed throughout other portions of the world, might be mentioned as entirely wanting along the whole Pacific Coast. Several of the more common zeolites are found in the

Chilian list, which are wanting in California; while several others are equally wanting to both countries. Among the common zeolites found in Chili which have not yet been discovered in California are Prehnite, stilbite, Laumontite and solescite; while analcime, harmotome, Thomsonite, natrolite, henlandite, are wanting there as well as here.

It is evident from a comparison of the mineral lists of the States situated along the Pacific Coast of North and South America, that there has been a most remarkable resemblance in the conditions which have influenced the formation and segregation of the accidental minerals now found accompanying the stratified and eruptive masses, throughout the whole vast extent of the regions in question. This is another of the facts which go to show the unity of the Cordilleras of North and South America as a geological result.

Mr. Bolander stated that the absence of many mineral species from this coast found its parallel in a similar absence of many botanical groups. Dr. Cooper did not think there was any poverty with respect to animal species on this coast, and suggested that the absence of certain groups of plants might be due to the absence of certain appropriate mineral constituents from the soil. Dr. Behr thought that the California lepidoptera more nearly conformed to European and Mexican types than to those of the Eastern States.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

SAN FRANCISCO ART ASSOCIATION.—San Francisco. Nov. 4th. Capital stock, \$100,000; 10,000 shares, \$10 each. Trustees: G. A. Fuller, J. R. Lambert, R. J. Leader, H. S. Sparks and S. A. Edgwin.

REDDINGTON QUICKSILVER MINING CO.—Lake county, Cal. Nov. 5th. Capital stock, \$1,260,000; 1,260 shares, \$1,000 each. Trustees: John H. Reddington, George N. Cornwall and Horatio P. Livermore.

UNITED MECHANICS OF SAN FRANCISCO.—San Francisco. Nov. 6th. Capital stock, \$500,000; 1,000 shares, \$500 each. Trustees: Albert M. Winn, J. D. Cornell and Charles C. Terrell.

ELECTION OF OFFICERS.—At an annual meeting of the Golden Homestead Association, held on the evening of Nov. 4th, the following officers were elected. A. Holmes, President; Wm. Monahan, Secretary; Directors, T. Reynolds, John T. Barry, D. P. Fenton, H. Besby, Thomas B. Gately.

CALEDONIA G. & S. M. CO.—Oct. 28th. Trustees: Dr. Wake Bryarly, Edward Kennedy, Donald McDonald, W. S. O'Brien and W. B. Agard.

THE BEST IN AMERICA.

The Mining and Scientific Press,

is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

DEWEY & CO.,

Patent Agents, Publishers, Book and Job Printers, 505 Clay Street, San Francisco.

THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises sixteen pages (64 columns), and furnishes more valuable reading matter than any other weekly journal in California.

To the practical mechanic, metallurgist, prospector, millman, mine holder or worker, it is worth many times its subscription price. It fills contain a record of the improvements in mining machinery, the progress and development of the mines, and all new methods and processes for working and

SAVING PRECIOUS METALS,

All progressive information, in fact, transpiring with the times—which cannot be obtained from books.

The MINING AND SCIENTIFIC PRESS is now in its FIFTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1866: Resolved, That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

Terms of Subscription.—One year, \$5; six months, \$3—in advance. Send for sample copies. Remittances may be made by mail at our risk. If parties sending will register their letters, or send money order.

AS AN ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the Press is unsurpassed. Rates moderate.

SPECIMEN NUMBERS OF THE PRESS and Patent Circulars, sent free.

DEWEY & CO.,

July 1st, 1867. San Francisco. A. T. DEWEY. C. W. M. SMITH. W. B. ZWER.

CHICKERING & SONS'

PIANOS Received the FIRST PREMIUM (Gold Medal)

And Decoration of Legion of Honor, at the Paris Exposition.

KOHLER, CHASE & CO., Agents, 267 1/2 Market Street, San Francisco.

Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!

REASONS WHY.

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, he is no nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium at State Fair

Opinions of the Press and others in regard to Bussey's Combination Lock.

The Bank of British Columbia ordered the first one of these locks introduced in this city, and the following recommendation has been received by the inventor:

BANK OF BRITISH COLUMBIA, San Francisco, May 24, 1866.

Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor and in every way meet our highest approval.

They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We deem the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We find no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable. As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it. WM. H. TILLINGHAST, Sub-Manager.

We do hereby certify, that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and impossible to be picked. We have applied several to Vaults and Safes, to entire satisfaction to parties interested. KITTREDGE & LEAVITT, Pioneer Iron Works, cor. Fremont and Market sts.

SAN FRANCISCO, May 6, 1867.

I do hereby certify, that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safes and Vaults in every other respect as good as any other improved combination lock which I am acquainted with. JOHN R. SMILES, Vault Manufacturer, Oregon Street.

JACKSON, April 27, 1867.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons: 1st.—Because it is impossible for either burglar or expert to pick it. 2d.—The lock being constructed without a key-hole, it cannot be blown to pieces by powder. 3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making. R. COSNER.

Attested by J. C. SHIPMAN, County Clerk.

JACKSON, April 27, 1867.

The undersigned, Treasurer of Amador County, do hereby certify, that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any bystander gaining a knowledge of the set of the combination, when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it. OTTO WALTHER.

Attested by J. C. SHIPMAN, County Clerk.

CALIFORNIA LOCK AHEAD.—A special premium was awarded Mr. W. C. Bussey, for his superior Combination Powder and Burglar-Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been confirmed since by its practical use. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.—[Mining and Scientific Press, Sept. 29, 1866.]

They are the only safe lock ever invented. Every State and County treasury vault, and every bank and business place should have one.—[Amador Ledger.]

This is a lock in which a series of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts, whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which he was awarded a special premium at the State Fair.—[Sacramento Union.]

We, the undersigned, practical Locksmiths, unhesitatingly pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed. F. MARK & C. FLETCHER, No. 18 Post street.

REFERENCES:

- R. COSNER, Sheriff.
- O. WALTHER, Treasurer.
- W. JENNINGS.
- C. H. INGALLS, } Supervisors.
- L. MCCLANE, }

Any good blacksmith can put this lock on safe doors. Boxed or single old locks removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—[See page 30 in Pacific Coast Directory.]

A deaf or blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination. 19 1/2 Montgomery Street, San Francisco.

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May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 35 feet front by 165 feet depth, in a good location for this business, on Front street, between N and O streets.

Inquire at the office of the Foundry, or address WILLIAM R. WILLIAMS, Sacramento, Cal.

28-13149-16P

IN THE PROBATE COURT OF THE CITY AND COUNTY of San Francisco, State of California.—In the matter of the Estate of HENRY GANAH, deceased. Order to show cause why Order of Sale of Real Estate should not be made. It appearing to the said Court, by the petition filed and presented and filed by Andrew D. Smith, the Administrator of the Estate of Henry Ganah, deceased, praying for an order of sale of real estate, that it is necessary to sell the whole of the real estate to pay the debts, expenses and charges of the administration of said estate. It is therefore ordered by the said Court, that all persons interested in the estate of said deceased, appear before the said Probate Court on MONDAY, the eighteenth day of November, A. D. 1867, at ten o'clock in the forenoon of said day, at the Court Room of said Probate Court, at the City Hall, in the City and County of San Francisco, to show cause why an order should not be granted to the said Administrator to sell so much of the real estate of the said deceased as shall be necessary. And that a copy of this order be published at least four successive weeks in the Mining and Scientific Press, a newspaper printed and published in said City and County. M. C. BLAKE, Probate Judge. Dated October 17th, A. D. 1867. 1615-5W



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SAN FRANCISCO, SATURDAY, NOVEMBER 16, 1867.

VOLUME XV,  
Number 20.

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MINING SUMMARY—Embracing late intelligence from the various counties and districts in California, Arizona, Alaska, Colorado, Idaho, Nevada, Utah and Oregon.  
New Patents and Inventions.  
Stock Prices—Bids and Asks.  
San Francisco Weekly Stock Circular.

## The Hicks Steam Engine.

We place before our readers, to-day, an illustration of the Hicks Steam Engine, which attracted so much attention at the State Fair, and which was awarded a special gold medal by the California State Agricultural Society. The engine was exhibited by the side of one of the well known and well finished Corliss Engines, made by Messrs. Goss & Lamhard of Sacramento, with which it presented a most marked contrast, both in arrangement and appearance. The former was the *ne plus ultra* of a perfectly finished engine, with all the most nicely adjusted arrangements for working steam expansively. The latter was probably the plainest and simplest looking piece of machinery

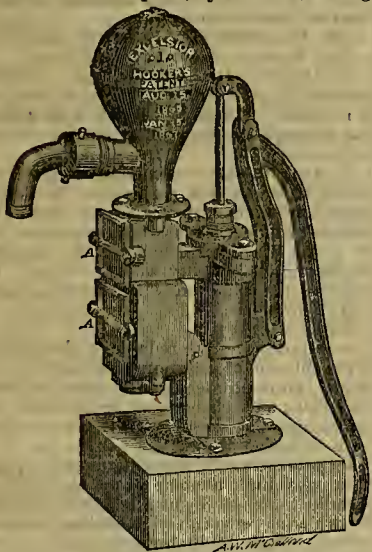
valve-rods, eccentrics, rock shafts, packing-boxes, slides, levers, cross-heads, and external attachments of every kind which they necessitate. The action of the pistons is alike simple and uniform, each being a slide valve for the one beside it. This invention, therefore, forms the most radical and entire change in steam engines which has been made since the days of Watt.  
Four single-acting pistons, working in the four cylinders marked B, B, B, B, are all connected to cranks on one shaft by suitable connecting rods, each piston taking steam before the next succeeding one has finished its stroke, thereby insuring a uniform and continuous motion, and avoiding the dead points which render ordinary engines so variable in their motions, and difficult to start, if stopped or caught on the center. This is in fact a double cut-off engine, with-

## Mining and Mining Machinery.

We understand that owing to recent very favorable developments made by Mr. W. H. Bovee in his mine near Angel's, Calaveras Co., he has laid aside the machinery hitherto used, as insufficient for the present demands of the same, and ordered from this city new machinery of greater capacity, which is to consist of two Wheeler & Randall and six Knox pans. A 45-horse power engine has also been ordered, with boiler in proportion; the latter is 54 inches in diameter, and contains 50 three and a half inch tubes. It was made of C. H. No. 1 American iron, and tested at 150 lbs. hydrostatic pressure, by Mr. C. C. Bemis, U. S. Boiler Inspector of this city.  
We understand that the work was put up under the supervision of Mr. Bemis and Mr. R. G. Carlyle, and is represented as unsurpassed as to quality of material and style of workmanship by anything of the kind turned out upon the coast.  
The boiler was built at the new establishment of Messrs. Bauerhyte & McAfee, corner of Howard and Beale streets, and was ready in two weeks from the day the order was received, doing much credit both to the skill and dispatch of the new firm. The pans and engine were from the Golden State Iron Works, First street.  
Palmer, Knox & Co. have also just shipped a complete set of hoisting works to Jackson, Amador Co., to the firm of Messrs. Coney & Bigelow, who have now a 30-horse power engine in process of construction at the same foundry.

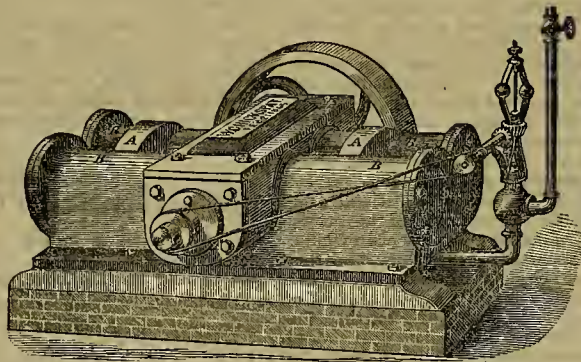
## Hooker's Improved Lift and Force Pump.

We give herewith an illustration of Hooker's Improved Excelsior Pump, a re-issue and patent for which was recently obtained through this office. The improvement consists in casting the valve chambers and cylinder all in one piece, by which means larger



water spaces are obtained, and the breaking of a large joint to get at the valves obviated. A, A, show the honnets covering the valves, which are always accessible and easily removed, so that the valves may be reached without disconnecting the air-chamber or pipes. Four holes are drilled in the flange of the air-chamber, so as to allow the discharge pipe to be turned to the right or left, as desired. The suction pipe is easily detached, without disturbing the position of the pump, and arranged for iron or lead pipe. The largely increased sales of this pump, already a great favorite with the public, warrants us in making this illustration of the "improvement," which the proprietors feel confident will place it at the head of all double-acting force pumps. We are informed that there are seventeen different styles and sizes of this pump for sale, suitable for all purposes, and for every kind of power.

A NEW COUNTY.—Parties residing in that part of Sacramento County lying south of the Cosumnes River, and others residing in the northern part of San Joaquin County, are taking steps to petition the next Legislature to be set off into a new county.



HICKS' STEAM ENGINE.

which was ever constructed as a steam motive power.  
To the stereotyped eye the Hicks engine may seem faulty in the principle of its construction; but, judging from the operation of the one at the Fair, also the report of the manufacturers, Messrs. Howland, Angell & King, as well as from its reported practical working in the Atlantic States, where several hundreds are at work, giving results entirely satisfactory, both as regards economy and durability, we think there is nothing to justify any particular objection; but rather that it possesses many excellent features well adapted to the requirements of this coast.  
For hoisting purposes, and general use in the mines, it appears to possess many advantages over any engine now in use, its chief feature being its matchless simplicity. Its inventor claims that while retaining the entire principle and action of the best approved reciprocating engines, and doing no violence to the convictions of our most intelligent engineers, that this principle and action cannot be superseded as long as the present mode of applying steam continues; the details are so far simplified that the pistons connected directly to the crank form the only moving parts, and these with the cylinders compose the whole engine. This is done by making the pistons of suitable form and arrangement to enable them to perform also the offices of valves and cut-offs, dispensing not only with these contrivances, but also with the whole array of

out the friction of a double set of valves, with their multifarious attachments.  
The pistons are provided with proper ports and passages, which act in combination with ports and passages in the cylinders, to admit and release the steam, thus combining a slide-valve with the piston in one and the same piece, each piston admitting and exhausting the steam for its neighbor cylinder, as well as cutting off its own supply of steam from the boiler at any desired point. By this means the expansive force of the steam is used, and the exhaust allowed to remain open during the entire return stroke.  
These ports and passages are arranged opposite to each other in such a manner that a perfect balance to the pressure of the steam is effected, and the ordinary wear and friction of cylinders, pistons and valves almost entirely obviated. It will also be observed that the motions of the valve and cut-off are equal in rapidity to the speed of the piston, and that the cut-off works in the closest possible proximity to the piston.  
The pistons are effectually packed by a simple and convenient method, and can be tightened at pleasure. It is valuable for its extreme lightness, and its great freedom from liability of repairs. It is only about one-fourth the size and weight of the ordinary stationary engines of equal power; it requires no engineer to set it up; it needs only about one-fourth the area and cost of foundation; it cannot get out of line, and requires much less care and attention than any other engine. This engine was invented by Mr. Wm. C. Hicks, and was patented February 21st, 1865. We hope at an early day to be able to give an illustration of its interior and working parts.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

A VALUABLE PRESENT.—We had the pleasure, a day or two since, of examining a most elegant, valuable and appropriate gift, which will go East on the next steamer, sent by Mr. David Hewes, of this city, as a holiday present to a friend "at home." The gift consists of an elegant and beautifully finished cabinet, well filled with a rare and choice selection of minerals, fossils and curiosities—among which we notice, in addition to rich specimens of gold and silver ore from the most celebrated mines of California and Nevada, several beautiful specimens of stream tin from the newly discovered tin mines of Idaho, malachite from Siberia, azurite (blue copper ore) from the famous Burra Burra mine in Australia, silver from the Battapillas mine in Mexico, garnets from our new possessions in Alaska, etc. This collection was put up, arranged and catalogued by Mr. Charles Beiderman, of Thayer's drug store, corner of Howard and Third streets, where we had the pleasure of examining it. Mr. B. draws largely upon his own private collection in making up this elegant and appropriate present from an old Californian to his friends "at home."  
AMERICAN WINES IN PARIS.—The French journal *L'Invention*, over the signature of Denos-Gardissol, Solicitor of Patents, in speaking of the California wines at the Exhibition, says: "We believe this manufacture is destined at no distant day to compete successfully with us in the markets of the New World."



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

## THE METALS OF THE EXHIBITION CONTINUED. SILVER AND GOLD.

The silver ores from the region of Austin and Eastern Nevada, brought by Col. Buel, form the last addition to the mineral display of the United States. It is by far the most important contribution of silver ores in the Exhibition, and coupled with the large masses of rich ore from the Poorman lode, Idaho, and the beautiful mass of dark-colored silver ore from Blind Springs, California, it makes an array of which the silver miners of the Pacific coast may well be proud, although they have not shown specimens of half of the well-known lodes. The Comstock lode is not represented in Col. Buel's collection, but fortunately there are a few specimens in Dr. Pigné's collection, and in that sent by your correspondent, so that it has been possible to show the character of the ores to those most interested, and to make some comparisons. There have been many inquiries for specimens of the Comstock, and many Californians are surprised that it is not more extensively and appropriately represented. There is a great demand, also, for information and statistics, and the edition of the little book which Col. Buel published upon Eastern Nevada has been exhausted. This was prepared by Myron Angel for the committee, and is accompanied by a map showing the various mining districts around Austin, and north and south of it.

A snite of specimens of the ores sent to the Imperial School of Mines, was assayed and yielded in silver at the rate of from \$67 to \$5,000 per ton of silver and gold. The committee have awarded a silver medal for this collection, and it will doubtless receive an appropriate notice in the official report to the French Government.

## THE POORMAN ORE.

The New York company which now owns and works the Poorman lode, sent over, in good season, several very large and wonderfully rich masses of the ore. It has occupied the top of a great pile of ores from the United States, and for a long time was hardly noticed by even experts as an object of any great consequence. It was only necessary, however, to look closely to see the massive ruby silver and crusts of chloride. The jury awarded a gold medal to Mr. Walbridge for this display. I am informed that the specimens are all to be smelted at the end of the Exposition. They will make a good sized ingot of silver and thus give convincing testimony of the value of the ores.

## THE BLIND SPRING ORE.

The very fine specimen sent by Dr. Harkness and Dr. Frey, of Sacramento, has attracted some attention from the mineralogists by reason of its richness in silver, and because it contains some of the compound called Partzite, and supposed to be a new mineral. It is the general opinion, however, that the mineral is not sufficiently well characterized to be regarded as a distinct species. It is probably a mixture of other minerals, and has not a constant composition.

## KONGSBERG SILVER MINES, NORWAY.

As regards beauty of specimens, and mineralogical interest, there is nothing so fine as the exhibit made by the Norwegian Government of the products of the Kongsberg mines. A glass case is filled with the most extraordinary crystallizations of native silver and of the sulphuret. This silver is remarkably white and contains a little quicksilver naturally alloyed with it. This collection is a very complete one, as regards the associate minerals and rocks, and is accompanied by several colored sections of the veins and galleries of the mine.

## CHILI SILVER MINES.

There is a very important collection of the silver ores of Chili. Some specimens of ruby silver in crystals from Chañarillo,

are remarkably large and beautiful, and are coveted by mineralogists without any hope of satisfaction, for the exhibition is made by the Chilean Government. There is, also, to be found in this collection, some specimens of the rare compounds of silver, such as amalgam crystals, the chloro-hromide of silver, and a new mineral, (a double iodide of silver and of mercury,) called *tocornalite*, by M. Domeyko, professor in the School of Mines at Santiago, who sends a short memoir with the collection. According to this author, the silver veins of Chili, such as those of Trés Puntas, Chañarillo, Agua Amarga, are found in an argillaceous limestone formation, often fossiliferous, and belonging to the jurassic epoch. These mines are further from the coast than the rich copper deposits.

## SILVER LEAD ORES.

The largest mass of silver in the Exhibition is in the French department, and comes from one of the silver lead companies of Pontgnaud. It is just as it came from the cupel, and is nearly one yard in breadth, and is valued at \$27,000. It is accompanied by interesting samples of the ores of lead, rough and dressed, and the products of the smelting and cupellation. There are several other similar exhibits and some very interesting models of furnaces of improved construction.

## GOLD AND ITS ORES.

California, of course, is first to be named, but it is not necessary to analyze the exhibition, or to write you anything about the mines and processes. Superficial observers are generally greatly disappointed in the representation of our mines. This is true of the public generally, and of most, perhaps, of the Californians. Almost every one looks for solid chunks of gold—for nuggets and trays full of the shining dust, and perhaps for a few ingots. All this would have been quite attractive to the crowd of visitors, but it would have told only a single fact after all, and one which every one knows—that there is and has been plenty of gold in California. The more observing and inquiring, however, find enough to interest and surprise them in the hundreds of specimens of ore, differing in their appearance and characters. A distinguished French savant when he stood before the open case with some 200 specimens of quartz before him, all containing more or less gold, could hardly believe the fact. He wanted to see the particular kind of quartz that carried gold; he wanted to see some distinctive peculiarity in the color or luster of the quartz, that surely indicated the presence of gold. A few specimens sufficed to show him that it would not be safe to condemn any quartz without a trial.

It is to be admitted, however, that the collection is not as rich in gold as it should be to properly represent the richest and most valuable gold veins of the world, and the most extensive deep placers.

The collection of gold crystals belonging to your correspondent has been privately exhibited to the mineralogists, and those who could best appreciate them, and they have excited great admiration. There is nothing comparable with them in the museums and collections of Europe. It has received an important addition by a present from his Imperial Highness, the Prince Nicolas Maximilianovitch of Russia, of a fine dodecahedral crystal from the Siberian mines. The large crystalline mass of gold from the Spanish dry diggings, California, which was exhibited for a time at San Francisco, in the window of Hickox & Spear, and was photographed by Watkins, is now in Paris, the property of M. Fricot, formerly the owner of the Eureka mine at Grass Valley. Owing to the difficulty and expense of making this unique specimen perfectly safe in the Exposition, it was not entered there, but M. Fricot has taken pleasure in showing it freely at his house to those most interested.

## COLORADO GOLD ORES.

Mr. J. P. Whitney, of Boston, has made a large display of the auriferous ores of Colorado. They occupy a long wall case, opposite to the central case in which the California collection is displayed, and the contrast between the two collections is very striking. The Colorado ores are nearly all sulphurets of iron, and quartz does not appear. They make a brilliant, sparkling display, and some of the specimens contain considerable quantities of gold visible to the unassisted eye, but in general the value is only to be known by assays. Mr. Whitney has published a pamphlet, with a map, descriptive of the Territory, in three languages, and distributes copies liberally. I am told that furnaces are erecting at the mines on a large scale for the reduction of the ore to a matte rich in copper and gold. This matte is then shipped to Swansea, Wales, where the separation of the metals is eco-

mically effected. A gold medal was awarded for this display. Mr. Whitney left here with a party a few days ago, for a short visit to the territory, and is to be back here in December.

## AUSTRALIA.

The total gold product of Victoria is very effectively shown by a tall gilded pyramid, which represents the bulk of the gold which was taken out of the mines from 1851 to 1866. This pyramid is 10 feet square at the base, and is 62 feet 5½ inches high; its bulk is 2,081½ cubic feet. It represents the gross weight of 36,514,361 ounces, or 1,117 tons, 15 cwt. 2 qrs. 26 lbs., and value £146,057,444 sterling. The pyramid is made in sections placed one upon another. A framework is covered with hoards, and these are covered with stout canvas, the surface of which is studded with hits of plaster and pebbles to represent the graius and lumps of gold. The gilding gives a uniform gold surface and the effect is very good. We could have sent a similar pyramid from California at a very moderate cost. But Victoria is not content with sending the appearance merely, the *dust* is there also. There are several varieties of placer gold in trays, and a few ingots, but there is no peculiar interest attaching to them. There are, also, some collections illustrative of the varieties of quartz, and some of the specimens, much resemble some of our quartz from Amador and Mariposa counties.

A model of the celebrated "Welcome Nugget," in plaster and gilt, is almost as good to exhibit as the original which was worth about \$50,000. It weighed a little over 2,200 ounces.

## QUEENSLAND AND NOVA SCOTIA.

There are several nuggets of gold from Queensland, the heaviest weighing eighty-four ounces. The quartz veins of Nova Scotia are represented by numerous specimens, some of them quite rich in coarse gold. The quartz is remarkable for its peculiar resinous and glassy luster, and the gold is remarkably yellow and of superior fineness.

There are several other collections of less extent which there is not space to notice in detail. In a future communication or report, I may be able to add many more facts and statistics of general interest regarding the gold and silver productions of the various countries.

[Written for the Mining and Scientific Press.]

## Shall we be able to make Diamonds?

By E. PIQUE.

As hearing on the above question, I intend to lay before your readers an article on "Allotropy," by Berzelius, adding some of my own remarks. Allotropy, as everybody knows, signifies the capability of some of the elements of assuming different conditions. Sometimes the same body will appear so different from what it has been a few moments before, as to make us doubt whether it be the same thing, and we would have the right to call it something else, only that in most cases we are able to change the body from one state into the other, although we have not yet been able to change the different elementary bodies into each other.

There is much more difference between a piece of charcoal and a diamond, than between copper and silver, as regards physical and chemical properties, but still we have no guide which will lead us to the transmutation of copper into silver, although we have sufficient proof of the identity of charcoal and diamond, so that by studying the difference between the conditions of the latter we might possibly be able to transform one into the other. It is also to be remarked, that many of the elements retain their allotropic conditions even in their combinations with other bodies.

By examining the manner in which different bodies are changed from one condition into another, we might, by analogy, arrive at a process by which we might change charcoal into diamonds. Berzelius distinguishes three different allotropic conditions, and calls them *a*, *b*, *g*:

1st. CARBON appears in all three of these conditions.

*a* CARBON—(Charcoal, Woodcoal.)—Very combustible; specific heat=0.24. The hydrogen it contains is not the cause of this condition, since the hydrogen can be removed by gently heating the coal in chlorine gas or in the atmosphere, and still it will not be changed into *b* or *g*. This change

can be accomplished by continued white heat.

*Ca* can also be obtained by gently heating a mixture of anhydrous carbonate of potash or soda, and potassium. After this, dissolve the mixture in water and wash the remaining coal. This is even still more combustible than charcoal.

*b* CARBON—(Blacklead, Coke, Anthracite, etc.)—Difficult to ignite, metallic luster, opaque; specific gravity=2.5; specific heat=0.20. Good conductor of electricity.

*g* CARBON—(Diamond.)—Very difficult to ignite, transparent, colorless; specific gravity=3.5, specific heat=0.147. Insulator of electricity. The difference between the diamond and black lead consists, therefore, in the form of the crystals, the specific gravity, specific heat, and in the facility for uniting with oxygen.

REMARK.—Carbon combined with nitrogen is difficult to ignite. It might contain the carbon as *Cb* or *Cg*.

2d. SILICIUM is known in two conditions:—*a* SILICIUM—Prepared by reducing silica with potassium. Very easily ignited. It explodes with molten saltpeter. It unites with sulphur by gently heating the mixture. The sulphuret of silicium so produced is very soluble in water, and forms silica, soluble in water, and still more soluble in muriatic acid.

*b* SILICIUM—By subjecting *a* silicium to a strong heat, which, however, need not be so powerful as that required to change *a* carbon into *b* or *g* carbon. This *b* silicium does not ignite, even if exposed to white heat. Molten saltpeter does not act upon it, neither does hydrofluoric acid show any action (although the latter acts very powerfully on *a* silicium.) It does not unite with sulphur. The silicates found in nature contain silica, likewise, in different conditions. Some of them are perfectly soluble in muriatic acid; but if they are submitted to a strong heat, and afterwards treated with muriatic acid, the acid will only dissolve the base they contain without dissolving any of the silica. Sometimes even the bases will not be dissolved, but remain in the residue; so that the silica in changing its allotropic condition simultaneously changed that of the bases.

3d. SULPHUR—There are three different kinds of sulphur, which possess different forms of crystallization, different specific heat and specific gravity.

4th. PHOSPHORUS and SELENIUM, likewise.

5th. ARSENIC, shows two conditions. *a* ARSENIC—By sublimating gaseous arsenic in another heated gas in a vessel at a low heat. Dark gray crystals, oxidizes in the atmosphere, changes at 49° into black sub-oxide.

*b* ARSENIC—By sublimating arsenic in a vessel of which that part where the sublimate deposits is heated to near the point at which arsenic assumes the form of gas, it is nearly white, of metallic luster, and of greater specific gravity than *a* arsenic. It oxidizes slowly, even when heated above 100° Fahrenheit.

## 6th. CHROMIUM.

*a* CHROMIUM—By reducing chemically pure chloride of chromium through potassium. Gray powder; ignites between 200° and 300°, and changes to green oxide of chromium. It dissolves in muriatic acid with evolution of gas.

*b* CHROMIUM—By reducing it with coal at a very high temperature. Light gray, metallic. Neither by heating nor by boiling it with aqua regia can it be oxidized or dissolved. (Only by hydrofluoric acid, or by strongly heating it with saltpeter or potash in the atmosphere, can it be changed into *a* chromium.)

If the oxide of chromium crystallizes in the state of *b*, it cuts glass like the crystallized silica.

7th. TITANIUM is analogous to the chromium.

8th. TIN—(The two modifications of the peroxide of tin are known to every chemist.)

9th. IRIIDIUM and OSMIUM—We cannot obtain these artificially, either of such great specific gravity as found in nature, or with a like indisposition to combination. The native metals, even at white heat, do not combine with other molten metals, but reappear in the original shape quite unchanged if we dissolve the metal with which we have attempted to combine them.

But the osmium of the laboratory is easily changed by heat into volatile oxide, which is very difficult of reduction by means of hydrogen.

If we reduce iridium, in the humid way, by formic acid, it is soluble in aqua regia; not so when reduced in the dry way.

10th. PLATINUM, PALLADIUM and RHODIUM show the same behavior.

11th. COPPER—If it has been reduced by hydrogen below red heat, changes in the air in a short time into oxide, and if rubbed with sulphur it ignites, forming sulphuret. But if the copper has been reduced at red heat,



it can be kept for years without changing, and cannot be combined with sulphur without applying heat.

**12th. IRON, COBALT, NICKEL.**—If reduced by hydrogen below red heat, and after cooling exposed to the air, oxidize and ignite. To avoid spontaneous combustion, we throw them immediately into water; they will ignite, however, if we dry them afterwards. This behavior does not apply to iron that has been reduced at red heat. If we reduce phosphate of iron before the blast, by means of coal, we obtain a regulus of phosphide of iron. Now, although the iron and the phosphorus both possess great affinity for oxygen, still this phosphide of iron oxidizes with difficulty at red heat; is not acted on by weak acids; even nitric acid will only oxidize it when reduced to a fine powder, and boiled for a considerable time with the acid.

**13th. MANGANESE.**—If reduced by coal before the blast, oxidizes in the atmosphere and even under water (evolving hydrogen); but by reducing the manganese together with silica, we obtain a regulus containing from six to eight per cent. of silicium; and this does not oxidize even at red heat, and is not acted upon even by aqua regia. The silicium, therefore, in its condition of *b* silicium has the power to change the manganese likewise into *b* Mn.

This is also the reason why many silicates with powerful bases (alkalies, earths, oxides of iron, manganese, etc.) appear quite indifferent to the most powerful reagents in the humid way.

We may arrive at the conclusion that all the elements are capable of assuming the state of indifference (*b*), and that this condition, *b*, if we cannot produce it in a certain body by itself, can still be obtained by connecting the same with another element, which more easily enters into that condition, and subjecting the compound to a treatment capable of changing the latter into that state. For this reason, the connections of the peroxide of tin, titanio, tantalio, silicio, and other acids, with the basic oxides, yield the bases very easily if they have been prepared in the humid way; but if these combinations by red heat have been transmuted into the condition of *b*, we are no more able to extract even a trace of the bases, since the radical of the acid, in assuming the condition of *b*, has caused the radical of the bases to assume the same condition.

**14th. NITROGEN.**—This shows a complete indifference, since it exists always in the condition of *b*. It is, therefore, impossible to unite nitrogen immediately with either oxygen, hydrogen, chlorine or carbon. To obtain these combinations, the nitrogen has to be changed into nitrogen *a*.

The combination of nitrogen with carbon is difficult of combustion, because the nitrogen has transmuted the carbon into carbon *b*.

The phosphide of nitrogen is difficult to ignite for the same reason, etc., etc.

The result of these considerations by Berzelius is the idea, that most likely we shall succeed in changing the charcoal into diamond, by separating the carbon out of its connection with nitrogen, for the reason that the latter being itself one of the most indifferent bodies in forming connections, or, as Berzelius expresses it, being always in the condition of *b* or *g*, did most likely change the carbon into the same condition. In confirmation of the above supposition, I wish to lay before your readers the result of some experiments made a number of years ago by some celebrated chemists.

If we heat in a closed vessel the sulphocyanides of iron, copper, lead, zinc, bismuth, silver, tin, or manganese, there escapes nitrogen and bisulphide of carbon, and the residuo is a simple carburet of the metal employed. If we treat in the same manner the cyanides of the same metals, nitrogen escapes and the metal remains as double carburet. Those carburets of metals form a tender, dark powder, which easily ignites, but cannot be fused nor dissolved. But if we put the above cyanides or sulphocyanides in a perfectly dry state in a glass tube, whose end he bent in a right angle, place the same in a small sand-bath, heat it until decomposition commences, but at the first appearance of decomposition, moderate the heat to the lowest possible degree that will still keep up the decomposition, and continue that gentle heat, until it be completely decomposed, we do not obtain the carburet as a black amorphous powder, but as bright, transparent, colorless crystals or grains, which resemble the diamond in appearance, and cut glass.

**OPPOSITION TO PANAMA.**—The Nicarangua Steamship Company announce their intention to dispatch the steamship Oregonian for Panama, on Monday, the 25th instant, to connect by way of the Panama Railroad with the steamer Nebraska for New York. The steamers in the Nicarangua line will be kept on their regular trips as at present.

## Scientific Miscellany.

**THE PHILOSOPHY OF THE SOAP BUBBLE.**—Simple and evanescent as is the little soap-bubble, it has nevertheless attracted a large share of attention from scientists. Even the great Sir Isaac Newton did not consider it beneath his careful study. In our own time, Prof. Henry, Sir David Brewster, and Sir William Thompson, have each devoted more or less time to this study. The latter named gentleman has recently remarked that the mechanical questions involved in the seemingly simple operation of blowing soap bubbles are amongst the greatest enigmas to scientific men. The extraordinary expansion and adhesion combined in these little vapor spheres are well worthy of the fullest investigation. Prof. Henry has calculated that the elastic tension of the thin film of the soap-bubble, is equal to several hundred pounds to the square inch.

In our issue of January 23, 1866, we gave a full account of the philosophy of the soap-bubble; but the progress of investigation since that time appears to have pretty effectually upset the previous conclusions with regard to the cause of its color and the noticeable variations thereof. Heretofore the varying colors of the soap-bubbles have been attributed to the constant variations in their thickness. In reference to the new theory we append the following:

At the late meeting of the British Association for the Advancement of Science, Sir David Brewster read a paper on this subject from which it appears that he had been led to make some new investigations as to the cause of colors of soap-bubbles, after he had repeated the beautiful experiments of Prof. Plateau "On the Equilibrium of a Liquid Mass without Gravity." In these cases the colors of soap-bubbles were presented to him upon soap films, plain, convex and concave; but the changes of form which they underwent and their motions upon the film itself, were incompatible with the common theory of their formation. After describing various phenomena emitted by the ordinary soap-bubble, and also with the bubble having its film toughened by a mixture of glycerine, Sir David remarked that his experiments were sufficient to establish the almost incredible truth that the colors of the soap-bubble are not produced by the thickness of the film itself, but, by the secretion from it of a new substance flowing over the film and expanding, under the influence of gravity and molecular forces, into colored groups of various shapes and returning spontaneously, when not returned forcibly, into the parent films.

So much for the color; but no one has ever yet ventured even a theory to explain how the presence of saponaceous particles can give the enormous cohesive power known to exist in the soap bubbles.

**LIMITS OF THE HUMAN EAR.**—The limits of hearing are different in different persons. Dr. Wollaston, to whom we owe the first proof of this, while endeavoring to estimate the pitch of certain sharp sounds, remarked in a friend told insensibility to the sound of a small organ-pipe, which, in respect to acuteness, was far within the ordinary limits of hearing. The sense of hearing of this person terminated at a note four octaves above the middle E of the piano-forte. The squeak of the bat, the sound of a cricket, even the chirrup of the common house sparrow, are unheard by some people, who, for lower sounds, possess a sensitive ear. The ascent of a single note of sound is sometimes sufficient to produce the change from sound to silence. "The suddenness of the transition," writes Wollaston, "from perfect hearing to total want of perception, occasions a degree of surprise which renders an experiment of this kind with a series of small pipes among several persons rather amusing. It is curious to observe the change of feeling manifested by various individuals of a party, in succession, as the sounds approach and pass the limits of their hearing.

**HEAT FROM GUNPOWDER.**—A gramme of gunpowder burned in a hermetically sealed vessel generates a sufficient quantity of heat to raise the temperature of 40.7 grammes of water 1.14 deg. Centigrade. Hence the combustion of one gramme of powder will raise nearly 644 times its own weight of water one deg. Centigrade.

**THALLIUM OXIDES AND OZONE.**—Schönbein states that ordinary oxygen is without action on protoxide of thallium, while ozonized oxygen combines rapidly with this oxide, and forms the peroxide of thallium, which is brown. Paper steeped in a solution of protoxide of thallium and exposed to the free air would be an excellent test for the presence of ozone, if the carbonic acid of the air did not transform the oxide into carbonate, which passes more slowly to the state of peroxide and blackens with difficulty under conditions where strips of paper iodized and starched, became colored at the end of a few minutes in an atmosphere containing only one two-hundred-thousandth part of ozone. However, it will be found advantageous to use both the oxide of thallium and the iodized paper as ozone tests.

**MAONETISM.**—In a discussion on this subject before the British Association, Sir William Thomson took exception to the remark that magnetism, like electricity, distributes itself upon the surface of bodies. The same statement had been made by authors of repute, but it only added proof of the fact that in many popular books there were statements not merely false in theory, but false as being in direct opposition to facts published many years ago. Harlow, in experimenting with bars of iron, found, long ago, that the magnetic influence was not discoverable. His experiments were not carefully made, yet he rashly stepped to the conclusion that magnetism resides at the surface; and, although it was soon proved incorrect by a celebrated mathematician, this statement has been the fruitful parent of many fallacies.

**CADMIUM AS A PRECIPITATE FOR SILVER.** Mr. Clausen, of Paris, states that silver is wholly precipitated by cadmium; when dealing with a nitric solution of silver, evaporate to dryness in the presence of sulphuric acid, dissolve the sulphate of silver in boiling water, plunge into it a plate of cadmium, and the reduction of the silver takes place at once. The silver is deposited in a compact mass, easily washed with water, as it may contain a little cadmium; boil it in the acid liquid until no hydrogen escapes; wash it until the water contains no sulphuric acid; then dry and calcine. The silver, at first a dry gray, takes the metallic lustre. It may then be weighed; the results are very exact.

**NEW COMPOUND OF GELATINE.**—It has been found, says the *English Mechanic*, that the addition of glycerine to gelatine imparts to it new, curious and useful properties. Mixed with glycerine, gelatine solidifies on cooling, without losing its ductility, and answers well for hermetically sealing bottles. For this purpose it is merely necessary to plunge the neck of the bottle, after it has been corked, into the heated mixture, and after allowing it to cool, repeating the dipping until a sufficiently thick coating is obtained.

**UNIVERSALITY OF NICKEL AND COBALT.**—Weiske has examined iron obtained from every possible source, for nickel and cobalt, and detected in almost every case the presence of these metals. Their amount varied greatly: the average quantity may be said to be seven grammes in the hundred weight. Taking this quantity as a mean, and computing the yearly production of iron at seven and a half million of tons, the annual yield of these metals amounts to one million of kilogrammes.

**THE ANEROID BAROMETER.**—Dr. Stewart, of the Kew Observatory, has made a series of experiments with this barometer, under different pressures, and concludes that on taking this barometer up a mountain 12,000 feet high, it would indicate the true height within 300 feet. There are, however, serious objections to the metallic barometer, not fully set forth by Mr. Stewart, which should prevent its use for strictly scientific purposes.

**TO PRESERVE PEGGED BOOTS AND SHOES.** It is said that if pegged boots are occasionally dressed with petroleum between the soles and the upper leather, will not rip. If the soles of boots or shoes are dressed with petroleum they will resist wet and wear well. The pegs, it is said, are not effected by dryness after being well saturated with the liquid.

**CHARCOAL** produced from rice, starch, albumen, blood, or leather, will produce no detonation when inflamed with niter.

**MORE PEAT.**—The *Territorial Enterprise* is informed that the Central Pacific Railroad, above the Sink of the Humboldt, will run for fifteen miles through a peat-bed, with several miles of peat on either side.

## Mechanical.

**VIBRATION.**—All matter is subject to vibration, consequently this phenomena will be observed more or less in all engineering works. Whether a stone arch or an iron arch is erected, it is subject to vibration. The vibratory effect of a railway train moving rapidly over solid ground may be felt at a distance of one mile. "The action of a large hammer," says Roehling, "I have frequently felt distinctly across a wide river." If a bell is struck, intense vibrations are produced, and their successive waves are transmitted through the medium of the air miles away. Intense as these vibrations may be, if the mass of the bell is large, its body as a whole, in a responding position, may remain perfectly at rest. The sound produced is the result of molecular movement, not visible to the eye. If the air could be perfectly exhausted, no sound whatever could be produced. Iron railway bridges, when traversed by ponderous trains, are subject to the same kind of vibration. And the intensity of these vibrations will also be in proportion to the massiveness of the structure. A tubular bridge will be subject to greater vibrations than a lattice, and a lattice more than a suspended girder or truss. The more divided and broken the mass is, the less intense will be its vibration. Suppose an elastic substance, cloth, felt, or india-rubber, was laid between the joints of a lattice bridge, this would effectually break vibrations, and save the structure. Of course substances would weaken the structure mechanically, and they are therefore inadmissible, but I mention this simply by way of illustration.

The late experiments of Prof. Tyndal have rendered this movement of the air molecules visible to the eye, through the medium of a gas flame. The fact was fully established, however, before, by the proof that sound cannot pass through vacuum. If a small bell he suspended under the receiver of an air-pump, and rung by clock work, its sound will gradually die away as the receiver is exhausted of its air.

**IRON SHIP BUILDING.**—Attention is being called to the fast increasing percentage in the number of English built iron vessels which have foundered at sea within the past few years. The reasons assigned for this increase of casualties are: first, the increased length over those which were built when iron first came into use; but the chief cause is attributed to the inferior strength and thickness of the iron which is now used. It is not unfrequently the case that builders who formerly employed plates three eighths thick are now contenting themselves with iron only three sixteenths of an inch in thickness, while the strength of the angle iron employed has been reduced in the same proportion. It has been stated that the weight of iron and wood used for a given tonnage is fully one-third less than that considered necessary a few years ago. An iron ship of proper thickness of plates will stand much harder humping than a staunch built wooden one; but iron of inferior quality, or too little thickness, is much less safe than an inferior built wooden ship.

**WHEN AN UNDERSHOT WATER-WHEEL IS** not required to work both ways, it appears, from the experiments of De Parcieux and Bossut, that a decided advantage is gained by inclining the float-boards toward the advancing stream, at an angle of twenty degrees to the radius of the wheel. The water then becomes partially heaped up on the float-boards, and acts by its gravity as well as its momentum; they also leave the retiring stream with less resistance.

**THE AMERICAN GUN TRIUMPHANT.**—The English now acknowledge that the American 15-inch Rodman gun has no superiority in its penetrating power—no iron or steel armor yet invented is capable of resisting it.

**WHEN TO APPLY PAINT.**—Paint, to last long, should be put on early in winter or spring, when it is cold and no dust flying. Paint put on in cold weather forms a body or coat upon the surface of the wood that becomes hard and resists weather, or an edge tool even, like slate.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

69,788.—GATE.—Daniel Flint, Sacramento, California:

I claim the combination and arrangement of a crocheted hinge, F, with forked arms and the cords, G, G, and weights, I, I, with the automatic catches, N, N, all substantially as described and for the purposes as set forth.

The object of this invention is to provide an improved gate, so constructed and arranged that it may be opened and closed without alighting. It consists of so balancing the gate and attaching it at an angle to the post upon which it hangs that, by pulling cords to which weights are attached, the gate will open and close. To do this the inventor employs any common single gate, having a high swinging post, which is hitched to a main stationary post by a hook and eye, the top of which is over the main post. A crotch is attached loosely, by vertical pins, to the top of the main and gate posts, allowing it to swing to and fro as the gate opens and shuts. To the ends of the crotch are connected forked arms to which cords are attached, passing through stationary wings placed in the post at the right and left of the gate. On the center or latch post, upon a horizontal cross-bar, are placed two automatic catches, with a sufficient space between to hold the latch.

69,819.—AXLE-TREE FOR WAGONS.—George P. Kimball, San Francisco, Cal.:

I claim the combination with a superposed wooden axle-hed of the steel plate or spring axle-tree, A, constructed and arranged for operation substantially as herein shown and for the purposes set forth.

69,900.—HAT VENTILATOR.—Charles Henry Coffin, San Francisco, Cal.:

I claim, as a new article of manufacture, a hat ventilator, provided with a slide or valve to close the openings, and a flange of flexible metal teeth for fastening it to the hat.

The object of this invention is to provide a ventilator for hats, so constructed that it can be opened and closed at will, and easily removed from a hat that has become worn or unfashionable, and readily attached to a new one; it may also be composed of such material as will not corrode or discolor the hat in case it is of a light and delicate material. It consists of a thin plate, with a scooped edge, composed of any material which will allow of gilding or plating or of pure silver, having radial perforations.

69,947.—LAYING TELEGRAPH WIRE ON RAILROADS.—D. W. Stroug, Dutch Flat, Cal.:

I claim the slotted bracket or holder, D, for retaining and protecting the wire, substantially as described.

The object of this invention is to provide an improved method for laying telegraph wires, which are used on lines of railroad, for the purpose of securing them against the danger of accidents and delays, or from limbs of trees breaking the wires. In order to effect this the inventor constructs the wire with an insulating covering to protect it from contact with its attachments, and in that condition places it along the side of the rail, supported by properly constructed brackets placed as often as may be found necessary upon the railroad sleepers. These brackets are made to fit the side of the rail, and have slots or openings, through which one or any number of wires may be made to pass, thus securing them firmly and protecting them from danger.

## RECENT INVENTIONS.

PRINTING AND STEROTYPING BY A NEW PROCESS.—Mr. J. B. Elliot, of New York, is engaged in perfecting a new process for printing and stereotyping, by which the use of types is dispensed with and the operation of preparing matter for the press is greatly facilitated. His apparatus consists of an instrument provided with keys, like those of a piano, each key being arranged to

operate a letter die. A sheet of soft paper, made for the purpose, is placed in the machine, and by operating the keys, impressions of letters are made in the paper. At the same time, the paper is caused to move appropriately after each impression, so that impressions of letters to form words, and words to form lines, and successions of lines to form sentences, are appropriately made. After the paper has been thus stamped with the matter for a hook or newspaper page, it is used as a matrix or mold from which a stereotype is taken, and this is used like an ordinary stereotype plate for printing. The invention has been exhibited at the Paris Exposition, and received a gold medal and the most gratifying notices from the European press.

PREPARED WOOD.—ANOTHER INVENTION. Louis S. Robbins, of New York, has perfected an invention for rendering wood durable, which, it is claimed, if used by railroad builders, will save \$20,000,000 a year, in the aggregate, in behalf of the railroads in this country.

A RAILWAY NOVELTY.—A Russian engineer exhibits a railway invention. The object is to save the power gained in a descent, now lost in the friction of the brakes, with wear and tear, and use it in an ascent. To do this, the engineer has attached to the locomotive two very heavy fly-wheels. Going down hill they act as a break, and the force they gather will carry the train up an equal rise, less the friction. Here a model train loaded with water runs down a sharp incline, the water runs off, and the force of the fly-wheel carries the train back to the place of starting. In this way a short line, taking coal down an incline—from the pit's mouth for example—could be worked without any power but that gained by each descent of the train.

NEW KNITTING MACHINE.—A Mr. Hinckley, of Norwalk, Ohio, has invented a knitting machine quite novel in character, which will knit all kinds of goods from suspenders to quilts. It has few parts, and knits flat with a selvedge or round; it widens and narrows; there is only one needle, which is similar to the needle of a sewing machine; it will take a great many different kinds of stitches, which can be changed while in operation, and it has a self-spooling apparatus. It can be sold for \$25, and is said to embody the true principles of what a family knitting machine should be. Instead of a needle for each stitch, as is usually employed in knitting machines, only one needle is employed in this machine, which is threaded the same as the needle in the sewing machine. It will knit at a high rate of speed, and knits hosiery with heel and toe complete. It will knit the button-holes into the garment! One good feature in connection with it is, that all the work is at all times in full view of the operator.

CALIFORNIA LIFE INSURANCE.—We take pleasure in calling the attention of our readers to a letter which appears to-day, from Mr. Mooney, addressed to the editors of the *Alta*, not only for the importance of the subject matter to this community and to the inhabitants of the whole coast, but also for the valuable statistical matter the communication contains. A few men possessed of the business tact and energy of Mr. Mooney, can do much in embarking in an undertaking of the kind here presented in keeping our capital at home, to build up our own mechanical industry and develop the mineral and agricultural interests of this coast.

We are also pleased to notice that other prominent parties are about to embark in a similar enterprise. Among the parties interested in this second movement, we notice the names of Alonzo Hayward, Charles McLain, W. C. Ralston, S. F. Butterworth, Oliver Eldridge, L. L. Robinson, and others. The argument in favor of local insurance companies is full as strong as that in favor of the great body of our local and home industries. The money they receive will all be retained and invested here. This movement may be considered as a new element toward the consolidation of financial influence for the development of this coast.

FILLING UP OF EASTERN RIVERS.—A Board of U. S. Engineers, who have recently been employed in surveying the Penobscot river, in the State of Maine, report that the bed of that river is fast filling up with sawdust and slabs from the numerous lumber mills along its banks. Probably other rivers in that densely timbered region are also filling up from a similar cause.

## Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING,  
November 16, 1867.  
CITY STOCKS.

City shares continue inactive. California Steam Navigation stock commanded improved rates, a few shares changing hands at 78 per cent. The usual monthly dividend of 1½ per cent. on the capital stock of this company is payable since yesterday. In the open session of the Board, San Francisco Gas stock realized \$66, seller 3. National Insurance stock sold at \$66.50. In city railroad stocks we note sales of Sutter Street at \$11, and Central at \$45. North Beach is held at \$53. Both the Central and North Beach companies pass their dividends for the present month. For Spring Valley Water stock \$66 is bid. The usual monthly dividend of ½ per cent. is payable to the stockholders since the 11th inst. We quote State Telegraph stock at \$30 bid and \$31 asked. A dividend of \$1 per share is payable on the outstanding stock of this company since yesterday.

Yesterday the Bank of California disbursed its usual monthly dividend of 1 per cent. on its capital stock.

## MINING SHARE MARKET.

The mining share market presented no new feature this week until near the close, when quite encouraging information was received from several claims on the Comstock Lode, which we give in detail below. This is producing a reaction in the market, and most descriptions show an upward tendency; however, some "shorts" being required to fill contributed somewhat to the advance. A much better feeling prevails, and we would not be surprised to see a greatly improved market at an early day.

CROWN POINT—has been for the most part inactive, opening at \$540, then selling at \$610, assessment delinquent, and at the close \$570 is bid. The north drift on the 700-foot level has been carried 125 feet from the forks, making a distance of about 150 feet from the shaft, and the south drift is 112½ feet from the forks.

HALE & NORCROSS—exhibited considerable improvement early in the week, rising from \$840 to \$900, seller 3, gradually receding to \$760, then selling at \$775, and closing at \$860. We are informed that the average yield of the ore so far during the present month shows a very favorable gain as compared with the October returns. The actual bullion product for the month of October was \$49,980.

GOULD & CURRY—has been in limited request during the past week, improving from \$300 to \$375, declining to \$310, rising to \$400, s. 5, and closing at \$365, s. 30. The rapid appreciation of this stock at the close is attributable to the discovery of a seam of quartz in the east drift, on the sixth station.

CHOLLAR-POTOSI—has been less active at declining rates, opening at \$125@130, receding to \$118, and closing at \$128. We learn of nothing of special interest concerning the developments in this mine since our last reference. The yield of bullion in October amounted to \$165,000, against \$252,000 in September.

SAVAGE—continues quite active, selling within a range of \$95@107.50, then at \$91, and closing at \$106. At the close, a dispatch has been received stating that they "struck very good ore in the east cut from the south winze, third station. North drift, fourth station, improving."

KENTUCK—has been freely dealt in, advancing from \$123 to \$141, declining to \$123, rising to \$149 seller 30, and closing yesterday at \$137. Fifty tons of ore per day are now hoisted through the Kentucky shaft, showing a very good average assay, and twenty-five tons are supplied through the Yellow Jacket shaft, producing an average yield of about \$30 to the ton. The annual meeting of this company takes place on the 27th inst.

IMPERIAL—has been largely dealt in under a rapid advance, improving from \$138.50 to \$163, and closing on the 15th at \$155. The discovery of a body of ore on the 370-foot level, which it is said will afford a six months' supply for both mills, produced the recent very material advance in this stock.

YELLOW JACKET—opened at \$350@375, then sold at \$460, assessment of \$100 per foot delinquent, and closed at \$382.50. Work on the shaft continues uninterrupted, and it is believed that the developments from the new level will greatly enhance the value of the stock... EMPIRE advanced to \$190, and closed at \$175.

OVERMAN—advanced from \$44 to \$48, declined to \$42.50, and closed at \$44. This mine at present yields about fifty tons of low grade ore per day... BELCHER sold at \$120@123, then at \$105, and at the close \$120 is bid. The *Trespass* says that drifting continues toward the Crown Point line, with no new developments... CONFIDENCE was in the market at \$36 seller 3.

GOLD HILL QUARTZ—has advanced to \$90 per share. The rock shows an improved average yield—nearly \$30 to the ton—and it is thought that the hullion product of the current month will exceed any previous like period. The ore is mainly obtained from the west drift on the 290-foot level.

BULLION—sold at \$6@8; at the close we quote it at \$6 bid and \$8 asked. Assessment of \$10 per share will be delinquent on the 21st inst... SEGREGATED BELCHER brought \$3.50... DE SOTO, \$5... We quote SIERRA NEVADA at \$6 bid, \$7 asked. An assessment of \$4 per share was levied by the Trustees on the 13th instant.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,015,235. The sales in the open sessions amounted to \$237,806, showing a combined aggregate to date during the past week of \$1,289,041.

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

ASSOCIATED HOMESTEAD ASSOCIATION—San Francisco. Nov. 9th. Capital stock, \$26,400; 44 shares, \$600 each. Trustees: Joseph Scheyer, George Haas, J. Guthbert, James Smith, Thomas Price, James Thompson and J. B. Chase.

ELECTION OF OFFICERS.—SOUTH SAN FRANCISCO DRY DOCK CO.—San Francisco. Nov. 12th. H. F. Williams, President; Alexander G. Abell, Vice-President; Joseph DeForest, Treasurer; A. S. Gould, Secretary; Edward Tompkins, H. Rosekrans, Capt. W. W. Neal, Henry O. Howard, J. B. Knapp, William C. Bryan, Thomas Anderson, W. H. Ladd, Stephen L. Piper, Trustees.

MARKET STREET HOMESTEAD ASSOCIATION.—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

JACOB SNEW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 316 Montgomery street), has all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 16v14tf

SECRETARYSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v16tf

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with PURE GOLD—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v14tf

American and Foreign Patents.—Letters Patent for Inventors can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts. For reference, we will furnish the names of numerous parties for whom we have obtained patents during the past two years.



KING IRON.—Gold and cotton have each, in turn, been awarded the high position as king among the productions of the earth; and right royally, too have they worn their honors. But there has recently arisen a new aspirant for kingly prerogatives. Iron has lately come forth from the bowels of the earth in such quantity, and by its superior merits insinuated itself so much more largely than formerly into the multifarious uses of mankind, that we can now rightfully assert its claim to a share of sovereignty, if, indeed, it must not be allowed the highest post of honor. While we would still be loyal to its predecessors, we should in every sense rejoice, that in those latter days so useful and so universal a product as iron is being duly appreciated. It is most remarkable, as well as instructive, to see how Providence provides and enables man to adopt the various instruments of utility with which the earth abounds, just as the advancing state of society seems to call for them. Time was when a universal medium of exchange was the most needed, and gold came forth,—iron was but little used, but little needed. Coal and cotton succeeded in just the point of time when we do not see how we could have well done without them. And now we have iron. Wood is rapidly passing away. The earth is needed for the sustenance of man, and man no sooner realizes the fact, than the substitute is made plain; it comes forth in quantity previously unthought of, and at prices which place it within reach of everything for which it is applicable.

All About Sending Money by Mail.

RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20, . . . . . 10 cents.
Over \$20 and not exceeding \$50, . . . . . 25 cents.
No fractions of cents to be introduced in an Order.
United States Treasury Notes, or National Bank Notes only received or paid.

To send over \$50, additional Orders must be obtained.
Postal Office where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out:
No. . . . . Amount . . . . . Date, . . . . . 188 . . . . .

MONEY ORDER.
Required for the sum of \$ . . . . . Payable at . . . . .
State of . . . . . Payable to . . . . . Residing at . . . . .
State of . . . . . Sent by . . . . .
Residing at . . . . . State of . . . . .

ENTERED IN REGISTER: . . . . . Postmaster.

The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands. For example: Mrs. Mary Brown must not be described as Mrs. William Brown.

Names of parties and places, and the sums, to be written in the plainest possible manner.
As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean, and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

Table listing Money-Order Post Offices in California, Nevada, Oregon, Idaho Territory, and Montana Territory. Columns include Office, County, Office, and County.

Table listing Money-Order Post Offices in Washington Territory. Columns include Office, County, Office, and County.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, and DAY OF DELINQUENT SALE. Lists various mining companies and their financial details.

\*Those marked with an asterisk (\*) are advertised in this number.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table titled MISCELLANEOUS STOCKS. Lists various stocks and their bid/ask prices.

Table titled RAILROADS. Lists railroad stocks and their prices.

Table titled BANKING INSTITUTIONS. Lists banking stocks and their prices.

Table titled INSURANCE COMPANIES. Lists insurance stocks and their prices.

Table titled MINING STOCKS—WASHO DISTRICT. Lists mining stocks and their prices.

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Table listing various commodities and their prices, including Coffee, Tea, Sugar, and other goods.

San Francisco Metal Market.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table listing metal prices for various items like Iron, Steel, Copper, and other metals.

MINING COMPANIES

Can get their Printing done cheaper and better by TRUESDELL, DEWEY & CO.

Than at any printing establishment in the city.

COUNTY OFFICERS

Can get their Blank Books and Blanks cheaper of TRUESDELL, DEWEY & CO.

Than of any other printing house in the city.

MERCHANTS

When you want Printing done cheap, send to TRUESDELL, DEWEY & CO.

Who do all kinds of Printing at the lowest rates.

FOUNDRIES

Will save money by having their printing done by TRUESDELL, DEWEY & CO.

Who have put prices down to the lowest rates.

EVERYBODY

Who wishes to save money and get good work, see TRUESDELL, DEWEY & CO.

Who are always ready to receive and fill orders.

MANUFACTURERS

Can get their Printing well done at low prices, by TRUESDELL, DEWEY & CO.

Who are now prepared for all kinds of Printing.

TRUESDELL, DEWEY & CO.

BOOK AND JOB PRINTERS, MINING & SCIENTIFIC PRESS OFFICE

505 CALY STREET, SAN FRANCISCO.

ESTABLISHED 1849. (MAX, 1850.)

VOLUME FIFTEEN OF THE Mining and Scientific Press, COMMENCING JULY, 1867.

AN INSTRUCTIVE BOOK!

Prof. LAYRES' ELEMENTS OF COMPOSITION, BELES-LETTRES AND ORATORY

For Scholars, Teachers, Lawyers all Professional Persons, and those of Common Education, who would improve the Eloquence and Effectiveness of their Composition and Manners of Address.

Price, postage paid, . . . . . \$1.10

This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Seely.
I am prepared to concur in the recommendation of the honorable Superintendent of Public Instruction.—J. C. Felton.
After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for equal advantages, correctness, and precision of definition, as well as for compactness and simplicity of style, it was and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages in a plain and simple style, and in its conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hatch.
It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the application of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a best acquisition to our text books.—James Deane.

I am happy to express my conviction of the value of the work. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.
I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.
I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Lund, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.
You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Drayton.
I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special plunders and advocates at the forum.—John Curry.
The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. Exactly calculated to interest. It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boker.
A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Bulletin.
This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times
Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition), whether written or spoken, holds it up before you; tears it in pieces before your eyes—or rather, we should say, neatly and skillfully dissects it—displays one by one its several parts, throughout the thoroughly acquired and equalled quantity; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done: you are master of the subject.—Mining and Scientific Press.

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

This is an ease in which the occasions are rapidly multi plying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—Stockton Independent.
The most eminent educators in California give it their hearty approval, and we concur.—Marysville Appeal.

Not only one of the best of its kind, but what is still better, one of the briefest. It contains 166 pages.—Virginia Enterprise.

Price, \$1.10. Sent by mail, postage paid, without extra charge. Liberal reductions made to the Trade, Teachers and Schools, ordering by wholesale. Orders received by our Traveling Agents. Address DEWEY & CO., Mining and Scientific Press, San Francisco.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Nov. 9th: Two cross cut at points 60 or 70 feet apart, have been run this week into the Merrimack lode, about four feet each, showing good ore all the way.

Considerable prospecting is being done to the eastward of the Comstock, in the direction of the Occidental mine. Several of the leads promise shortly to yield paying ore.

In Silver Mountain District, the Mountain, Pennsylvania, and I X L Co's have their winter supplies laid in, and will prospect their respective claims in spite of the snow. Several other claims there, among which are the Lady Elgin, Balaclava and Lady Franklin, also show symptoms of life and returning activity.

The Mt. Bullion claims, opposite the mouth of Monitor Creek, have recently passed into the hands of a London Co. who have started work for the purpose of running a tunnel.

## Amador County.

*Ledger*, Nov. 9th: We are glad to announce that the Kearsing mill, in this place, is again in operation, after having been idle for some months.

The shaft of the Dictator claim is sunk on the foot wall of the vein which is now seven feet wide; the hanging wall has not yet been reached. The rock has all the characteristics of that taken from the Coney & Bigelow mine, and is literally studded with rich sulphurets. The owners contemplate the immediate erection of a whim, and sinking to the depth of 150 feet before taking out rock for working.

At the Coney & Bigelow works, under the superintendence of Mr. John Agrell, the result has more than met the expectations of the proprietors. Last Monday they melted down the last 28 days' run, and were rewarded by receiving a brick of gold worth \$4,540. This gold is .996 fine, and worth \$20.58 per ounce.

Last Sunday the Oneida made another good clean up—the result being \$12,000 after it was melted down. Thirty additional stamps will soon be pounding away on the rock of the mine, when the "clean up" will prove still richer.

## Calaveras County.

*Chronicle*, Nov. 9th: The rock now being taken out of the Petticoat lead, at Railroad Flat, will pay \$100 per ton.

The West Point correspondent writes: Sletcher and Lightfoot cleaned up 14 tons from the Last Chance claim, which paid \$20 per ton. The Casner & Barnes' last run of 55 tons, paid \$41 per ton; the mill is now running on rock they expect to pay better. Peters, Champion & Co. on Enterprise Flat, have got the old Gouldseu mine in working order, and have out 40 tons of rock that will pay from \$50 to \$80 per ton. The Mina Rica mill has been sold and will be moved away soon.

White & Co. have got their rotary furnace in operation in Harris' mill, but have not yet made any thorough trial of sulphurets by this process. In Railroad Flat, Hepburn & Co. have got a Hess pan in operation at their mill. Cadell, Weihe & Co's last run of 110 tons paid \$15 per ton. Gamhlo & Zane are going down Man Fashion with good prospects, while on the Petticoat they are gouging rich rock along on top and waiting for something to turn up.

San Andreas Register, Nov. 9th: Captain Ferguson says that the quartz veins at San Antonio Ridge are the richest he ever saw in the State. We saw \$134 of amalgam weighed, sold, and paid for, which he took out of five tons of quartz rock, in an arastra. In working the rock he says that he lost half of his quicksilver, and must have lost a great deal of gold, as he knows nothing of working an arastra. There are, in the mining district, ten or twelve shafts, on veins of quartz which will pay from \$12 to \$75 per ton.

George W. Cox, an old resident of El Dorado, has discovered a veritable diamond mine near that place. The stones are very beautiful and peculiar, for one of which he was offered the sum of \$100. He has his pockets full of them, and says he can find bushels of the same kind. He intends testing them, to ascertain if they really are diamonds. Should his investigation prove favorable, it will establish the fact, not only that the age of wonders is not passed, but that here, in Calaveras, lie beds of marvelous riches.

## Mariposa County.

*Mail*, Nov. 9th: We learn that H. M. Bell, of saloon fame at Coulterville, has re-

tired from the world and gone to "doing his own cooking," on account of his quartz vein changing from gold to copper. It is said that he has struck a lead of the pure virgin ore.

The late heavy rains raised the Merced river so much as to threaten the destruction of the Mariposa Co's dam at the Beuton mill, and to suspend work upon it for the time being.

## Napa County.

The Register, speaking of the quicksilver prospects in Napa county, says: Gangs of men are hard at work upon three different claims in Hope Valley, and upon two of them a large quantity of excellent cinuabar had already been taken out, and there is a most flattering prospect of an inexhaustible supply. We were assured by old miners, familiar with quicksilver working, that no mine yet opened upon this continent ever afforded so favorable a prospect at the outset as, at least, one of the claims in question, and from appearances and information, we are confident they are right.

## Nevada County.

Grass Valley National, Nov. 6th: The contracts for running tunnels on the Blue Point Gravel Co's claims have been awarded as follows: For running 500 ft. down grade to Simons & Co. at \$36 per ft., and 400 ft. up grade to Mitchell & Co. at \$28 per ft., making the aggregate cost to the company of \$29,200.

The Empire Co. still continues to take out the richest kind of rock from their mine. Thirty-eight men are at work, and the company are unable, with their 30-stamp mill, to crush all the rock taken out.

Nov. 8th: Several kegs of the richest kind of specimens were taken, on Wednesday night last, from the Dromedary mine, Echo Hill.

Nov. 11th: The Dromedary Co. have just finished cleaning-up, at Gold Hill mill, a crushing of 30 loads of rock from their mine, including the specimens taken out since commencing work. The total cleaned up is between \$6,000 and \$7,000.

From 199 loads of quartz, crushed recently at the Sebastopol mill, from the Illinois and Wisconsin mine, 12½ tons of sulphurets were obtained, valued at \$115 per ton.

Mr. Chas. Leech has disposed of three-eighths of the Illinois mine for \$15,000.

*Gazette*, Nov. 7th: Fourteen loads of quartz from the Seven-Thirty lode, near Deadman's Flat, crushed at the Gold Hill mill, Grass Valley, was cleaned-up on Monday, and yielded 46 ounces in gold. This, at the rate of \$17.50 an ounce, is worth \$805, or at the rate of \$57.50 a load. The rock was taken out at a depth of 96 ft. on the ledge, at which depth no water is met with.

The name of the Mary Etta quartz ledge, recently sold to a San Francisco company, has been changed to "Salathiel" by the present owners.

A promising quartz ledge was discovered a few days ago, on Diamond Creek, a short distance east of the Mary Etta, or "Salathiel." The ledge is some three feet in width, shows much free gold, and gives good prospects.

*Transcript*, Nov. 6th: The shaft on the Caswell ledge at Newtown is down 40 ft., having a ledge five feet wide, the rock of which is looking first-rate, and contains a large quantity of sulphurets and some free gold. A crushing of 10 tons recently had, yielded \$16 per ton. A large amount of rock is now being taken out and another crushing will soon be had.

H. Schardin & Co. are working the Galena ledge with good prospects. It has been opened on to the depth of 46 ft., at which point the ledge is 18 in. wide. The rock prospects well in a hand mortar, and it will soon be tested by mill process. It contains a large quantity of galena sulphurets.

Nov. 7th: In reviewing the work of the season, the Transcript says: The yield from placer claims will, in all probability, be larger than last year. Several new bed-rock tunnels have been completed and large enterprises have been entered upon for opening extensive ranges of gravel. Several large corporations with abundant capital have taken hold of such mines with every prospect for abundant success. Many old claims are also being fitted-up, and miners are only waiting for sufficient water to commence operations. Extensive claims at Sailor Flat, near Blue Tent, have been purchased by parties from Smartsville, Yuba county, and they will be worked this season on a large scale.

Nov. 10th: The old Cozzens & Garher mine on Missouri Cañon, between Red Dog and You Bet, was not long since purchased by Nece & West, and since that time they have run a substantial double-track prospect tunnel under the creek and found first-rate gravel. On next Monday these gentle-

men will commence taking out cement for mill work.

Nov. 12th: On the first of February last, W. D. Smith and eleven other persons took a contract to work the Illinois and Wisconsin mine at Grass Valley, and they have been so successful in taking out gold that they yesterday bought three-eighths of the entire mine. During the last two months they took out \$11,000 in gold.

Grass Valley Union, Nov. 5th: We yesterday saw at A. Delano's hanking-house, in this place, another lot of beautiful quartz specimens from the Empire Co's mine, which were taken out on Saturday evening last. For the lot, embracing four or five pieces of quartz, none of them being large, a good judge of such articles offered \$500 in coin, and the offer was refused. They were certainly the richest-looking quartz specimens we have ever seen in Grass Valley.

EXCELSIOR.—Meadow Lake Sun, Nov. 9th: The shaft on the Enterprise mine has reached a depth of 93 ft. The width of the ledge at the bottom of the shaft has not yet been ascertained, but is the full width of the shaft; at the surface it is upwards of 20 ft. in width. The company intend to run their mine and mill the entire winter.

Gold Hill News, Nov. 9th: The Meadow Lake correspondent writes: "The Kentucky Co. are driving the work ahead on their mine with great vigor. The lower tunnel is now in a distance of 68 ft., and the shaft which is being sunk from the surface above to connect with the tunnel is down 20 ft. They are now erecting a house over the shaft, in order to protect the workmen from the inclement weather of winter. The work is being prosecuted night and day. Quite a number of the mining companies in Meadow Lake intend to winter here, and they are accordingly building warm cabins, and also substantial houses over their mining works, so as to keep in operation, as next summer will reveal some wonderfully rich gold mines here.

## Plumas County.

The Alta of this city has the following: The Crescent mill property, in Plumas county, was sold by the sheriff on Wednesday last for \$45,000. We presume this was the famous Indian Valley quartz mine which, from November, 1862, to the 9th of June last, yielded \$667,213, of which \$100,000 were paid in dividends, and \$150,000 spent in improvements, current expenses having absorbed the rest. The total yield of rock was about 40,000 tons, and the average production per ton, \$16.18. The mill has 32 stamps. There were two mills at one time, but the second mill of 24 stamps, was sold in 1866, and moved to the Whitney mine. The Crescent property includes claims on three veins, two of which, the Crescent and Horseshoe, run east and west 12 feet apart, and the third, called the Pet, runs northeast and southwest, and cuts through both the others. The parallel veins are about five ft. wide each, and the Pet is about half as wide, but the ore is richer than in the others.

## Shasta County.

Courier, Nov. 9th: R. Johnson and a man named Williams have located a claim on what appears to be a copper ledge, near Silver City, on North Cow Creek. The croppings yield a prospect of 70 per cent. in pure copper, and the locators are confident that they will strike a permanent ledge.

## Sierra County.

Downieville Messenger, Nov. 9th: The Trustees of the Tubal Cain Quartz Mining Co., located near the Docile ledge, Alleghany, have let a contract to sink 40 ft. on their ledge, the shaft to be five ft. by seven.

## Yuba County.

Marysville Appeal, Nov. 11th: The Jefferson mine at Brown's Valley, has gone down about 550 ft., nearly all the way in pay rock, which has averaged from \$10 to \$200 per ton. The mine is now owned by a San Francisco company, and from Sept. 13th, 1863, when they commenced work, until Oct. 1st, 1867, the mine yielded \$409,617, and paid \$131,000 as dividends. The production before the present company got possession is estimated at \$130,000. The claim is 780 ft. long, and the mill has 12 stamps driven by steam. The average yield of the rock is now from \$10 to \$15 per ton.

The Pennsylvania mill has 16 stamps, and crushes about 1,000 tons per month. The Dannebrog mine has yielded \$250,000 according to rumor, which avers further that no books were kept for fear that they might be produced in litigation, of which the company have had more than a fair share. The rock yielded from \$15 to \$20 per ton, and the mill has eight stamps. The Sweet Vengeance Co. have a 10-stamp mill; have taken out \$25,000, have put in \$8,000, and are doing nothing just now.

Nov. 12th: The Rattlesnake Co. crushed 60 tons of rock last week, which yielded an average of \$25 to the ton. The Pennsyl-

vania mill is in full operation again, running 16 stamps, and crushing very good quartz. The late interruption in this mine originated from a miscalculation, or a variation in the dip of the pay streak. The superintendent expected to strike it in level No. 9, at a distance of 70 ft. from the incline, but had to go 105 ft. to retap the rich chimney. A similar interruption may never be expected again. Incline No. 2 is expected to supply deficiencies in the future, as the rock is improving every day in quality.

## ARIZONA.

*Miner*, Oct. 26th: The quartz mill of Ryneron & Stone, at Pino Alta, New Mexico, commenced crushing ore recently.

There are about 50 men at work on the Vulture lode engaged in taking out ore, wheeling it away, assorting and piling it up. There is already taken out about 350 tons of first class rock, and about 3,000 tons of second and third class qualities. The mine is the largest and best upon the continent. The rock is of all shades of color, coarse, fine grained and porous. Free gold may be seen in almost every piece, and rich specimens are frequently found.

## ALASKA.

Honolulu Commercial Advertiser, Oct. 12th: By the ship William Gifford we have a report, received from the revenue cutter Lincoln, which was spoken off Sitka, that gold had been discovered back of Sitka, and that the diggings promise to be as rich as any in California or British Columbia.

## COLORADO.

Georgetown Miner, Oct. 24th: A quantity of very fine ore has been delivered at the works of Garrott, Martine & Co. for reduction, from the Cliff lode on Democrat Mountain.

Ore to the amount of \$30,000 have been subscribed for the erection of reduction works at this place.

Some two or three tons of very fine argenteiferous galena ore, from the Chihuahua lode, situated in Colfax Park, Snake River Dist., has been brought over for reduction.

A 16-in. vein of very fine gangue, carrying galena and zinc blende, has been discovered in the Monticello lode, Columbia Mountain. An 8-in. vein of sulphuret of silver lies against the lower wall.

A certificate of assay of ore from the Gen. Fitch lode in West Argentine Dist. has been shown the editor, which places the result obtained at \$1,344.41 per ton silver. The ore is pronounced by Prof. Martine, who made the assay, to be a pure gray and black sulphuret of silver. An assay of 10 lbs. of the ore yielded five ozs. and one pwt. of silver.

We saw, on Monday evening last, in the hands of Mr. Miner, a fine piece of pure silver bullion weighing 3½ ozs., which was extracted from 10 lbs. of Belmont ore. The value of the bullion is \$472½, coin, at the rate of \$950 per ton.

News, Oct. 30th: We saw at the Colorado National Bank, this morning, two bars of gold bullion. The weight of the largest was 27 30-100 ozs., fineness .826, value \$472.10 in coin. The weight of the other was 13 1-100 ozs., fineness .871, value \$236.33 in coin.

A new discovery has been made in Summit Dist., called Soda Gulch, which is yielding richly.

Warren Hussey & Co. sent 260 ozs. of gold dust to the mint this morning. Among the lot were 190 ozs. from the Clear Creek diggings above Idaho, which is said to be one of the finest lots ever seen in this city.

We saw at the mint this morning, a fine bar of gold bullion weighing 200 ozs., and valued at about \$3,000. Four other bars, valued at \$1,600 were also shown us, while down below the smelter was busy at work, and passed to us two fine bars, warm from the fire.

We saw at the Colorado National Bank this morning, a package of gold dust from Gold Run, in Summit county, forwarded by mail.

Times, Oct. 26th: The Excelsior Reduction Works of Krauss, Reese & Bruckner, have lately treated the following parcels of ore: Forty-two tons of Pewabic yielded 61 50-100 ozs. gold; three tons of Bobtail ore, 10 50-100 ozs., and 4½ tons from the Wautoga lode, 7 60-100 ozs. The "California process" keeps steadily at work, and its success as a paying method of treating refractory ores is undoubted.

The recent discovery on Mr. Peter Fleming's claims on the American Flag has not been over estimated. Three men recently took out four cords of ore in three days. The quartz appears rich in free gold.

## IDAHO.

Owyhee Avalanche, Nov. 2d: The Lincoln mill will be put in running order and at work next week. The mill will be supplied from the mine upon which Fogus & Co. are working. The last crushing of 16 tons of



ore from this mine yielded \$190 per ton, and the bullion is worth \$6.50 per ounce.

Recent reports say that good placer diggings exist on Willow Creek. The diggings are said to be of a bench or bar character, and in many places prospect well 20 feet deep.

In speaking of the Oro Fino, Ada Elmore and North Star mining works, the editor says: There is about 2,000 feet of ground in that vicinity that shows the glittering ore along the whole line, wherever any work is being done. At each of the dump-piles abundance of the coveted stuff is visible in much of the ore. About 100 men are employed by the various companies, and that part of the mountain is one picture of industry.

The people are generally preparing for the winter.

The Iowa Co's mill, in Flint Dist., has commenced work. Everything works admirably.

World, Oct. 26th: The first clean-up of ore from the Pioneer ledge, worked at their mill, was highly satisfactory, and the working force has been considerably increased, and the mill is kept in constant operation, day and night.

Ellis, Devine & Co., who purchased the ditch property of William Lynch lately for \$20,000, are putting their lines of ditching in excellent order.

Another clean-up, after a three weeks' run, was made at the Elkhorn mill last Saturday, and the very handsome total of 680 ounces was the result, which yielded \$9,800 in bars. The Co. have paid up every dollar of indebtedness, and have over \$15,000 surplus funds on hands. The mill is kept constantly running, and the rock from the ledge is rich as ever.

Leviston Journal, Oct. 24th: The workmen on the Hie Jacet have already commenced the construction of the necessary buildings for the Hie Jacet mill. About 40 tons of ore are already extracted from the Hie Jacet vein, a part of which will be taken to the Williams & Maxwell mill for reduction, and the balance will be for the Hie Jacet mill. Work is being progressed in taking out more ore from this vein, and will continue through the winter.

All the tests made by the little mortar mill of Sanderson & Sherwin have fully sustained the hopes of the quartz men of the camp relative to the yield of the ore.

NEVADA.

Black Rock.

Sage Brush, Nov. 7th: Black Rock sends us but little information this week. The mill of A. Evans & Co. started on Monday. Isenheck superintends the entire working of the ore at this mill and will furnish the country with the result in a few days from this time. Some of the appliances for a new mill being built by the Atchison Bros. at Black Rock, were shipped from Susanville on last Tuesday. Atchison & Co. intend to put in operation a stamp mill of which the machinery that passed through here on the day mentioned above was a part. At what point it will be located we have not as yet been advised. We are as usual waiting for results and feel quite sanguine of the entire success of the present working.

Pahranaगत.

Reveille, Nov. 8th: The 10-stamp mill of the Pahranaगत M. & M. Co. is not yet finished on account of the delay in the arrival of the machinery. Pending the completion of the mill there is not much activity in mining operations in the district, although a few mines are worked steadily. The Indiana ledge, which belongs to the mill company looks exceedingly promising, and is producing a fair quantity of good ore. The Illinois is also worked by the same company, and continues to develop well. Another ledge, called the Webster, is producing an excellent quality of ore. Springer, one of the earliest settlers in Pahranaगत, is doing some work on several ledges for an eastern company. Hiko, the town and county seat, improved a little during the past summer, and will become a lively place as soon as the first mill works successfully. The present residents of the district have the fullest confidence that there are good mines there, in spite of the bungling management and waste of money which have been the characteristic features of some companies.

Reese River.

Reveille, Oct. 29th: The editor has been on a tramp among the mines of Belmont, in order, we suppose to prove for himself, on the principle that seeing is believing, that all the reports which he published of strikes, discoveries, big things, etc., are veritable facts. We give a synopsis of his report. First he visits the great Highbridge or Transylvania vein, also the Achilles, Quintera, El Dorado and many others. He says there appears to be considerable confusion and uncertainty, at least there is in

our mind, respecting the position and general character of these mines, and of none less than the Highbridge, but after a careful examination he came to the conclusion, by the aid of information imparted to him by the engineer in charge, that there was no doubt of there being three continuous and well defined veins. Upon the veins the principal companies operating are the Combination, Belmont, McAleer, and the Silver Bend companies. In all these, the vein is found quite regular and rich, bearing the same quality of ore throughout and everywhere continuous. The principal openings are those of the Belmont Co. Upon this quite extensive workings have been conducted.

The croppings of the Highbridge and Transylvania, on both the Combination and Belmont Co's property have been mined, or quarried out, to a depth of from 20 to 40 ft. and those of the latter company redned at their mill in Belmont. From the amount worked, some \$130,000 have been produced, although principally worked by wet crushing process, leaving a large percentage in the tailings, all of which have been carefully saved, and probably contain as much silver as the ore had already yielded.

The McAleer and Silver Bend Cos. were not at work at the time of the visit, and he did not visit the interior of the mines, but the ore on the dump and the regularity of the vein were sufficient evidence of their wealth.

Next came the works of the Combination Co. This mine, according to a New York pamphlet, "is the richest mine in the world," and "from the reflection of a candle the walls shone like ten thousand diamonds." Fearing to be struck blind by such a gorgeous and brilliant sight, our editor remained in the upper light, especially as he was refused admission to enter by one who "had been out all night," or nearly so. After examining the arrangements for the new mill, the editor, after promising us another report from these mines, returns, we suppose, to his editorial duties.

Nov. 5th: This morning, 2,100 ozs. of crude bullion from Coover's mill, at Bunker Hill Dist., were brought into the city for melting and assay.

Yesterday a bar of bullion, valued at \$1,500, was received in town from the Knickerbocker mill, near Ione.

The extraordinary quality of the ore which the Diana mine is producing excites general surprise, as it had not hitherto obtained distinction in that respect. We have before us the result of the working of two batches of its first class ore at the Metacom mill; the first lot of 3 1/2 tons yielded at the rate of \$842 per ton; the second lot of three tons, at the rate of \$814 per ton. Seven and a half tons of silver ore, producing \$5,579, could scarcely be met elsewhere than on Lander Hill. The second class ore, of which the Diana yields a large quantity, is also of superior quality, and will work upwards of \$200 per ton. It must be classed among the richest mines of the Reese River Dist.

Nov. 6th: Russell's stage, which arrived from Cortez last night, brought 1,400 ozs. of crude bullion from the St. Louis Co.

Last evening, three large bars of bullion, weighing 4,805 ozs., were brought into the city from the Knickerbocker mill, near Ione.

The mill and mine of the Mt. Tenabo Co. have been closed for the winter, by order of the Board of Engineers in San Francisco.

Nov. 8th: The South American mine, on Lander Hill, is literally improving daily. Good developments might properly be expected from its situation, lying as it does near to the mines of the Manhattan Co., to the Timoke, Savannah, and other valuable mines. At the depth of 150 ft. the vein is well developed in a drift, and varies in size from one foot to four feet, and the great mass of the ore produced will pay handsomely in the mill. This morning we learned the result of the reduction of 25 tons of the ore at the Metacom mill last week. Seventeen tons of the first class yielded at the rate of \$302 per ton, and eight tons of the second class at the rate of \$84 per ton. The Supt., T. W. Triplett, is satisfied he is handling one of the mines upon which the prosperity of the city will rely.

Nov. 9th: There arrived in the city on Saturday evening, by Russell's stage from Cortez, five bars of bullion from the Mount Tenabo Co., and 6,000 ozs. of crude bullion from the St. Louis Co.

Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia Enterprise, Nov. 5th: Last Saturday a melting was made at the Gould & Curry mill of sufficient crude bullion to produce 37 large bars. The bullion—valued at \$80,000—was brought to this city yesterday

by the Gould & Curry hullion wagon, and deposited at Wells, Fargo & Co's. The bullion was extracted from Gould & Curry and Savage ore.

Nov. 6th: No less than six of the most prominent mines in and about Como, Palmyra Dist., including the Wagram and Union, are being reopened and work in them prosecuted with great energy, some 40 men being employed. Ore selected from the old dump-piles, and hauled to Dayton, is yielding at the rate of over \$20 per ton.

Nov. 9th: The total amount of bullion shipped from this city and Gold Hill for the past week was 8,409 lbs, worth \$214,930.58; and the total amount assayed in the two towns was 97,973 ounces—a marked improvement over the previous week, both in the amount of bullion shipped and assayed.

Gold Hill News, Nov. 5th: We noticed a large-sized pile of bricks in Wells, Fargo & Co's office this morning. On inquiry, we ascertained that there were 23 in the pile—beautiful, bright bricks as were ever melted and assayed. Twelve belonged to the Kentucky Co., were worth \$25,000, and weighed 910 lbs; nine belonged to the Crown Point Co., were worth \$20,000, and weighed 670 lbs.; and two were from the Winters & Kustel mine, and were worth \$4,500, and weighed 170 lbs. In all, worth nearly \$50,000.

Nov. 7th: The Savage Mining Co. has declared a dividend of \$7.50 per sh. (\$150 per ft.), amounting in the aggregate to \$120,000, payable on and after Friday of this week. From the above disbursement the company carry over a surplus of \$60,000. The heaviest dividend of the year, on the Comstock, was declared yesterday in Gold Hill. The Eclipse Mill and Mining Co. declared a dividend of \$1,500 per sh.

Tresspass, Nov. 9th: This paper thus gives a description of the Hoosier State mill: The mill is run by a 14-inch cylinder engine of about 100-horse capacity, and it propels the large lot of machinery with great ease. The steam is supplied from two tubular boilers, one 44 inches in diameter and 15 ft. in length, the other 54 inches in diameter and 16 ft. in length. The superheated steam which is saved makes a great credit in favor of fuel used. Eighteen 700-pound stamps, in four batteries, crush daily about 40 tons of ore from the Chollar mine. Each stamp drops 9 ins. and 80 times a minute, yet with all this immediate weight the battery frames are not susceptible of a jar, so firm are the battery-blocks set in the earth. The ore, properly crushed, passes through transverso troughs directly to six 8-ft. settling vats, thence to eight of Greely's improved pans, where it is ground and amalgamated for five hours; then to four huge sheet-iron settlers just below, and then to three agitators, yet beneath, from whence the tailings run over 400 ft. of blankets to the cañon, where again they are corraled in a large reservoir, for use at some future day. At the south side of the mill are six Knox pans, which are in constant use working sulphurets and cleaning amalgam. One of the most noticeable improvements of the whole concern is the ease with which every portion of the gearing can be reached and repaired. One can walk erect among wheels and pulleys, and belts and shafts: so if anything gets out of order it may be reached without delay. Again, the water from the batteries is saved and used again. Signal bells from the batteries and amalgamating room connect with the engine room. So in case of accident the engine may at once be stopped.

UTAH.

Salt Lake Gazette, Nov. 2d: We are promised early next week, the sight of nearly 1,000 lbs. of silver, in bars, the same being the result of the first run of the Smelting Co. in Little Cottonwood Cañon during the present week. That amount was extracted entirely from the cinders made by Dr. Conger and others in their abortive attempts to manipulate the North Star lode. This result demonstrates that all that was wanted to prove the wealth of our mines in Utah was the employment of skilled labor in the treatment of the ores, men who have devoted the best portion of their lives in acquiring the necessary information to combat and overcome the difficulties incident to nearly every class of silver mining operations.

Reese River Reveille, Oct. 31st: There are several specimens of gold bearing quartz from Sweetwater at the notarial office of J. H. Schermer, which the curious may examine.

OREGON.

Dalles Mountaineer, Oct. 26: From Susanville, Grant county, we learn the following: The John Day Quartz Mining Co. will be ready to commence crushing quartz next week, and then we will be able to tell what our quartz is going to amount to. If it proves rich it will be a good thing for that camp, as there are ledges too numerous to

mention. Some of them prospect well with a hand mortar, but nothing short of a mill will test it well. The mill will be sufficient to give the quartz a fair test, as far as free gold is concerned.

Messrs. Cresap, Sawyer & Marshall are getting out quartz from the Marshall Ledge, for the mill to work as soon as it gets to running, which prospects very well. That is the only ledge being worked at present. There is some rock at the National ledge ready for the mill, which is said to be very rich, but the company have suspended work for the present.

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## Canvassing Agents.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

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Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Nov. 16, 1867.

## Notices to Correspondents.

**CHARLAMAGNE.**—The Darien Canal, which is again being brought into prominent notice, was originally suggested by the celebrated founder of the Saint Simonians, a sect which at one time occupied a large share of public attention in France. The suggestion for this canal may be traced as an emanation of our own revolution, as will appear by the following brief history. Henri de Saint Simon was born in 1760, being the lineal representative of the gossiping historian of Louis XIV. By an alliance with the ancient Counts of Vermandois, his family claimed to descend from Charlamagne, which fact primarily incited the ambition of Saint Simon. At seventeen he entered the army and served five campaigns during our revolutionary war. It was in this bellicose occupation that he conceived that the future of civilization lay in an era of peace and equality, sustained by the encouragement of scientific thought, and industrial activity. With these feelings his first occupation was the cutting of a canal through the Isthmus of Panama, the plans for which he laid before the Viceroy of Mexico; he soon found, however, that all his views, including this amongst the number, were too far in advance of his age. There exists but little doubt but the original design of the Suez canal, now under construction, emanated from the fertile brain of Saint Simon, as proof exists in abundance, that it was St. Simon's disciple, *Enfantin*, who communicated the idea to Lessep, the present concessionist.

**A WELL WISHER** is informed that there are mineral substances other than the flexible stone alluded to recently, which are more or less susceptible of flexure, the most remarkable and rare of which is flexible silver ore, or ferro sulphuret of silver. Mica and asbestos are the most generally known varieties; talc only is flexible, and not like the preceding, elastic also, as it does not when bent recover its original form on removing the force which compressed it; the other minerals described do. When the fibers of asbestos are so interlaced, in place of being parallel, as not to be apparent, it has been called mountain leather, and sometimes rock or mountain cork. The former occurs in flexible laminae or sheets, resembling leather, and the latter possesses the feel and somewhat the texture of cork. Both are so light as to float on the surface of water, in consequence of the loose interlacement of its fibers.

**YOUNG NATURALIST.**—Of the extinct birds during the historic period, the Moa (*Dinornis Giganteus*), of New Zealand, is one of the most remarkable. It exceeded the ostrich in size, being from ten to twelve feet in height. The tibia (drumstick) of this bird was from thirty to thirty-two inches in length, and the eggs so large that it is said that a man's hat would form only a sizeable egg-cup for one of them. These bones have been found in company with charred wood, evidencing that they were occasionally killed and eaten by the natives.

**N. G. H., Coulterville.**—The package of minerals, to which you refer us, has not yet come to hand. The matter of which you write is very interesting and important, and we shall give it full attention so soon as the package reaches us.

## Shall We have a State University?

This question, which has been so frequently and so earnestly asked in this State, appears now to be in a fair way to receive an early and practical answer. Some weeks since we mentioned the fact that the College of California offered to donate 150 acres of land, about five miles from Oakland, to the State for the use of the State Agricultural College. The Board of Managers of that Institution having visited the place, have unanimously voted to accept the offer; and thus it is settled that the Agricultural College is to be located there. The Trustees of the College of California further offer to donate the remainder of their land, 450 acres at the same place, to the State, on condition that the Legislature shall establish a first-class University there. The Constitution requires the establishment of a State University; we have a handsome University fund now in the treasury, and the present appears the proper time, and Oakland the proper place, to establish such an institution. A few objections have been raised, but their weakness shows the strength and importance of the proposition.

A cotemporary has remarked, "that it has been suggested that a University would absorb the Agricultural School." So far from this, it is the only plan known by which such a school can be kept alive. There is not to-day, in this country, a flourishing school of agriculture which is other than a department of some other institution on a broader foundation. The experiments which have been made in founding separate Agricultural Colleges in the United States, have, we believe without a single exception, been failures. The experiment made in the State of New York did not succeed, although it was backed by a handsome endowment and strong personal influence. The school has been merged into the Cornell University, where, surrounded by all the other departments of liberal learning, its existence and success are made certain.

The attempt to found a separate Agricultural School in Massachusetts has not been a success. The first President resigned. The second one, after a few months labor, retired, we judge, if not with disgust, with something of disappointment. The idea of total separation was practically ignored by locating the school within the shadow of Amherst College, where, in various ways, the support and advantages of that institution could be secured. At New Haven an Agricultural department has been grafted on to the renowned University, as well as a scientific school. The same is true with respect to several of the older colleges of New England and the few vigorous ones of the Western States. In this way the experiment has been successful, and in no other.

The fact is, we want a State University which shall embrace within its scope the entire of a Classical, an Agricultural, a Mining and a Mechanical school. We want such a University on a broad and liberal foundation, under the immediate patronage and charge of the State. Such an institution will draw around it the interest and support of nearly all the highly educated life of the State. We have the germ—already, in fact, a thrifty shoot—of such a concentration in the Associated Alumni of this coast, which now holds its annual gatherings in Oakland, on thosame day on which occurs the commencement of the College of California. This association will throw its active influence in the support of a State institution, such as we have shadowed forth. It is already a power which is being felt in the literary circles of the State—purely intellectual and cosmopolitan in character, and eminently safe to be the nursing mother of the coming University, which we have faith to believe is about to be inaugurated within the already classic confines of our neighboring suburb.

**GAS.**—The gas company has reduced the price of gas about eight per cent.; this favor would be thankfully acknowledged if it was not coupled with a deterioration of fully twenty per cent. in quality.

## The Recent Meteoric Display.

The predictions of astronomers in regard to the periodic nature of the great "meteoric showers," as they are called, seems now to be quite fully established. There is evidently a point in the heavens, reached by our earth and a large body of meteorites, in periods of from thirty-three to thirty-four years.

Various theories have been proposed to account for the phenomena of meteorites; but that of Chaldani is the only one that has met with any considerable favor. It consists in supposing that, independently of the great planets, there exist in the planetary regions myriads of small bodies, which circulate about the sun, generally in groups or zones; and that some of these zones intersect the ecliptic, and are consequently encountered by the earth in its annual revolutions. There are, indeed, many objections to this theory, and many facts in regard to meteoric appearances which it is difficult to account for on this hypothesis; but it must be recollected that as yet we have collected but very little knowledge with regard to the nature of such bodies. Certain it is that they appear at great altitudes above the earth, move with immense velocity, and present phenomena which are quite as difficult to be accounted for on the only other admissible hypothesis, that they owe their origin to the disengagement of electricity, or some analagous matter, which takes place in the celestial regions, on every occasion on which the conditions recur for the production of the phenomena are renewed.

The display on Thursday night last, the 14th instant, was almost identical in character, and, had it not been for the presence of a full moon, would undoubtedly have been quite as brilliant as that of 1833.

The height of the display was between the hours of 12 and 1 o'clock. The air was highly charged with electricity at the time, and the meteors, such as were visible, appeared at the rate of about fifty per minute, according to the observations of Dr. Harkness in Sacramento. According to that gentleman's observations, they appeared to start from a point about five degrees south-east of the zenith, as their center of appearance—precisely the same noticed by him as the central point of their appearance in 1833. Their general direction was westerly, in a nearly horizontal direction. Their next appearance may be looked for in 1901.

**THE ENSLEY GAS.**—The Pacific Knitting Mills at the Mission, are lighted with the Ensley gas, which is made at that establishment,—from wood and the wool refuse of the works. This gas gives a fine, white light, and is produced much cheaper than gas can be made from coal, where a supply of animal refuse can be obtained at a reasonable low price. The Pacific mills are now running to their fullest capacity, and are turning out large quantities of goods, equal in their kind to any which can be imported. This is a most important enterprise and one well worthy of encouragement. Everybody who buys knit goods, should inquire for those of California make. That is the way to build up our home manufactures, and create a demand for the labor of our own people.

**INDELIBLE PENCILS.**—Traver Bros., at No. 32 Merchants' Exchange, are agents for a patent indelible pencil for marking linen and other kinds of white goods. The pencil is one of the handiest and most useful little affairs we have seen for some time. It does away entirely with the indelible ink, which requires a pen to do the marking, and any one who has tried that mode of marking linen, will readily appreciate the indelible pencil, besides it will save ten times its value in one year, in keeping track of the various articles of apparel, generally lost or exchanged by various means. It is said to be an improvement on all former indelible pencils.

## PROBABLE CHANGE OF METHOD IN THE

## REDUCTION OF GOLD AND SILVER ORES.

Several weeks ago we briefly alluded to the necessity which existed for some beneficial alteration in the mode of obtaining the precious metals from their accompanying gangue, if our mines are to return to their stockholders a fair remuneration for the capital and risk incurred. At that time we vaguely hinted at the possibility of an early approach to a more desirable state of things, an opinion, however, that was based more upon rumor than facts positively known to us. In the same article we made the statement that a gentleman who, we may here state, has been long known to us, whose name, when made public, will doubtless be also either personally or by reputation very familiar to most of our readers, had repeatedly stated that the loss now sustained, of fifty-five per cent. on the yield of bullion, was preventable to the extent of fifty per cent. This announcement led to some correspondence, through us, with parties interested in improving the present system of work, but, thus far, without any practical result.

In consequence, however, of some matters connected with the negotiations above alluded to coming to the notice of certain shrewd, practical business commercial men, whose status in the general welfare and progress of California, both individually and collectively, is of the most extensive character, the subject which forms the caption of this paragraph is now under serious advisement, with the object of ascertaining the feasibility of carrying into execution some practical plan. In another week or so we hope to be able to state what progress has been made in this connection.

## PROF. LAYRES' ELEMENTS OF COMPOSITION.

We notice that at the meeting of the Board of Education, on Tuesday evening last, on recommendation of the Committee on Text-books, the Secretary of the Board was directed to address a note to each Grammar and High School teacher, requesting them to adopt Prof. Layres' new work, "Elements of Composition and Belles Lettres" in their schools. This movement is a most proper one. The work alluded to has been pronounced by all, without exception, who have examined it, as the best work of the kind extant. It is, moreover, a California book, written and printed in this State, and as such, all other things being equal, has an especial claim upon the attention of our teachers and School Superintendents. We would call the especial attention of all interested in education, throughout the State, to the above action of the San Francisco Board of Education. Specimen copies of the work can be obtained at this office.

**THE IRON AGE,** the exponent of the iron interest in the Atlantic States, entered upon its 4th volume on the 26th of September last. Its publisher took occasion on that event to enlarge the paper to double its former dimensions. This is an ably conducted and most valuable journal. It is read largely, enjoys the confidence and approval of most of our eminent statesmen, and is named as authority on all questions connected with the iron and hardware interests of this country. We esteem it as one of the most valuable of our exchanges. It is conducted by John Williams, 80 Beekman street, New York.

**FIRTH & SON'S STEEL.**—The agents of this celebrated firm, Nelson & Doble, 819 and 321 Pine street, received per ship Hertfordshire, a few days since, their first invoice of Firth & Son's celebrated boiler steel, made especially for the manufacture of steel boilers, and generally acknowledged to be the best steel for that purpose. We propose to make especial allusion to this steel in our next issue.

**ANOTHER TERRIBLE MINE EXPLOSION** is reported by telegraph to have occurred at the Forindale Colliery, near Glamorgan; 300 miners were at work, of whom 200 are reported as being killed.



(Written for the Mining and Scientific Press.)

The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

Messrs. Editors:—Two recent occurrences have combined to again introduce into more prominent public attention the subject which forms the caption to this article, as compared with the dormant state into which it has for some time fallen. I allude to the statement made in Prof. Blaké's correspondence from Freiberg, "that the barrel method had become quite abandoned at Freiberg." This fact has been well known to the writer for a considerable time, as well as to a few others, whose habit is to ascertain what is going forward in connection with their profession at other places outside of their individual locality. With the general public, however, the information so conveyed through the medium of the MINING AND SCIENTIFIC PRESS, the news appears to have come, to use a vulgar expression, like an unexpected thunderclap; so much so that by way of illustration I may state, that after the hearing of the argument recently held in the U. S. Circuit Court, on the motion for a new trial in the case of Brodie et al. vs. the Ophir S. M. Co., an irregular but interesting conversation occurred, in which the bar and the court participated, respecting the probable future employment or abandonment of the barrel method of reducing gold and silver ores. Such an occurrence, while it prominently displays the lively and deep interest felt by every section of the public on all matters tending to improve or economize the extraction of hulsion from its ores, at the same time illustrates the very superficial and limited amount of the reasoning faculties which has hitherto been brought to bear on the subject by the public generally; so little, in fact, that its conduct since the Washoe discoveries, has been characterized by the total absence of the mental qualities, best calculated to produce permanently beneficial results. Instances will hereafter be introduced to illustrate this strange mental hallucination on the part of the many, but not wise-headed public. This deficiency of logical powers on its part, will be shown in the course of the ensuing remarks respecting the Freiberg barrel.

In the first place, it may be stated that, at the commencement of the Washoe discoveries, or say nearly eight years ago, I wrote a series of articles which appeared in the Evening Bulletin, giving an abstract of the geological accompaniments ordinarily associated with metallic mineral veins; more particularly gold and silver ores, the latter having for many years prior to my arrival in California, occupied no small portion of my time, means and attention. In addition to the preceding, I dwelt very largely on the different modes adopted, under varied circumstances and place, with the intent of beneficiating auriferous and argentiferous ores. This latter named portion of the series was copious, and I am not aware that anything material relating to the reduction of these metals from their ores was omitted; it was brought up to all the facts then known to science, and I have yet to learn of any material fact that has since been discovered in relation thereto by science, or changed manipulation possessing novelty, combined with economic advantage.

Those parts of the series above mentioned were probably of too didactic a character to please many, especially those who esteem expertness at note-shaving and jacket swapping, as the two highest and most estimable faculties pertaining to human wisdom, and the only essentials to the perfectly practical man of business, as such usually, when possessed of a few dollars, in their vanity customarily esteem and describe themselves to be. Yet such, from the time alluded to up to the present period, have more or less been the victims and patronizers, sometimes of self deluded enthusiasts, at others, of downright charlatans and humbugs, the whole of which would form a long series, commencing with McCulloch's "bricks," and probably will not terminate with Eisenbeck's "twenty cent chemical nostrums," (which now forms the Black Rock and Gold Hill excitement), unless those interested in silver mining operations very much change their course of proceeding, and engage the services of parties both theoretically and practically acquainted with mining and the reduction of ores, and so avoid the enormous losses, amounting to full fifteen million dollars per annum now sustained, owing

to the employment of irrational methods—the result of ignorance, not of wilfulness. It was my intention in this place to have made some personal allusions, merely, however, relating to the writer; but they will be deferred until the conclusion of the series, in order to at once enter into the investigation.

WHETHER THE BARREL OR OTHER METHODS IS BEST ADAPTED TO THE CIRCUMSTANCES OF THE PACIFIC STATES, FOR THE REDUCTION OF SILVER ORES.

We see few things more common, even among educated people, than that of erroneous ideas arising in their minds in consequence of illogically associating the complex with the simple. Thus, when a barrel or the barrel process is alluded to by or before one unacquainted with the possible variations which may occur to change the character of the ore, or the propriety of the adoption of the other, he is very apt to conclude, from what by logicians is termed simple apprehension, to mentally embody the conception that like results, whether beneficial or detrimental, must occur wherever the same article or method may be employed, not heeding the numerous complex circumstances which may occur to completely render the comparison valueless.

This remark particularly applies to the subject under consideration. As, however, very few are aware of the conditions under which the barrel process was formerly employed at Freiberg, and subsequently discontinued, a brief recapitulation will probably be deemed of general interest. Before doing so, however, I wish to make one observation. Prof. Blaké, in his interesting letter from Freiberg, stated that the barrel process was abandoned, and fire now only was used; neglecting, I presume, in the hurry of traveling, to mention that "the fire" was used only in the first instance in the concentration of the ore into a matte, containing 60 to 65 per cent. of metallic copper, the particulars of which will hereafter be given. The separation of the silver contained in this concentrated matte, obtained by means of fire, has again to be subjected to the same ordeal in the roasting furnace, after which the silver has to be extracted by the humid or aqueous method in the mode patented some years ago in the United States by Huttmeister Ziervogel, when a resident of this country, and engaged in the coal mines of Pennsylvania. All these matters will, however, be explained in the course of this series.

Finding the space rapidly filling which it is customary for newspaper publishers to ordinarily give to any single subject in one publication, I shall have to defer to another week the description of the various modes that have been heretofore, and such as still are employed, as well as explanations comparative of the advantages of each. I shall therefore, this week, make a brief summary of those points connected with the barrel process which it appears to me has chiefly tended to retard its general introduction.

In the first place, no means have hitherto been devised of practically chloridizing silver ores, excepting at a loss of fifteen per cent. of the precious metal—gold not so great, unless copper is also present, in which case the loss of gold is even greater than what occurs with silver. In Germany one half of the loss sustained by chloridizing has been saved hitherto by periodically sweeping the flues and chimneys, which are constructed in such a manner as to have special reference to the subsequent condensation and extraction of the precious metals so sublimed; but on the Pacific coast no such costly constructions are formed for the purpose of effecting this saving, consequently all the precious metal which becomes sublimed is lost to the operator. Owing to the high price of labor and other circumstances connected with the Pacific coast, it is by no means probable that within any reasonable period such expensive condensing appliances will be constructed. It therefore becomes important to consider whether any less costly mode of procedure to obtain the same object could be adopted. This I fully believe may be done, chiefly by employing a different mode of chloridizing in such a manner as to obtain perfect chlorination, without being accompanied by any loss of the precious metals, combining at the same time some additional improvements in the barrel and the admixture of the pulp, by which means the lining of the barrels, in place of lasting only from twelve to sixteen months, as shown by Mr. Brodie, in his evidence on the recent trial, such lining might be made to endure certainly double, perhaps treble the time named by him. As the changes here alluded to could be effected at a comparatively small outlay, and would probably not cost more than one dollar per ton more than the ordinary mode of amalgamating by means of pans, the saving would be enormous.

In fact the difference in the cost for wear only between the pan and barrel, under the circumstances, would about suffice to pay the additional one dollar per ton cost by operating with the latter in place of the former. The outlay in the cost of constructing and erecting these different machines would also be a considerable item. It would probably, therefore, be quite safe to say that on the completion of such a state of things as enumerated above, a saving could be accomplished of 30 per cent. out of the 35 per cent. on the fire assay,\* now being lost on Washoe ores, under the ordinary mode of operating; this, with an ore that assayed fifty dollars per ton, would amount to fifteen dollars per ton, or equivalent to the entire sum charged for treating ores at the custom mills; or, to make the remark more pointed by giving a special illustration, it may be mentioned that according to the Stock Circular, the Savage mine raised during the fortnight terminating on the 26th October last, 3,865 tons of ore, on which, at the customarily estimated loss of thirty-five per cent. on the fire assay, could not amount to less, in round numbers, than the gross sum of \$75,000, or at least \$150,000 per month; a nice sum to add to the monthly dividends; more, I anticipate, than will find its way to the stockholders' pockets under existing circumstances. I shall briefly conclude for the present week, by observing that the fact of gold existing in combination with Washoe silver ores, would, I believe, alone make Ziervogel's method inapplicable for the class of ores found at Washoe, except the gold is to be subsequently obtained by a second operation, which, with many, would be an objection. I have alluded to Ziervogel's method, more particularly, because it is the one which has superseded most of the other methods in Saxony, and some adjoining States.

\* Thirty-five per cent. on the fire assay, is equivalent to 55 per cent. on the bullion produced.

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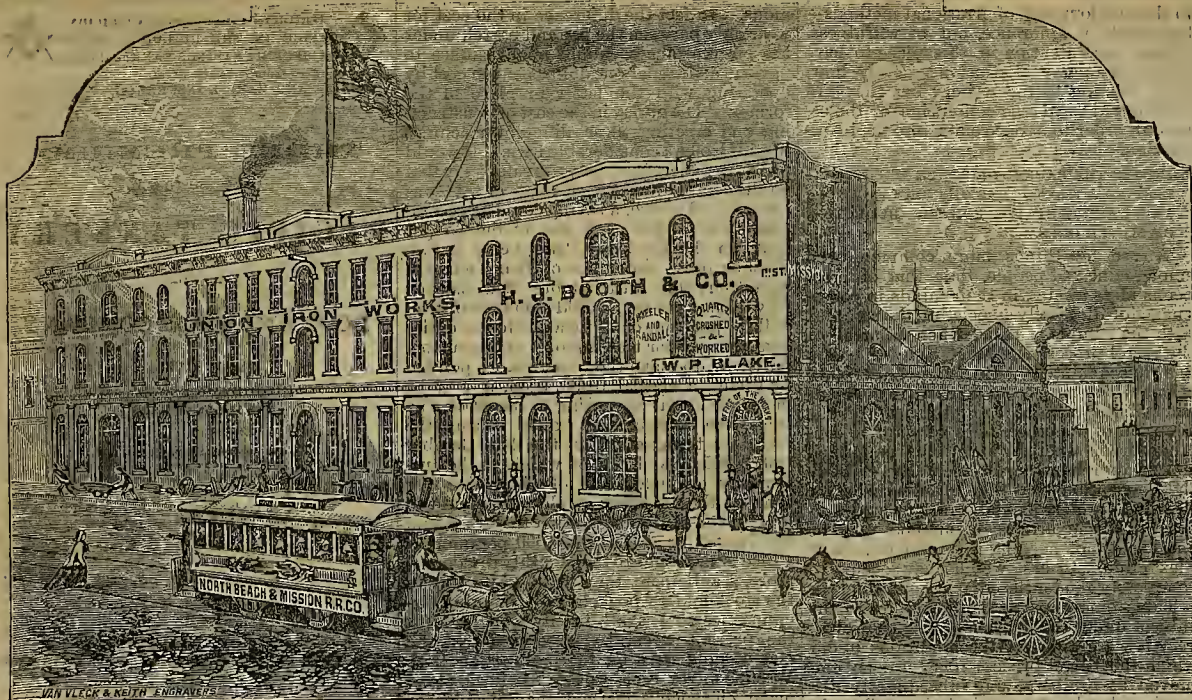
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CANALS.—The farmers residing north of the Calaveras river, between Cherokee lane and the Woodbridge road, says the Stockton Independent, have expended a considerable amount of labor in constructing canals, which answer the double purpose of carrying off the water in winter, and irrigating the land in summer.

THE next great gold field of the West is believed to be the neighborhood of the Black Hills of Dakota, and known from actual demonstration, to possess the precious metals in great profusion.

NEW COUNTERFEIT.—A new counterfeit half dollar, purporting to be an issue from the mint of 1867, has made its appearance. It is slightly lighter than the genuine, and is a base metal plated.

GOLD IN SITKA.—Gold is reported as having been discovered back of Sitka. If such is the fact, the exploring expedition will soon communicate the fact in a reliable shape.

THE monster gun known during the siege of Charleston as the "Swamp Angel," and which sent its ponderous messages into the doomed city from a point seven miles away, is now lying in front of the Trenton (N. J.) American office.

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**DISCOVERY OF SALTPETER.**—The Oakland Journal is informed that a party camping out on one of the hills in Murray township, lately, discovered a bed of saltpeter. A camp fire had been built, and some of the mineral near the surface of the ground took fire. If, on further exploration, it should be found that an extensive bed of saltpeter actually does exist there, a want so long felt in this State will be supplied, for we believe that all that has thus far been used has been imported.

A curious meteorological phenomenon was recently observed in Georgia. It is reported that a heavy cloud passed over Macon, in an otherwise clear sky, at such a rate that from its first appearance on the Eastern horizon to its disappearance in the northwest was not more than three minutes. It was densely black, except all the edges, which were lighted by the moon.

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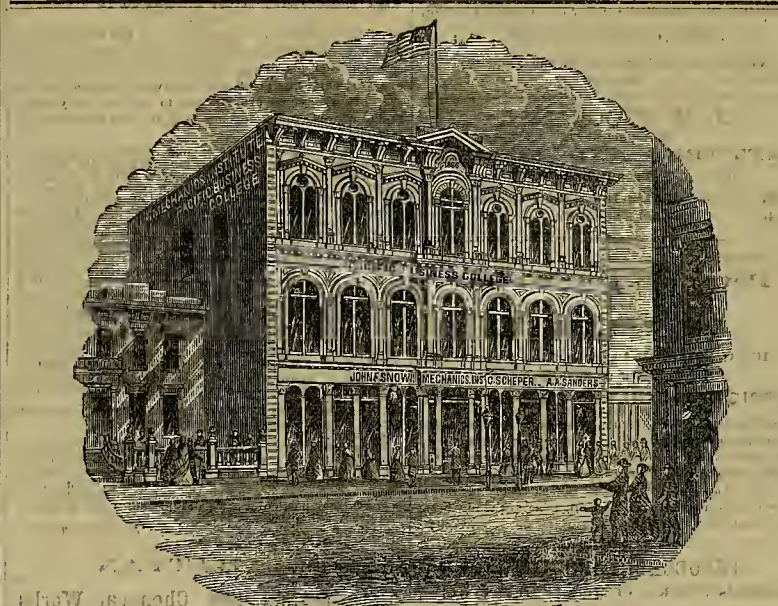
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Important to Californians.—Many Inventors have ately had their claims for Patents seriously (and in some cases fatally) delayed by the unaffiliation of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.



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New Mining Advertisements.

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of October, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificates, No. Shares, Amount. Includes names like Martin White, S N Str-nabau, A P Smith, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., at their stereooms, 318 Montgomery street, San Francisco, on Monday, the twenty-fifth day of November, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner of Washington and Sansome streets. nols

Hanscom Copper Mining Company, Low Divide District, Del Norte County, California.

Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 609 Market street, San Francisco, California, on SATURDAY, the twenty-first day of December, 1867, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

S. S. SWEET, Secretary. San Francisco, November 15, 1867. nols

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California. Assessment No. 3.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, R. Thompson, at No. 523 Kearny street, San Francisco, or to O. Farmer, Treasurer of the Company, at Silver Mountain, Alpine County.

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, No. 429 Pacific street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the first day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. no9

Cordillera Gold and Silver Mining Company, Chihuahua, Morelos Mining District, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, No. 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. oc25

Chilpancingo Mining Company—District of Ores, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary. Office, 318 California street, up stairs, San Francisco. oc28

Ethan Allen Gold and Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. shares, Amount. Includes names like M L McDonald, E D Sawyer, John Porter, etc.

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, at No. 418 Montgomery street, San Francisco, Cal., on Monday, the second day of December, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary. Office, No. 620 Washington street, (Room 5), San Francisco, Cal. no9

Gold Hill Tunneling Gold and Silver Mining Company.—Location: Cold Hill Mining District, County of Storey, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment (No. 9) levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like C L Guyard, C L Guyard, B Pasquante, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Tuesday, the nineteenth day of November, 1867, at the hour of 1 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. WEGENER, Secretary. Office 415 Montgomery street, San Francisco, Cal. oc26

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the thirtieth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Burke, M J, Jeghers, A J, etc.

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney Co., at No. 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of November, 1867, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

O. D. SQUIRE, Secretary. Office, No. 302 Montgomery street. no9

Hanscom Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of November, 1867, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on and after November sixth, 1867, in United States gold and silver coin, to the Secretary, at his office, 609 Market street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fourth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary. Office, 609 Market street, San Francisco. no9

I. X. L. Gold and Silver Mining Company.—Location of Works: Silver Mountain District, Alpine County, Cal.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-third day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like John I Williams, Martin C Miller, etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-third day of September, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Thursday, the twenty-first day of November, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

J. CROWNSHIELD, Secretary. Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. no9

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City, California.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixteenth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

B. P. WILKINS, Secretary. Office, 648 Market street, San Francisco, Cal. oc26

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 331 Montgomery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twelfth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the sixth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 331 Montgomery street, San Francisco. no5

Mount Tenabo Silver Mining Company, Cortez District, Lander County, Nevada.

Notice is hereby given, that the Annual Meeting of the Stockholders of the above named Company will be held on THURSDAY, the twenty-eighth day of November, 1867, at 1 o'clock A. M., at the office of the Company, No. 331 Montgomery street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of any other business.

R. N. VAN BRUNT, Secretary. Office, No. 331 Montgomery street, San Francisco. no9

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the 19th day of September, 1867, an assessment of twenty dollars per share was levied upon the capital stock of said Company, payable immediately, to the Secretary, George H. Faulkner, No. 423 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on Tuesday, the twenty-second day of October, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the eleventh day of November, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the 20th day of November, 1867, and the sale thereof until Saturday, the 7th day of December, 1867. By order of the Board of Trustees.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. oc21

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. nols

Illegal Supplemental Advertising.—It would be well for Mining Companies, whose advertisements are repeatedly appearing in the Supplements of daily papers, to inquire into the legality of that class of advertising.

Nuestra Senora de Guadalupe Silver Mining Company. Location of Works: Tayolita, San Dimas District, Durango, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1867, an assessment (No. 29) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. Hunsicker, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. oc25

Quail Hill Mining and Water Company.—Location of Works: Quail Hill, Calaveras County, Cal.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like W James, O W Borer, etc.

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor of No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

T. W. COLBURN, Secretary. Office, room No. 10 second floor of No. 402 Montgomery street, San Francisco. nols

POSTPONEMENT.—By order of the Board of Trustees of the Quail Hill Mining and Water Company, this day made, the above sale is postponed until Monday, the twenty-fifth day of November, 1867, at the same hour and place.

T. W. COLBURN, Secretary. San Francisco, Nov. 9, 1867. nols

Rattlesnake Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of October, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-first day of November, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the ninth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary. Office, 318 California street, San Francisco, Cal. oc19

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 611 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the seventh day of December, 1867, shall be deemed delinquent, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPH, Secretary. Office, 611 Washington street, San Francisco. no9

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs district, Lyon County, Nevada.

Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of Certificate of each parcel of said stock, were sold, as by law provided, at public auction, on the twenty-eighth day of October, 1867, for delinquent assessments thereon, and will not be transferred by said Company:

Table with columns: No. Cert., No. shs., No. Cert., No. shs., No. Cert., No. shs. Includes numbers like 143, 144, 145, etc.

T. W. COLBURN, Secretary. Whitman Co. & S. M. Co. San Francisco, Oct. 31, 1867. no3-w

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. no2



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

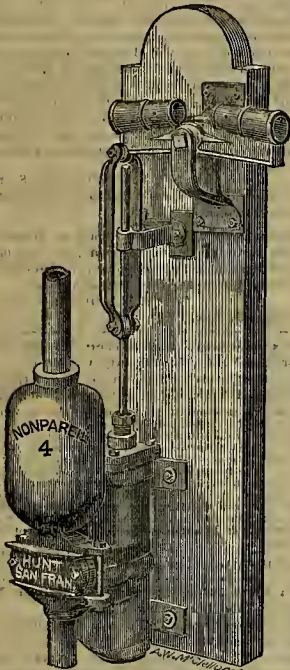
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others.—They bring the pulps constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is clean, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 108 Jessie street. 14151st E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boiler Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 6-Horse Power, \$140
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One Iron Battery of 4 Stamps, 500

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12151st

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 2312 3m

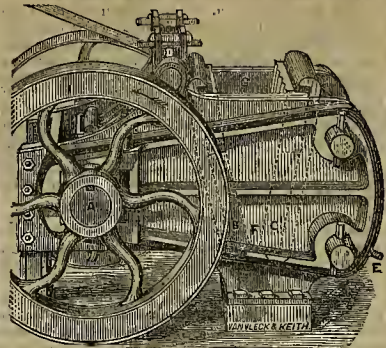
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hardy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7145-47 THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, singularly of action and lightness of construction, so that it is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1.—Or 15 inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600

No. 2.—Or 15 inch Crusher, capable of similarly putting through five to six tons per hour, \$500
No. 3.—Or 18 inch Crusher, will in a similar manner crush from seven to eight tons per hour, \$1,200

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient light to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866.

JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

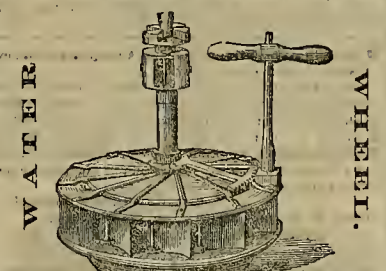
BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the Improved German Barrel, for a longer term than twelve months. All persons desirous of procuring, without having recourse to legal proceedings, for past infringements, or of being of receiving Letters of License for the limited period named, are requested to address as below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 20th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. JAMES BRODIE, Fulton Foundry, or CHARLES RADCLIFFE, Express Building, 402 Montgomery street, San Francisco. 12151st

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA RESPONSIBLES.—E. Stockton, Folsom; O. Simons, Okland; Mill at Clear Lake; Moran, Coville, Lexington, Santa Clara County; V. McMillan, Lexington, Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California. 2513-13rd 310 Washington street, San Francisco.

NELSON & DOBLE,

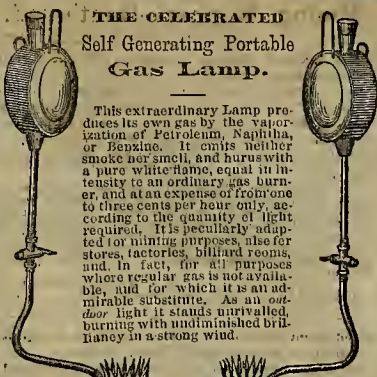
AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, German, Plow, Blister and Too Calk Steel, manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters, Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 11141st

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address P. M. SHAW, San Francisco, care Mining and Scientific Press. 251143m



THE CELEBRATED Self Generating Portable Gas Lamp.

This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, and is so tenacious to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for dining purposes, also for stores, factories, billiard rooms, and in all cases where a portable lamp is required, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. This tap may now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the remaining screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off the burner cap, and then be removed suitably to a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKES, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city throughout the State. 1814-3m-8

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to lift all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. The mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and for order. Water wheels built to order. No. 23 Second St., and 105 and 110 Jessie St. 2151st San Francisco.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO.,

Pacific Iron Works, 9151st San Francisco, Aug. 29, 1867.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Pincer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest freegold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Da J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 1115 6m

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

— BY —

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3131st SAN FRANCISCO.

TO SPORTSMEN.

THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of RUPPEL'S REPEL-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing HENRY BTEL, 111 Second street, Or Lock Box 1172 P. O., San Francisco. 1815 21m6m

Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. DEWEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay st.

TRAVELING STONES.—They have "walking leaves" in Australia, and, as we are now informed, they have "traveling stones" in Nevada. Mr. Hart, from Pahraugat, Nevada, has shown the editor of the Territorial Enterprise several curious pebbles—not curious in appearance, but rather curious in action. They were almost perfectly round, the majority of them nearly as large as a walnut; and of an iron nature. When distributed about upon a floor, table or other level surface, within two or three feet of each other, they immediately began traveling toward a common center and there huddled up in a bunch like a lot of eggs in a nest. A single stone, removed to the distance of three and a half feet, upon being released at once started off with wonderful and somewhat comical celerity to rejoin its fellows; taken away four or five feet it remained motionless. Mr. Hart says they are found in a region of country that, although comparatively level, is nothing but bare rock. Scattered over this barren region are little basins, from a few feet to a rod or two in diameter, and it is in the bottom of these that the rolling stones are found. They are from the size of a pea to five and six inches in diameter. The cause of these stone rolling together is doubtless to be found in the material of which they are composed, which appears to be loadstone or magnetic iron ore.

NEW HYDRAULIC PROCESS.—A mining company at Newtown, a few miles below Nevada, are making preparations to work their claims by means of a steam engine which will throw a stream of water, instead of the ordinary hydraulic pressure. Samuel Fair one of the owners, is now engaged in getting up the machinery, and has given us an explanation of the company's plans. The company have already run a bed-rock tunnel for a sluiceway, and the ditch, from whence they will procure water, runs along the rim rock, but not of a sufficient elevation above the mining ground to afford hydraulic pressure for working. The water will be thrown from the engine on the principle of the fire engines in the cities. The San Francisco fire engines which are four or five horse-power, will throw three or four streams of water, of about ten inches each, with a force equal to a pressure of about 200 feet. The Newton company estimates that, with a ten or twelve horse power engine, they can throw a hundred inches of water with a force equal to at least a hundred and fifty feet fall. This process of pipping down banks by means of steam engines has been used to some extent in Colorado Territory; but it was not very successful there, on account of the lack of sufficient gold in the ground to pay. But it will be tried at Newton under more favorable circumstances, and should it prove successful there, we may expect the process will be adopted at other localities. There is a vast amount of good hydraulic ground, in Nevada and the adjoining counties, which can not be worked by the ordinary process for the want of fall, but which may yet be worked by means of steam engines.—Nevada Gazette.

A HEAVY DRILL.—The two great obstacles to the navigation of the Upper Mississippi—the Keokuk Rapids and those near Rock Island—are to be surmounted, partly by the removal of obstructions from the channel, and partly by canalizing. A canal seven and a half miles long, and 250 feet wide is to be constructed around the Keokuk Rapids. Among the instruments used for rock excavations on the Rock Island Rapids is a drill weighing over four tons, and which plows into the solid rock more than four feet at a single stroke.

A NOVEL BOAT.—A boat maker of Troy, N. Y., has constructed one thirty feet long, which weighs but forty pounds, and is in every respect superior to boats made of wood. It is thin, lighter than a wooden boat, is rendered impervious to water by a coating of oil and other compounds, and is claimed to be more durable, and that it will stand shocks that would destroy a wooden shell. Such a boat cannot be split or broken, but if a hole be made in it by accident, the perforation will be no longer than the size of the object piercing it, and could be easily mended; it will not swell or crack, requires no caulking or pitching, and, above all, the cost is much less than a wooden boat.

NICOLSON PAVEMENT ON HEALTH.—It is said that out of the sixty workmen engaged in laying the Nicolson pavement, covering the wood-blocks with tar, in New Orleans, not one has been attacked with yellow fever.



The Emperor's Napoleon's new gun, it appears, is to be immediately put into requisition. Gunboats are already in course of construction, and so put together that they can be readily taken apart and conveyed from place to place.

A MASTODON SKELETON IN NEVADA.—The Virginia Enterprise is informed that the skeleton of a mastodon, in excellent state of preservation, has recently been discovered in Owen's Valley, about three miles from Fort Independence.

CONSOLING.—A French botanist believes that by the end of the present century all the genera of plants on the globe will be described, and that then the only scope for botany will be with species and variety.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

The SEVENTENTH ANNUAL SESSION of this College will commence on August 23, 1867. TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

THE CENTRAL PARK OF THE PACIFIC. Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, AND ZOOLOGICAL GARDENS.

THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.

ENTRANCES on Mission and Valencia streets, between Thirteenth and Fourteenth. OPEN EVERY DAY.

FARMERS' AND MECHANICS' BANK OF SAVINGS. 225 Sansoné street, near California.

INCORPORATED under the Act of the Legislature of California, approved April 11th, 1852.

CAPITAL STOCK, \$150,000. DIRECTORS: N. C. Fassett, George M. Condo, Reuben Morton, G. H. Wheeler, Isaac E. Davis, James Laidley, Henry Dutton, B. H. Freeman, Samuel L. Palmer, G. H. WHEELER, Cashier, N. C. FASSETT, President.

DEPOSITS received in gold, silver or currency, payable in like kind, at sight. Funds may be sent by express, or in registered packages by mail. Receipts will be promptly furnished.

WE will receive Gold Dust and Bullion, for refining or assay; make advances on the same, and return proceeds promptly.

Saving Bankers' Drafts, on all parts of the world, furnished at lowest rates, by addressing us. Write names plain. Checks of all banks taken.

Money loaned only on first-class security, safety being our first consideration.

THE Highest Rates of Interest paid on Gold Deposits. DEPOSITS RECEIVED IN SUMS OF \$1 AND UPWARDS. We will keep safely all bonds deposited with us; collect and remit the interest to our friends in the country, as may be directed. For further particulars, address FARMERS' AND MECHANICS' BANK, 215 1/2 Broadway, San Francisco.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

Stair Work of all Kinds, MADE TO ORDER And Shipped to all parts of the Coast.



Novel Posts and Balusters CONSTANTLY ON HAND and for sale.

N. P. LANGLAND, STAIR BUILDER, No. 49 Beal street, Between Market and Mission, SAN FRANCISCO.

NEW YORK PRICES. WATCH REPAIRING AT NEW YORK PRICES. C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. A large assortment of these Superior Watches, In Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers. The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewellery.

WE ARE NOW OFFERING OUR IMMENSE STOCK OF Fine Custom Made Clothing AND Gents' Furnishing Goods AT PRICES THAT DEFY COMPETITION. Our Stock of Clothing Consists of ALL THE LATEST STYLES BOTH OF MATERIAL AND FINISH. A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc., AT EXTREMELY LOW PRICES. J. R. MEAD & CO., Cor. of Washington and Sansone streets.

M. S. WHITING & BERRY, No. 600 Sacramento street, two doors above Montgomery, SAN FRANCISCO.

TEA, WINE AND SPIRIT MERCHANTS, IMPORTERS AND WHOLESALE DEALERS IN FINE Brands Whiskies, Gins, Port, Sherry and Champagne Wines, Ale, Porter, Cider, Bitters, Cordials, Syrups, etc. for medicinal and family use, and suppliers to families, apothecaries, physicians, city and country dealers, hotels, clubs, etc., in large or small quantities. Observe firm name on each cork and fac simile of signature on label. Trade mark registered.

Notice to Miners, Well-Borers and Water Companies.

M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for the branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction.

Assayer and Chemist.

A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given. Inquire at this office.

Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS OF Illuminating, Lubricating, AND PAINT OILS! CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS, NEATSFOOT, BOILED AND RAW LINSSEED, CASTOR AND CHINA NUT. ALSO, SPIRITS OF TURPENTINE & ALCOHOL. Note.—We would specially call the attention of MILL OWNERS and ENGINEERS to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat and after remaining at rest, can be started without cleaning.

Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets. CAPITAL STOCK, --- \$500,000. Trustees: H. P. WAKELEE, THOS. H. SELBY, NICHOLAS LUNINO, THOS. BELL, CHAS. E. MCCLANE.

Dr. Hufeland's Swiss Stomach Bitters. THE WORLD RENOWNED REPUTATION, TOGETHER with the excessive and increasing demand for Dr. Hufeland's Swiss Stomach Bitters, will at once recommend them to the favorable notice of all connoisseurs and lovers of a good and healthful tonic and invigorator.



Pratt's Abolition Oil. FOR ABOLISHING PAIN—THE BEST REMEDY IN EXISTENCE for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhea, Cholera, Pains in the Breast, Lane Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 534 Sacramento street, opposite What Cheer House, San Francisco.

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 423 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91. FIRE, OCEAN, MARINE, INLAND INSURANCE. DIRECTORS: Oliver Edridge, J. B. Roberts, S. Steinhart, J. L. Weaver, Wm. Hooper, J. W. Clark, A. Hayward, T. L. Barker, Alex. Weill, Chas. Meyer, Chas. E. McLane, M. Rosenbaum, Henry Carleton, Jr., A. J. Kalsion, T. Lemmen Meyer. New York: Louis McLane, Fredk. Killings, J. B. Newton, J. G. Kellogg, Wm. T. Coleman, Moses Ellis. Sacramento: Edgar Mills, G. W. Mowse, C. T. Wheeler. Maryland: J. H. Jewett. Portland, Oregon: W. Scholle, Morton Cheesman, Jacob Kauma, Virginia, Nevada: Wm. Shuron. OFFICERS: JONA. HUNT, President, A. G. STILES, Vice President. A. J. RALSTON, Secretary, G. A. LATON, Marine Secretary, H. H. BIGELOW, Gen'l Agent.

BLAKE'S PATENT QUARTZ CRUSHER. CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866. This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft. All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and they will be held responsible in law and in conscience. Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast.

California Steam Navigation COMPANY. Steamer CAPITAL.....CAPT. E. A. POOLE CHRYSEPOLIS.....CAPT. A. FOSTER. YOSEMITE..... CORNELIA.....CAPT. W. BRONLEY JULIA.....CAPT. E. CROCKLEY. One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted), for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff. Office of the Company, northeast corner of Front and Jackson streets. B. M. HARTSHORNE, President.

It is a Fact, That BOWMAN'S AMERICAN WASHING COMPOUND is the best article for Washing and Cleaning yet discovered. It is acknowledged to be a saving both in money and labor. As the compound softens the dirt, the clothes require not more than one-half the rubbing necessary in washing by the old method; besides all who give it a trial acknowledge that their clothes are whiter in washing with this Compound than they were ever known to be by using any other preparation. For washing woolen goods and flannels, it cannot be equalled. Articles that cannot be washed with soap without fading are washed in the water used for boiling white clothes. This Compound has been used in the Eastern States for the past three years, with perfect success. WARRANTED NOT TO INJURE THE CLOTHES. For sale by all Grocers. LYNCH & PARSONS, Agents, 229 Jackson street, near Battery. 14v15-3m

Mining Secretary. THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out. Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned. J. M. BUFFINGTON, 17v15-1f No. 5 Government House, San Francisco.

Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS—SULPHATE OF IRON—for sale in lots to suit, by SENJ. S. RADY, 109 California street, S. W. corner Davis, up stairs. 13.15-3m



**ENGINEERING PROGRESS.**—The science of engineering has achieved another triumph, in the passage of Mount Cenis by a railway train. That transit teaches a most important lesson in engineering. As is well known, this feat has been accomplished by Mr. Fell's locomotive, which climbs and descends steep ascents, by the aid of two wheels working as friction wheels upon a third or center rail. The experiment has proved that there are few Alpine passes, open to ordinary wheels, which cannot be surmounted by this kind of an iron rail. Napoleon the First said that wherever two men can pass, a road is open to an army; and Mr. Fell may say that since he has conquered Mt. Cenis every practicable pass in Alpine ranges is at the service of the engineer. The great tunnel through the Western Alps is a monument of waste, for the summit can be crossed at far less expense.

**Life Insurance--The Money Drift.**

EDITORS ALTA—Sirs:—I read in your issue of the 11th, a very important statistical paper, compiled by you from the Federal revenue returns, which proves the astounding fact that the distant Life Insurance Companies plying in California through "Agents," draw away nearly one million dollars per annum.

The drain under this head, as you state it, amounts to—  
Year ending 1st August, 1855.....\$496,239  
Year ending 1st August, 1867.....877,264  
And as we write the drain increases and must be now near a million a year—to be a million and a half next year, and so on.

And you naturally ask with surprise why this matter has not been taken in hand by some of our enterprising insurance men, so as to arrest the flight of a moiety at least of this enormous drain.

I think, sirs, your question is well put, and though my hands are full, I am yet willing to step forward and assume some of the responsibility and bear some of the preliminary expenses of forming such a Company.

When you reflect, sirs, that this million dollars a year is carried over land and sea, thousands upon thousands of miles, to places where it is lent out by distant Managers and Directors to their manufacturing and commercial friends around them, at five per cent. per annum, while our merchants and manufacturers, who are to compete with these, have to pay fifteen per cent. per annum for money [we supply them with the golden weapons to beat us] you will then conceive the magnitude of the injuries effected by the sapping and mining operations of those distant Insurance Companies. The money which must drain away, day by day, steamer after steamer, from our people, will, if not stopped, impoverish this country quite as much as if it were conquered by a foreign power and held in perpetual tribute. A million a year, by compound interest, will be ten millions in five years, twenty millions in ten years, forty millions in fifteen years, eighty millions in twenty years, one hundred and sixty millions in twenty-five years, three hundred and twenty millions in thirty years! I will admit that the ordinary percentage of deaths on a business of thirty years will effect a drawback of one third of the income, which in thirty years we will put at one hundred millions. Notwithstanding this, if we go on at our present scale of draining, we shall in thirty years lose by the insurance operation two hundred millions of dollars! But our drain, if we don't stop it, will not stand at one million a year; it will increase year after year from one million a year to two millions a year, which, by my foregoing computation, would in thirty years foot up to four hundred millions! What it would amount to in sixty years I leave to other calculators. In round numbers, I should guess it would come to the full number of dollars equaling the national debt of the United States!

Now, sirs, I care not what may be said of me by critics or jealous opponents, some of whom cannot see farther than their own noses. I announce myself as ready to make an effort to stop this drain, and I hold every man who co-operates with me a benefactor of his adopted country.

Let the capital of a Local Life and Health Insurance Company be one hundred thousand dollars to begin, in shares of one hundred dollars each. I shall cheerfully take the names of co-operators in a book opened this day, in the office of the California Building and Savings Bank, California street, for that purpose.

I remain, your obedient servant,

THOMAS MOONEY,  
Building and Savings Bank, California street  
November 12th, 1867. 26v15-4v

**Parties desirous of Taking**

**A COURSE OF INSTRUCTION**

— IN —

**CHEMICAL ANALYSIS,**

**THE ASSAY OF ORES,**

**And the Use of the Blow-pipe,**

**OR ANY PART OF SUCH COURSE,**

May apply at this Office.

Pupils will have the advantage of a Complete Laboratory. 19v16

**CHICKERING & SONS'**

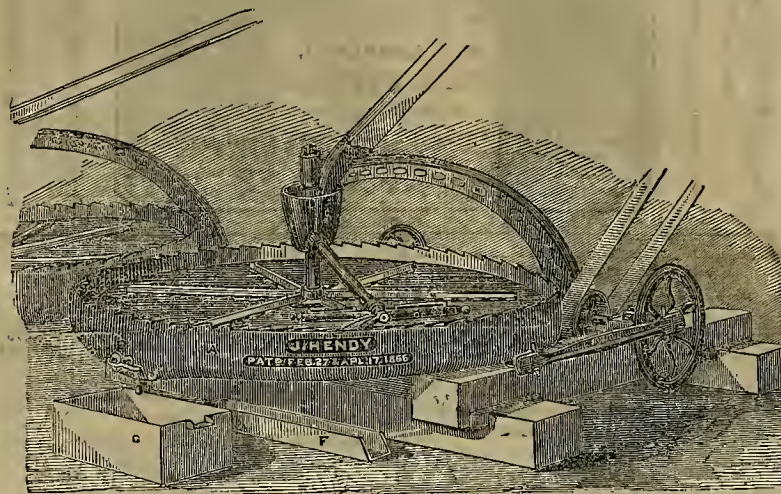


**PIANOS**  
Received the  
**FIRST PREMIUM**  
(Gold Medal)

And Decoration of Legion of Honor, at the Paris Exposition.

KOHLER, CHASE & CO., Agents,  
26v14url6, 421 Montgomery street, San Francisco.

**HENDY'S  
LATEST IMPROVED PATENT SELF-DISCHARGING SULPHURETS  
CONCENTRATOR.**



**FOR GOLD AND SILVER ORES,  
With Revolving Stirrers and Rotary Distributor.**

This machine is designed for saving finely divided Quicksilver, Amalgam and Gold from the sands and for concentrating and saving the Sulphurets. Any person of ordinary experience with Quartz Mills can readily fit them up and run them.

Those in want of Concentrators would do well to visit some of the quartz mills that have Hendy's Patent Concentrators in use, and satisfy themselves before purchasing other Concentrators of pretended merit. **THEY ARE WARRANTED TO WORK SATISFACTORILY.**

**Directions for Operating Hendy's Concentrators:**

The sulphurets are drawn off while the Concentrator is in motion, in the following manner:

- FIRST—In setting up, set the pan, A, level by the inner rim, near its center.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets.
- THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

**References:**

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

EMPIRE MILL (7 Concentrators).....	Grass Valley, Nevada County.
NORTH STAR M. & M. CO. (4 Concentrators).....	Grass Valley, Nevada County.
NORRIDGEWOCK MILL. (2 Concentrators).....	Grass Valley, Nevada County.
VALENTINE & CO., Commercial Mill (3 Concentrators).....	Nevada County.
HUMBOLDT CANAL CO. (1 Concentrator).....	Humboldt County, Nevada.
ROBINSON & McALLISTER M & M. CO. (3 Concentrators).....	Hunter's Valley, Mariposa County.
PLYMOUTH ROCK MILL CO. (2 Concentrators).....	Calaveras County.
MIDAS MILL CO. (4 Concentrators).....	Virginia, Montana.
GOULD & CURRY G. & S. M. CO. (4 Concentrators).....	Virginia City, Nevada.
VULTURE CO. (4 Concentrators).....	Prescott, Arizona.
NOYES & CO'S MILL (2 Concentrators).....	Prescott, Arizona.
LUCY MINING CO. (3 Concentrators).....	Owyhee District, Idaho.
MOREY & SPERRY (1 Concentrator).....	New York.
GUADALUPE & SACRAMENTO G. & S. M. CO.....	Sinaloa, Mexico.
EL TASTE CO. (2 Concentrators).....	Sonora, Mexico.
B. F. BROWN (1 Concentrator).....	Melbourne, Australia.

And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:

SAN FRANCISCO, October 10th, 1867.

J. HENDY, Esq.—Dear Sir:—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,

S. W. LEE, Supt.

SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. Co.,  
VIRGINIA CITY, Nev., Sept 17, 1867.

JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours, very truly,

LOUIS JANIN, Jr.

The bill was presented in accordance with the above request, and duly paid.

**CAUTION.**

All of HENDY'S PATENT CONCENTRATORS are marked thus:

"J. HENDY, Patented February 27th and April 17th, 1866."

Orders or letters of enquiry, address,

JOSHUA HENDY, Patentee,  
Union Foundry, San Francisco.

**W. T. GARRATT,  
City  
BRASS AND BELL FOUNDER.**



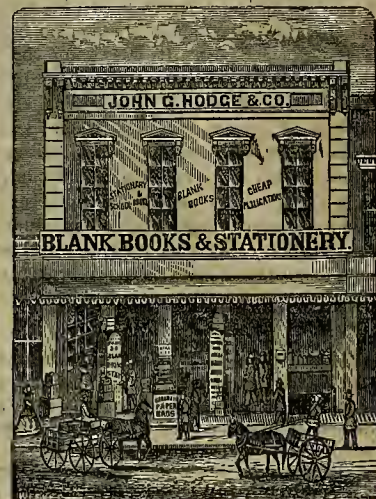
Cor. Mission and Fremont sts.,  
SAN FRANCISCO.  
Manufacturer of Brass, Zinc, and Anti-Friction or  
**Babbet Metal Castings;**  
CHURCH AND STEAMBOAT

**BELLS,**

TAFERN AND HAND BELLS AND BONGS,  
**FIRE ENGINES, FORCE AND LIFT PUMPS,**  
Steam, Locomotive, Soda Oil, Water and Flange Cocks, and Valves of all descriptions, made and repaired. Hose and all other Joints, Spelter, Solder, and Copper Rivets, &c. Gauge Cocks, Cylinder Cocks, Oil Globes, Steam Whistles, &c.

**HYDRAULIC PIPES AND NOZZELS**  
For Mining purposes, Iron Steam Pipe furnished with Fittings, &c. Coupling Joints of all sizes. Particular attention paid to Distillery Work. Manufacturer of "Garratt's Patent Improved Journal Metal."

Best Highest Market price paid for OLD BELLS, COPPER AND BRASS. 18v15



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Harpers.....	\$ 4 00	
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All the rest of the real estate to pay the debts, expenses and charges of the administration of said estate.	15 00	

**Foundry for Sale.**

A One-half Interest in the  
**UNION IRON WORKS,**  
SACRAMENTO,  
Owned by William R. Williams, is offered for sale on the most favorable terms.

**A Good Bargain**

May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets.  
Inquire at the office of the Foundry, or address  
WILLIAM R. WILLIAMS,  
Sacramento, Cal.

26v13(179-18p) 18v15-3w

IN THE PROBATE COURT OF THE CITY AND COUNTY of San Francisco, State of California.—In the matter of the Estate of HENRY GANAHL, deceased. Order to show cause why Order of Sale of Real Estate should not be made. It appearing to the said Court by the petition this day presented and filed by Andrew H. Smith, the Administrator of the Estate of Henry Ganahl, deceased, praying for an order of sale of real estate, that it is necessary to sell the whole of the real estate to pay the debts, expenses and charges of the administration of said estate.  
It is therefore ordered by the said Court, that all persons interested in the estate of said deceased, appear before the said Probate Court on MONDAY, the eighteenth day of November, A. D. 1867, at ten o'clock in the forenoon of said day, at the Court Room of said Probate Court, at the City Hall, in the City and County of San Francisco, to show cause why an order should not be granted to the said Administrator to sell so much of the real estate of the said deceased as shall be necessary.  
And that a copy of this order be published at least four successive weeks in the Mining and Scientific Press, a newspaper printed and published in said City and County.  
M. C. BLAKE, Probate Judge.  
Dated October 17th, A. D. 1867. 18v15-3w

MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—Treat Union.



# Mining and Scientific Progress.

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Terms: One Year, \$5; Six Months, \$3.

A Journal of Useful Arts, Science, and Mining and Mechanical Progress.

DEWEY & CO., PUBLISHERS  
And Patent Solicitors.

SAN FRANCISCO, SATURDAY, NOVEMBER 23, 1867.

{VOLUME XV.  
Number 21.

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so inadvertently, and from a want of knowledge; and, consequently, of appreciation of what the miner *has done, is doing, and is likely to do for California.* That he has condemned mining from what he has seen, and may see daily, upon Montgomery and California streets. But there is a wide difference between mining in San Francisco and mining in the mountains. Stock jobbing is not mining; but a curse to its prosperity. There are plenty of men in San Francisco who are ready to risk thousands in the fractional part of an incorporated mine, who would not risk the same amount to purchase the whole. When mining is treated more as a business and less as a speculation, it will become more profitable than it has been thus far.

We do not complain so much of what Mr. Hopkins said, as we do of what was left unsaid. There were many gentlemen at that banquet who ought to have had a kindly word for that interest which has, indirectly at least, enriched them. Were there none of the pioneer merchants of Marysville, Sacramento or Stockton present? Were there no merchants present whose trade is almost exclusively with the mountains? Were there no ship-owners or consignees present to appreciate the importance of the mines to the shipping and agricultural interests? Was the foundry business unrepresented there? Has not the mining interest, more than any or all others, transformed the smith's forge of 1850-1 to the mammoth foundries and machine shops of to-day?

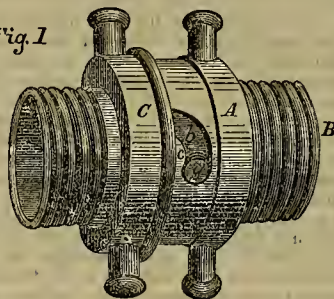
Go down to Broadway wharf from the first of January to the last of December—look at the freight, look at the passengers, and ask their destination. Let the Chamber of Commerce look out of their window and ask who is erecting that large building at the corner of Leidesdorff, and who the other one below Leidesdorff, on the opposite side of California. Let them pass from their splendid edifice and proceed down Sansome street to corner of Bush, and observe the Cosmopolitan; thence to First and Fremont streets, between Market and Folsom; then return by way of Montgomery to the corner of Pine; then to Kearny and Clay, by way of Wells, Fargo & Co. and the Mint. Before again entering the Exchange, take a look at the Bank of California—ask who erected this building, whence is derived the business of that establishment? And, finally, let them reflect upon the most gigantic and expensive war ever waged, and ask how that war could have been conducted to a successful issue, but for the gold and silver produced by the mines of California.

In view of all this, we are unable to appreciate the fact that the merchants of San Francisco could assemble upon such an occasion and ignore the great interest which brought them to our shores, and carried them through "fire and water" to their present prosperous and wealthy condition. In the days of the great fires, when one-half the supply of an article was destroyed, the balance doubled in value, and thus the consumer [miner?] paid the insurance. True, the owner of the half destroyed might be, and was, for the day, ruined—yet, to get even, he had to wait only for another fire.

## Craig's Patent Hose Coupling.

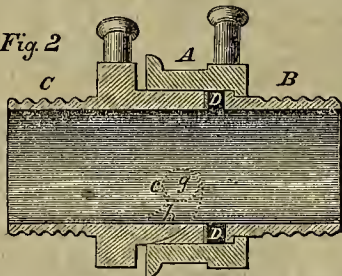
In hose and other similar couplings it is a matter of no small moment that the two huts, to which the adjacent ends of continuous hose sections or lengths are lashed, be so constructed as that they may not only be readily and quickly united and disunited from time to time, but also when united form a tight junction and perfect lock, and one that will be little impaired by wear or rough usage. A stud and groove is a general, and,

Fig. 1



perhaps, the simplest mode of forming the entering hut and sleeve that holds the opposite one together, as such mode affords great facility for connecting and disconnecting the two huts; but all such previous constructions have been so defective in establishing a perfect lock against the huts separating accidentally, in twisting or turning and handling the hose so united in sections, that it has even been proposed to

Fig. 2



insert an independent locking screw to prevent the sections disconnecting, excepting when it is desired they should be drawn apart. The liability to loss and breakage, however, of such independent locking-screw, and the time required to work it, are great objections to its general adoption; and the object and nature of this invention which we illustrate is to give an equally or more secure lock by forming the entering hut with studs or projections, and the sleeve that holds the other hut with such peculiarly shaped grooves as that, by the interposition of an elastic ring or washer between the huts, every facility will be afforded for establishing or breaking the connection when it is desired to unite or disunite the huts; yet, when joined, a perfect lock of them will be established by the studs passing the culminating line of gear in the grooves or points that draws the huts closest together, and being held there, to prevent the casual turning of either hose section working the studs out of grooves, by the

elastic character of the interposing ring or washer.

Fig. 1 represents a perspective, and Fig. 2 a sectional view of this improved coupling. A is the outer ring or sleeve, formed with curved grooves, *b*, open at the outer end of the body of the sleeve, and extending from the end or face some distance beyond lines drawn longitudinally with the coupling from the centers from which the curves were struck, so that the inner end or portion of each curve will form a locking cavity or continuation, as shown at *c*, varying somewhat towards the outer end of the sleeve body, that the curve, at its mouth started from B, is the one hut held by an inner annular extension of the sleeve-collar, lapping over an outer collar, to the inner end of the hut which has the usual grooves for lashing to, and round it the one end of a hose length or section. C is the sliding or entering hut to the sleeve, and has the usual grooves for lashing it to the adjoining length or section of hose, and is formed at its interior end with an inner projecting flange, between which and the collar of the other hut, B, is interposed an india rubber or elastic ring, D. Stud or projections, *g*, are arranged round the body of the entering-hut, one for each curved groove or slot, *h*, in the sleeve, and of such diameter or thickness as to enter and fit easily but snugly within the grooves. To afford facility for connecting and disconnecting the entering-hut, C, and sleeve, A, which carries the other hut, and so uniting or disconnecting the adjacent hose sections by simply turning the sleeve or entering-hut. To throw into or out of gear, short arms or handles are made upon opposite sides of both sleeve and entering-hut, and by these being grasped in the hands and forcibly turned while the stud, *g*, is entering the curved slot, the stud passes the culminating point, *c*, of the slot, thereby compressing the india-rubber packing-ring, D, which, upon being relieved of the compression, is still sufficiently compressed to hold the sleeve and hut in their coupled connection. To break the connection, however, it will be necessary to again compress the elastic ring, by the studs working inward on approaching and passing in their return their culminating points or lines, that is, passing from the cavities or continuations, *c*, to the main portions of the grooves, *h*, and thus it will be seen that there is a restraint or lock placed upon the coupling when the connection is fully established, so that no accidental twisting, turning, or handling of the hose sections can break, so as to pass the studs beyond their culminating lines or points, and to compress the elastic ring will require a positive and, though not to an objectionable degree, a considerable force.

A patent was granted for this invention, to William Craig, of Newark, N. J., on Jan. 29th, 1867, and the invention was first described and illustrated as above in the *American Artisan* of Feb. 27th, 1867.

FURS.—It is said that Russian furs have declined in this market fully one half in value since the purchase of Alaska. This is in consequence of European dealers having arrived at the conclusion that American enterprise would soon vastly improve the development of the fur interests.

THE FOG WHISTLE.—One of the mammoth fog whistles, which we have recently noticed, is to be put up near Fort Point by the P. M. S. Co.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California.

## PLATINA—THE RARE METALS—NICKEL, COBALT AND QUICKSILVER.

My last letter upon the silver and gold was incomplete, without a notice of the remarkable exhibit of these metals by Messrs. Johnson, Mattbey & Co., of London, large manufacturers of platinum apparatus for the use of chemists and chemical manufacturers. This firm has filled two large glass cases in the English section with samples of its various products, both raw and manufactured. One case is devoted almost exclusively to a collection of native gold and gold in ingots, in plate and in foil, together with an imposing array of bars of silver from various parts of the world, but particularly from Nevada and Chili.

The collection of native gold contains samples from most of the gold-producing countries, and is formed chiefly of river or "scale gold," and thus presents a great uniformity in its appearance. The samples are very neatly arranged in flat-topped show-holders, and the exhibit is interesting chiefly for the number of localities represented. Most of the largest "ingots" are only models, but having exactly the form and appearance of the originals, they are just as good for the satisfaction of the public curiosity; but notwithstanding the fact that most of the ingots present only the form and appearance of the real article, the actual value of the metals and articles manufactured of them in the two cases, is nearly \$100,000. The attention is first attracted by the enormous size of the platinum boilers used for the concentration of sulphuric acid. These are in the form of stills, nearly four feet in diameter, and are sufficiently capacious to concentrate eight tons of acid a day. They show many improvements over old patterns, but what is most remarkable is that they are made without joints soldered with gold as usual. They may be considered as formed of one piece of metal, and as specimens of autogenous soldering they are remarkably fine and interesting. The price of a still of the capacity of five tons a day is 4,000 francs, and of one that can concentrate eight tons, 62,500 francs.

There is a great variety of smaller platinum vessels, such as evaporating dishes, crucibles, small stills for fluoric acid, syphons, tubes and alembics, all of them showing great skill in forging and working the metal.

Alongside of these vessels we find several large ingots of the metal chemically pure, and intended for the fabrication of sulphuric acid stills.

These ingots are about as large as two bricks, placed side by side, and they were melted under the oxy-hydrogen blow-pipe, according to the method of St. Claire Deville and Debray. A few irregular projections on these masses show how perfectly fluid the metal was, so much so as to penetrate into every small cavity of the mold. There are few of the many persons that look upon these triumphs of science that know that even a small wire of the same metal cannot be melted in the hottest forge fire. Each of these ingots is valued at 1,300 francs. In addition to these ingots there is a model of the great ingot melted for the Exhibition of 1862. This ingot was the largest ever made and weighed 100 kilos., and was valued at 85,000 francs. It is not probable that another ingot of equal size will be produced. The model is therefore of peculiar interest and value.

## APPARATUS FOR ASSAYERS.

Among the great variety of objects there is an apparatus in platina for facilitating gold assays. This, if not already in use by our assayers, should interest some of our establishments in San Francisco, for it is claimed to be a great improvement upon old methods and to give more exact results.

It consists of two shallow kettles of platinum, about a foot across the top, set in holes like those of the top of a stove, so that heat from a gas lamp or stove can be applied below. The nitric acid, for dissolving

the silver out of the assays, is placed in the kettles. A frame of platina, made to fit the kettles, is divided into 200 or more little partitions, into each of which a small platinum cup is placed. These cups are not larger than a child's thimble, and are movable. The bottom of each is pierced with fine slits at right angles, so that the acid can enter when they are lowered with the frame, into the kettle, and so that it may drain out when the frame is raised. It will be seen that the number of assays is limited only by the number of the cups. No glass is used. By means of this apparatus the pouring off of acid, and the separate washing of each assay is avoided. It has been in use for five years in the laboratory of the firm with complete success. The whole apparatus with two kettles is about two feet long and thirteen inches wide. A porcelain hood covers the kettles and discharges the distilled acid into a vessel at one side.

## MAGNESIUM.

The same firm exhibits an obelisk of pure magnesium, weighing five kilograms, or eleven pounds. The metal is shown, also, in large quantities in the shape of foil for batteries, in ribbons and wires of various sizes. In another part of the Exposition a little apparatus is shown which contains a coil of magnesium wire which may be fed out regularly as fast as it burns. The whole is not larger than a watch, and may be carried in the pocket in readiness for the production of a light almost equal to that of the sun. This would be very useful in caves and in the examination of the dark galleries and chambers of mines, but the direct light should of course be carefully kept from the eye.

## IRIDIUM, OSMIUM AND OTHER RARE METALS.

The exhibition of the rare metals is the most complete ever witnessed, and rejoices the heart of a chemist who perhaps has never before seen more than a grain or two of some which are here shown in massive ingots. Look at that bar of iridium—solid, homogeneous metal, two or three inches long! This is the second which has ever been melted and cast, and was made up of small grains not much larger than the tips of a gold pen. This metal is so hard that diamond dust must be used to cut it, and the question here arises whether in this solid form, we may not use it for tools by which to cut hardened steel, and turn and fashion the hardest rocks.

The bar of osmium which is near by, and is a metal generally found in nature, in close association with iridium, presents a totally different appearance, for it looks like a mass of coke.

Ruthenium is the only one of these rare elements which is not shown in great quantity. We are obliged to be content with seeing a few grains as large as peas. But any disappointment in this case is more than compensated by the sight of a goodly quantity of boron and silicon, and of a remarkable series of the various metals cast in cylinders of equal diameter, but each specimen having the same weight (one kilo. or about two pounds each). The result is, that the cylinders have very unequal lengths, and thus exhibit in a very striking manner their difference in the specific weights of the metals. The series contains gold, silver, platina, iridium, rhodium, palladium, lead, bismuth, copper, cadmium, cobalt, nickel, iron, antimony, zinc, magnesium, aluminum, thallium, sodium, potassium, osmium (not melted), and mercury.

Each cylinder is about one inch in diameter. Quicksilver, which is in a melted state at our ordinary temperatures, and the metals which oxidize rapidly in the air, are confined in glass. The other specimens are just as they came from the mold.

The platinum cylinder is about four inches long; the quicksilver about seven inches, and the others elongate by a very regular gradation up to aluminum, which towers two feet above the preceding, and is in its turn over-topped by the magnesium cylinder nearly four feet long. Thus, at one end of the series, a bar of metal four feet long would just counterpoise the bar of platinum at the other end, and only seven inches long.

In the collection sent from the metallurgical works of Freiberg, Saxony, there is an ingot of the new metal *indium* which was prepared by Prof. Richter, at great cost, and is a great novelty. It is a little puzzling to know, however, whether this ingot is the "real Jacob," or an imitation; for I certainly saw a bar of indium at the exhibition in Chemnitz, Saxony, and only one bar has been made.

## NICKEL AND COBALT.

I have gathered some information in detail upon the manufacture or production of these metals, because we in California now have an interesting locality of such ores in abundance at or near the top of the Sierra

Nevada. These are represented in the collection by the specimens given by Mr. Gaskill.

There are numerous exhibitions of nickel and its ores from various and remote parts of the world. We find specimens from Chili, from Italy, Prussia, Sweden, Austria; also from New Jersey. From the last named locality, Messrs. Wharton and Fleitman send specimens of matte, containing about twelve per cent. of nickel, and some of the ordinary commercial nickel in small cubes, containing 75 per cent. of nickel and 25 per cent. of copper. This is produced from nickeliferous pyrrhotine (magnetic pyrites), and the sulphuret of nickel; which last occurs in crusts at the Gap mine in Pennsylvania. The pyrites is said to contain only about 3 per cent. of nickel.

The Swedish nickel is produced at Kleppa. This ore is also a mixture of nickeliferous pyrrhotine with ordinary copper pyrites, and is shown in large masses. It appears to be taken from heavy beds. The best ore shows by analysis only 2.75 per cent. of nickel and 0.10 of cobalt. The concentrated matte contains 53.74 per cent. of nickel and 25.46 of copper. The small cubes contain 66 per cent. of nickel and 34 of copper. Another quality contains 72 per cent. of nickel. The establishment produces annually 85,000 kilos. of concentrated nickel matte, containing from 53 to 56 per cent. of nickel and 24 to 27 per cent. of copper, seven per cent. of iron and 13 per cent. of sulphur.

The price of the products varies according to the percentage of nickel. The ordinary matte, containing from 50 to 56 per cent. of nickel, is worth 6.70 francs the kilo of nickel. For example, 100 kilos. of matte of 54 per cent. is worth about 362 francs. For a 60 per cent. matte, the price is about 504 francs for 100 kilos.

A cobalt and nickel company in Hungary exports a crude product containing 48 per cent. of nickel and cobalt to England, to the extent of 1,000,000 kilos. a year, (about 2,200 tons.) Further details are not of sufficient interest to be given here.

## QUICKSILVER.

The finest display of ores and the metal is made by the Old Almaden mine of Spain. It has sent twenty or thirty solid blocks of cinnabar more than a foot square. This ore is of finer grain than ours from New Almaden, but the color is not so brilliant. The Old Almaden ore looks more like the red oxide of iron. A large flask of native quicksilver is found with the collection.

Algeria sends some very large masses of ore in which the cinnabar is associated with carbonate of lime, very much as in our California mines. This association appears to be as characteristic of cinnabar as that of quartz with gold.

Most of our California localities are represented, but not by large and brilliant specimens. I am told by a Californian who has recently returned from there, that the Old Almaden mine is worked in a very rude manner, and that one of the most ancient single acting steam engines is still at work there raising water.

Paris, Sept. 11th, 1867.

(Entered according to Act of Congress in the year 1866, by F. A. Herring, in the Clerk's Office of the District Court of the District of California.)

## Formation, Distribution and Age of Igneous Rocks.

Concluded from Page 274.]

There seems to have been three of the anticlinal, or volcanic lines or ridges running nearly parallel, the central one being the present summit of the Sierra Nevada, the westerly volcanic axis along the line from Oroville to Folsom, and the easterly anticlinal line running in a northerly and southerly direction from Mount Davidson, Nevada. The ore in the newly discovered mine described by W. T. Rickard, must have been erupted at a period when the eastern flank of Mount Davidson was nearly if not quite level, for the limestone which forms a part of the vein is unquestionably a deposit which was formed under water. At the ancient anticlinal axis, at Folsom, the stratum of decomposed quartz rests upon the hard gray granite, and dips underneath the high hills east towards the summit of the Sierra Nevada. This amiferous stratum is now lower than the bed of the American river, but the granite must have been above water, when it was covered by molten quartz of the manner of the lavas of a later period. And when we consider the fact, that the gold in this deposit is not what the miners term "washed" gold, it is impossible to conceive how the quartz found

in this way there upon that ancient anticlinal axis in any other manner. Immediately overlying is a marine deposit 20 feet in thickness, and along the same axis or line at Butte Creek is another similar deposit, filled with mollusca. At the beginning of the old red sandstone period, the solid crust of the earth was probably about 15 miles in thickness, and it was possible for a synclinal line to be no farther from an anticlinal axis than 15 miles. But when the solid crust had increased to 50 miles in thickness, the synclinal line would be removed not less than 50 miles from the anticlinal axis. Now from Folsom to Mount Davidson is not less than a hundred miles, in a direct line. Thus it will be seen how the original flanking anticlinal lines or axes, each 50 miles or thereabouts from the central anticlinal axis, might become synclinal lines, during the process of the upheaval of mountain ranges, in consequence of the increased thickness of the earth's crust. During the old red sandstone period the solid crust increased to about 25 miles in thickness, to which was added 12 miles during the carboniferous era. The deposits upon these ancient anticlinal lines, show them to have been submerged during the upheaval and widening of the Sierra Nevada. This period of submergence probably began in the carboniferous era, and continued up to the cretaceous period.

Thus it appears that the changes in nature are slow and uniform, and that the great forces which elevated and built up extended chains of mountains, have operated through vast periods of time. When the crust of our globe was thin and unable to support elevated mountains, the vast ocean which covered the whole earth was dotted with islands. As the crust gradually became thicker and stronger, some of the low islands disappeared, while others grew to extensive tracts of land, then to continents, diversified with hills and valleys, and vast ranges of mountains were built by repeated elevations and additions on sites selected by the Great Architect.

I am well aware that these views, respecting the time and manner of the upheaval of extended chains of mountains, differ somewhat from the commonly received opinion. Agassiz says: "It is in accordance with an invariable rule, by which the relative age of mountains may be estimated, that the oldest mountains are the lowest, while the younger and more recent ones tower above their elders, and are usually more torn and dislocated also. This is easily understood when we remember that all mountains and mountain chains are the result of upheavals, and that the violence of the outbreak must have been in proportion to the strength of resistance. When the crust of the earth was so thin that the heated masses within easily broke through it, they were not thrown to so great a height, and formed comparatively low elevations, such as the Canadian hills or the mountains of Bretagne and Wales. But in later times, when young and vigorous giants, such as the Alps, and Himalayas, or later still, the Rocky Mountains, forced their way out from their fiery prison-house, the crust of the earth was thicker, and fearful indeed must have been the convulsions attending their exit."

In a recent lecture, he endeavors to show that the Rocky Mountains have been entirely upheaved since the cretaceous period. Now the Rocky Mountains are capped by some of the oldest land, the gneiss formation; huge cones of granite are piled upon them, and they are intersected by veins of the intrusive rock of all ages, including metal-bearing quartz, showing their structure to be similar to that of the Sierra Nevada. He evidently errs in supposing their upheaval to have been so recent, so violent and sudden, when he only produces evidence of their recent completion. Then the rugged and torn appearance of some mountains is more due to the refractory character of rock composing them, than to the time or manner of their upheaval. It is quite true that when the crust of our globe was thinner, it was unable to support lofty and extended chains of mountains; but it does not necessarily follow that the building-up process of such mountains should not have begun with the earliest upheaval. Future explorations will show that there are other tracts of land on the North American continent, quite as anciently upheaved as the Laurentian Hills in Canada.

I cannot help believing that Agassiz and his followers attach too much importance to glacial action. They advance the extraordinary theory that what they suppose to be glacier-marked territory, was once covered with ice a mile or more in depth. They speak of the drift period as if it belonged



to some particular age, when in fact it includes all ages since water rested upon the heated surface of our earth. They see drift six thousand feet up the side of a mountain in Maine, and arrive at the absurd conclusion that Maine was at one time covered with ice six thousand feet deep. Now there are deposits of drift at a greater altitude on the Sierra Nevada, high above the present water courses; yet no miner who is familiar with their appearance supposes their origin to be due to glacial action, from the fact that they present every indication of hydrostatic action. To account for such an extraordinary degree of frugidity, they advance the idea that the supposed glacier-marked territory was once much more elevated than at the present time. It is not probable the intrusive igneous rocks, intersecting such territory, will present any evidence of such an extraordinary upheaval. On the ground of the ever-increasing thickness of the earth's crust, it may be safely affirmed that the average height of all the mountains upon our globe, is greater to-day than at any former period. I can see no evidence that the temperature of our earth was ever below its present average. In geological time, the advent of mammals is a recent occurrence, a fact showing the atmosphere to have been loaded with poisonous gases. And the further we go back into primeval time, the more compound, extended and dense, must have been the atmosphere, and its increase in apparent heat according to well known laws, would correspond with its decreased capacity for heat, consequent to its greater density.

Kind reader, while this subject affords a field of research to the man of science, I have endeavored to present what to my mind appears to be the plan of the distribution of igneous rocks, in such a manner that all may comprehend it, reserving to myself only the right of future publication. Comment and suggestions are invited, to the end that if the theory proposed proves to have foundation in truth, this paper will be republished with such conditions and additions as further research and reflection may dictate.

#### Extraction of Gold, Silver and Copper.

We quote the following, as the conclusion of the chlorination process on sulphurets, described and illustrated in detail, in Kustel's new work on Concentration and Chlorination, now in press, and shortly to appear.

Sulphurets, or ores containing sulphurets, cannot be treated either with chlorine or with chlorinated water without roasting, no matter how fine the ore may be reduced. Besides the great quantity of chlorine which would be consumed, in either way, by the decomposition of sulphurets, there will always be formed some chloride and sulphate of iron, both of which precipitate the chloride of gold, if such should be formed, and would prevent its extraction. If there is silver present, it is converted into a chloride, and this is also the case with the copper; but the sulphur must be driven out before the chlorination.

The chloride of copper is soluble in water, and can be leached together with the gold; but the chloride of silver remains undissolved in the residue; it is, however, soluble in a saturated solution of common salt. If, therefore, chlorine is conducted through a salt solution, to saturation, this saturated solution dissolves gold, silver and copper at the same time, if the ore, containing such metals is treated therewith. On this principle Patena and Roeszner subject auriferous silver ores first to a chlorinating roasting; the roasted ore is then charged into tubs with false bottoms, and the cold solution of salt and chlorine added. Silver ore from Arany-Idka (Hungary), treated after this method, gave 98.94 per cent of silver, all the copper, and nearly all gold. An experiment on five tons of ore gave a clear profit of seventy-five florins, compared with the amalgamation.

Roeszner roasts the ore with salt, extracts a part of the silver by Augustin's method, with a hot solution of salt, and treats the residue alternately with a solution of salt and chlorine, and hot concentrated solution of salt for the extraction of gold, and the remainder of the silver.

It is not absolutely necessary to roast the ore with salt, especially if the copper is not regarded. There is a class of silver ore found in considerable quantities in Nevada, which, treated on a small scale with chlorinated salt solution, gives nearly 50 per cent. of its silver, without roasting, provided it is ground very fine. The ore in question is principally the argentiferous carbonates, containing some copper, antimony and lead.

It has a greenish or black, dull appearance, generally rich in silver—frequently occurring at Blind Springs, Hot Creek, Humboldt, Loan Pino, and in Idaho. There is also a light yellow earthy mineral, in the form of powder, composed principally of antimony, lead and silver, (Pahranagat, Arizona, etc.); also the Stetefeldite and Partzite (both probably the same mineral, and in regard to origin, likely connected with the above named carbonates.) The last two minerals are greenish black, or black, with a peculiar horny appearance, and also rich in silver.

In treating these ores without roasting, besides the above mentioned proportion of silver, copper also comes into the solution. It may be expected, that, operated on a large scale (the ore properly ground, for instance, with the newly constructed Varoey's quartz grinder), a more favorable, and perhaps satisfactory result could be obtained, without roasting, than experimenting on ounces; but a calcination, sufficient to drive out the carbonic acid, appears advisable, especially if the ore, with the solution, should be subjected to a slow revolving motion, (in a barrel) whereby the evolution of carbonic acid becomes very inconvenient. A proper furnace might be sufficient to calcine from ten to fifteen tons of the named ore in twenty-four hours.

This mode of extraction, roasting the silver ores with salt, is very important, on account of the close percentage which is obtained, and also for the reason that the copper can be precipitated in metallic condition by itself, at the same time.

The precipitation of the metals, in the solution, after leaching, can be effected in different ways. A dilution of the salt leach, with water, produces a white precipitate of chloride of silver. It takes about twelve hours for all the silver to settle, and the fluid to become clear, ready for precipitation of gold by sulphate of iron. After this, the fluid, when clear, is conveyed into tanks containing pieces of old wrought iron, for the purpose of precipitating the copper. This is the cheapest way of precipitation; but the further reduction of the chloride of silver, by means of zinc and sulphuric acid, is troublesome, and it might be preferable to amalgamate the chloride with sodium, amalgam and iron filings, which, according to Professor Wurtz, is performed almost instantly. Another inconvenience is the quantity of water required for the precipitation of the chloride of silver, amounting at least to one half of the volume of the lixivium, diluting it thus too much for the copper precipitation.

Sulphureted hydrogen, or poly-sulphide of sodium, precipitates silver and copper together, as sulphides; it is, therefore, the most proper way to precipitate the gold and silver in metallic condition, by metallic copper, and then both the dissolved precipitating copper and that from the ore, by means of old iron.

It seems that if the lixivium should not be rich enough for precipitation, the same could be saturated again with chlorine and applied to another charge of roasted ore. That might be, perhaps, repeated even after the gold and silver has been precipitated once or twice, thus considerably diminishing the expenses of extracting. It is only necessary to keep the solution always saturated with salt before the chlorine is introduced. In order to utilize the chlorine (generated according to Sec. 58) to the best advantage, the salt solution must be divided into many chlorinating vessels, so that the chlorine is forced to pass several times through the fluid.

**A BOILING LAKE.**—There is a singular boiling cauldron, or lake, near Humphreys Station, in Monitor Valley, Reese River, which is said to be well worthy of a visit. In the center of a low, round hill, composed of sedimentary matter, there is a natural bowl about seventy-five feet in diameter, and apparently sixty or seventy feet in depth. At the bottom there is a large volume of scalding hot water constantly in active ebullition. The water is so remarkably pure that a stone thrown into it is seen descending with a slow spiral motion to a great depth, being gradually drawn toward the point where the spring seems to burst from the rocks beneath. The lake has no outlet, and the water stands at about 20 feet below its banks.

**THE FRIEND OF INDIA** says that, owing to the heat, half the engine-drivers on the East India Railway are sick. "The other day," it adds, "a train was stopped at Hooghly with the stoker dead and the driver dying."

**A GIRL**, ten years of age, was resuscitated at Rumney, Mass., twelve hours after she was supposed to have been drowned. She did not regain full consciousness for more than two days.

#### Scientific Miscellany.

**FLIGHT OF BIRDS—BALLOONING.**—The force of gravitation, paradoxical as it may seem, is really the very force which makes flight possible; and it has recently been remarked as very singular, how completely this fact has been lost sight of in all attempts to navigate the air. A bird lighter than the air, at the surface of the earth, might float in that medium a short distance above the earth, where the stratum of air is not so dense; it might move along, indeed, with the current of air in which it floats; but any effort at flight would be awkward indeed—it would be a mere awkward flopping instead of the graceful motion of flight. So with a balloon. To navigate the air on the true principle of the flight of a bird, the machinery of the balloon must be so constructed as to raise it long before it is sufficiently buoyant to float. Again, to navigate with wheels or sails, as a boat, the balloon must occupy a position where it will encounter either two elements, or one where the same element presents a marked intermediate line of great difference in specific gravity.

All attempts at ballooning have heretofore been attempts to do something on a principle quite diverse from any natural action. No bird is ever, for an instant of time, lighter than the air in which it flies; if it was it would be as powerless for flight as a balloon; but being, on the contrary, always heavier, it is in constant possession of a force (gravity) capable of being converted into momentum, and therefore able to overcome the resistance of the atmosphere, or even a moderate gale of wind. If ballooning is ever made practicable for moving from point to point, at will, its machinery will be employed for elevation rather than propulsion. Gravitation must be made, in ballooning, as in flying, the most essential part of the process available for the object in view.

**THE "FIRM EARTH"** has been proven, by unflinching tests, to be not so firm after all. It is now considered an unsteady base for science. Dr. Robinson has reported to the British Association, that "he found the entire mass of rock and hill on which the Armagh Observatory is erected, to be slightly, but to an astronomer quite perceptibly tilted or canted, at one season of the year to the east, at another season to the west." And what is still more startling to the astronomical world, the Greenwich transit instrument the very ark of the covenant of scientific certainty itself, has wavered. The high priest of that *sanctum sanctorum* of science, Prof. Airey, the Astronomer Royal, makes the alarming confession as follows: "While the construction of this instrument, and the modes of observation with it, have given a warranty such as the world never possessed before, for the steadiness of the instrument and its adjuncts, there have been instances where the azimuth of the instrument, greatly to the surprise of the astronomer, has varied four seconds, as determined by opposite passages of the polar star." Mr. Airey has no other way of explaining this than by the supposition, that "the sound and firmest earth itself is in motion." A supposition fatal to the scientific certainty of observations made on such a tremulous basis; for if the whole hill on which Armagh Observatory stands, can be canted to the east and to the west, and if the solid earth at Greenwich has been detected in wavering four seconds, who can assume greater stability for any other observatory? Or who can tell whether such trepidations have not vitiated the most far reaching observation? It is only occasionally that sidereal rectifications can be made, and in all intervening hours nobody can tell how much wavering may arise from the secular and magnetic expansions and contractions of the earth, which physical geographers assure us are continually active. Yet we are asked to accept visionary theories of the formations of worlds, based on observations of minute angles, where the error of the tenth of a second in the parallax of a distant star involves an error of distance of thousands of millions of miles! The whole modern theory of the lenticular formation of this earth's universe, and of the actual distances of the fixed stars, has absolutely no broader basis of observation than the ac-

curacy of observations of the sixtieth or hundredth part of a degree. What then are we to think of the scientific certainty of observations continually exposed to such disturbances and jostlings.

**NEW METEORIC THEORY.**—Richard A. Proctor, an astronomer of some reputation, contributes a paper to the last number of *Temple Bar*, which, in connection with the late meteoric shower, has special interest. He advances the hypothesis, which he states to be that of Adams, Leverrier, Schiaparelli, Weisse, and many other eminent astronomers, that these meteors belong to the trains of comets. The evidence upon which this is based is as follows:

An examination of a small comet last year—Temple's comet—by means of a spectroscopic (which, by analyzing the light emitted by a luminous body, shows to some extent of what that body is composed), proved to the satisfaction of astronomers that the nucleus consists of incandescent vapor, shining by its own light, and the coma of incandescent solid or liquid matter, or more probably of widely dispersed solid or liquid particles, which shine by reflecting the sun's light. On the night of Nov. 14th, 1866, when a great meteoric shower took place in Europe, the earth was near the orbit of Temple's comet. And it has been proved by laborious calculations, conducted in different ways by Adams and Leverrier, that the path round the sun of the meteors seen that night coincided exactly with the path of Temple's comet though that comet was then millions of miles away. These calculations were undertaken and conducted without any thought of the result to which they led. The paths of other showers of meteors have since been identified with the orbits of other comets, and in the language of Mr. Proctor, "It would seem that the great April aerolite shower, which sends down solid masses upon the earth (of which four are known to have fallen in England alone), follows the path of the great comet of 1861."

From this it is concluded that comets are followed by trains of cosmic dust, of which the tails are the denser part, and that the tenuity of the tails is due to the wide dispersion of the particles composing them.

**ANALYSIS OF BLISTER STEEL.**—David Forbes, F. B. S., has communicated to the *Chemical News* the results of his analysis of specimens of blister steel, which will be examined with interest because analyses of such steel are rare and seldom found in chemical works. The per cent. results are as follows: Iron, 99.116; carbon, combined, 0.627; graphite carbon, 0.102; manganese, 0.120; silicon, 0.030; sulphur, 0.005. No trace of phosphorus was found, although search was made for it by several different methods.

**MOLTING OF FISHES.**—M. Baudelot, in a paper read before the French Academy of Sciences, says tubercles are often observed on the sides of fishes, accompanied by the falling off of the scales; these were sometimes considered a characteristic of a new species of fish. They are, however, periodical, and found only at certain seasons of the year, thus constituting a true molting.

**ANTI-INCORUSTATION SOLUTION.**—To prevent the formation of strongly adhesive sediments in a steam-boiler, mix 125 kilograms of crystallized chloride of barium dissolved in 50 of water, with 25 kilograms of hydrochloric acid having a specific gravity of 1.20; apply 15 parts by measure, of this acid solution to every 1,000 parts of water to be used in the boiler.

**DOUBLE SESQUICHLORIDE OF IRON AND SODIUM.**—F. Landauer has produced this new compound by the action of hydrochloric acid on artificial ultramarine. By writing upon paper with the solution and afterward warming it, the letters become black, just as in the case of some sympathetic inks, but the writing does not disappear by the action of water.

**RED LEAD.**—Barton produced red lead by heating the oxide of lead to redness with nitrate of soda, or by heating at the same temperature a mixture of 1,894 parts of sulphate of lead, 665 parts of carbonate of soda, and 177 parts of nitrate of soda. The resulting mass is to be washed.

**BRONZE AND STEEL ORDNANCE.**—The French Government are now testing guns having an interior of steel and exterior of bronze. It is supposed each cannon combine the maximum of wear with the maximum of liability to explosion.



New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

RECENT INVENTIONS.

**A NEW NEEDLE.**—Messrs. G. A. Lloyd and S. Titlow, of this city, have recently invented a needle which may be employed for making sails or for common sewing purposes. It is round like the common needle, but the eye is placed at a distance of one-fourth the length of the instrument from its heel. The object of this construction is to give ample leverage to the thimble or palm to put the loop of the thread through the cloth. A groove extends from the eye around the heel of the needle, so as to take in the thread or twine, and enable it to readily follow the point. Capt. Lloyd is a sailor, and was led to this invention by a practical knowledge of the difficulty attending the roping of sails and other heavy work. The change in the sail needle from its triangular shape to that of a round shaft is so apt to follow the course of the present instrument. The round shaft leaves a hole which more readily closes up, tightly, upon the thread than does the angular hole; and, for that reason, is especially preferable for use in making hydraulic hose, etc. The ladies, we opine, will encounter less of the breaking of needles when they are made after this patent than when made as at present, so that the indentation of the thimble comes in direct contact with the portion weakened by the punching of the eye. This is the only important improvement which has been made in the form of the common sewing needle, for aught we know, since Eve first used the instrument for sewing fig leaves. We trust the inventor will find it as profitable as did Howe in his sewing machine needle.

**NEW DAVIT HOOK.**—More lives at sea have been lost by parties trying to unhook the davit hooks of small boats, lowered during storms, than in any other way, not taking into consideration fires and wrecks. Our friend, Mr. Jos. Condon, says the Meadow Lake Sun, has invented a new way of fastening the hooks, which is extremely simple, and which works well in all respects. By the Condon fastening both hooks can be easily unhooked at the same instant and with perfect safety. It seems strange, after seeing this new arrangement, that the like has not been thought of before. Had the hook been in use years ago, thousands of lives might have been saved.

**A NEW GATE** is on exhibition, in model, at the Merchants' Exchange, recently invented by Smith & Hudson. In place of opening outward, and swinging on hinges from the gate post, this gate raises up, on the principle of the toy used by our grandmothers, and known as "lazy-tongs." The pickets work on screws, and when the gate is pushed up, which movement is facilitated by a heavy weight at one end of the upper horizontal bar, the pickets fall together, and the whole affair assumes a vertical position, folding upon itself, and standing close up to the post on which it is hung. The idea is a novel one, and many advantages are claimed for it over the old style. The same was on exhibition, of full size, at the recent State Fair, in Sacramento, where it elicited much consideration.

PATENTS RECENTLY ISSUED.

**70,256.**—MEANS FOR SETTING, FURLING, AND REEFING SAILS.—Charles Peterson, San Francisco, Cal.: I claim, 1st, The within-described mode of setting, furling, and reefing sails from the deck of a vessel by means of the swivel-booms, D, swivels, G, H, and ropes or chains, 1, 2, 3, 4, 5, 6, 7, and 8, substantially as described.

2d, Setting, furling, and reefing stay-sails and jibs by rolling them on the stay, substantially as described.

3d, Setting, furling, and reefing the upper square sails from the deck by means of two sets of ropes or chains only, operating together with the swivel-booms, D, substantially as described.

4th, A swivel boom, around which the upper square-sails are rolled or furled, substantially as described.

5th, An india-rubber cap, P, on the end of the rotating spar, for the purpose and in the manner set forth.

6th, The swivel, D, provided with friction

balls, substantially as described, for the purpose specified.

7th, An india-rubber roller over the periphery of a sheave, substantially as and for the purpose described.

8th, A stay for ship sails constructed of metal links, substantially as described.

9th, The combination of the swivel, H, link, I, and swivel, G, substantially as described, for the purpose specified.

10th, The india-rubber covered rollers, g and g', in combination with the india-rubber covered boom, E, substantially as and for the purpose described.

11th, The guide-rope, 5, in combination with the courses, substantially as and for the purposes described.

**70,321.**—APPARATUS FOR REDUCING QUICK-SILVER ORES.—Joseph C. Coult, San Francisco, Cal.: I claim, 1st, The fire-chambers, B, B, ore-chambers, C, C, and vapor-chamber, D, arranged together and with a steam-tank above them, as and for the purposes set forth.

2d, The arrangement of the pans within the chamber, D, with alternate spaces between their sides and the walls of the chambers, as and for the purpose set forth.

3d, The silvered wire screens, c, c, c, in the condensing-flue, E', used as and for the purpose set forth.

4th, The arrangement of the flues, H, H', H'', water-tanks, I, and partitions, J, J, substantially as and for the purpose set forth.

5th, The arrangement of the steam-pipe, F, and its orifice, K', with the orifice, K, for creating a draught, as and for the purpose set forth.

**70,354.**—BOAT-DETACHING TACKLE.—Charles Peterson and Charles Gunnar, San Francisco, Cal.: We claim, 1st, The rods, C, attached to the bottom of a boat, their upper ends being free and provided with loops, c, substantially as and for the purposes described.

2d, The sleeves, D, D', on the rods, C, substantially as and for the purposes described.

3d, The rods, B, B', pivoted as described, in combination with the rods, C, sleeves, D, D', and ropes b and d.

4th, The roller or drum, e, pivoted in a slot in a thwart or cross-board and provided with a lever, f, substantially as and for the purposes described.

5th, The detaching device consisting of the rods, B, B', and C, sleeves, D, D', ropes b and d, and roller or drum, e, provided with a lever, J, and pivoted in a slotted thwart or board, substantially as described.

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**CALIFORNIA MUTUAL LIFE INSURANCE CO.** San Francisco. Nov. 16th. Capital stock, \$100,000, with a Guarantee Fund of \$250,000; 1,000 shares, \$100 each. Trustees: David Stern, Thomas H. Selby, L. Sachs, John E. Miller, J. Mora Moss, William C. Ralston, Oliver Eldridge, Eugene Casserly, Joseph A. Donahue, Myles D. Sweeny and Orville C. Pratt.

**UNIVERSITY HOMESTEAD ASSOCIATION.**—San Francisco. Nov. 20th. Capital stock, \$136,400; 341 shares, \$400 each. Trustees: L. L. Robinson, J. Babcock, T. B. Lewis, J. F. Michel and O. S. Hatch.

**ELECTION OF OFFICERS.**—At a meeting of the Stockholders of the Bay View Homestead Association, held on the 19th, the following officers were elected. Trustees: Asa R. Wells, Henry B. Forester, Arthur B. Stout, William H. Bryan, Henry O. Howard, Joseph De Forest and William A. Woodward. Silas Selleck, President; Henry A. Crane, Vice-President; Henry F. Williams, Treasurer; A. S. Gould, Secretary.

**CONFIDENCE S. M. CO.**—San Francisco. Nov. 8th. Trustees, A. E. Head, Wm. S. Head, Geo. W. Beaver, R. F. Morrow and Frank Levington. A. E. Head, President; R. Wegener, Secretary; Charles Foreman, Superintendent.

**MOORE'S FRICTION HOIST.**—We would call the especial attention of merchants and miners to the advertisement, in another column, of "Moore's Friction Hoist"—one of the best inventions of the kind extant. We shall give an illustrated description of it as soon as the necessary engravings can be prepared.

**PICNICS.**—All in search of health, pleasure, or recreation, will find Woodward's Gardens one of the most desirable places of resort this side the garden of Eden.

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- BARSTOW—Sulphurets; What they are, How Concentrated, How Assayed, and How Worked; With a Chapter on the Blow-pipe Assay of Minerals: 1 vol. 12mo. cloth. 1
- BLAKE, W. P.—Geological Reconnaissance in California in 1853-4. 4to., with plates, maps, sections, etc. 10 00
- BLAKE, W. P.—Silver Ores and Silver Mines, etc. 8vo. 2 00
- BLAKE, W. P.—Mining Magazine and Journal of Geology, etc. 8vo. 5 00
- BLAKE, W. P.—Annotated Catalogue of California Minerals. 8vo. 5
- BUCKLAND (Rev. Wm.)—Geology and Mineralogy. 2 vols. 8vo. cloth. 10 00
- BOURNE (John)—Handbook of the Steam Engine, illustrated. 2 vol. 12mo. cloth. 3 00
- CONGDON.—Mining Laws and Forms of California and Nevada, and the Mining Ordinances of Mexico. 184 pp. 8vo.; flexible cloth; 1854. (The only compilation extant) 2 50
- DUFRENOY.—Mineralogie. 5 volumes, 8vo. 20 00
- DANA'S Manual of Mineralogy. Revised edition. 250 illustrations. 12mo. cloth. New Haven, 1853. School Edition. 2 25
- DANA'S Manual of Geology. Numerous Illustrations. 8vo. half morocco. Philadelphia, 1853. 6 75
- DANA'S Text-Book of Geology. Illustrated. 12mo. cloth. Philadelphia, 1864. 2 25
- ELDERHORST'S Blowpipe.—Analysis and Determinative Mineralogy. Third edition, revised. 8vo. cloth. Philadelphia, 1855. 1 50
- FAIRBAIRN.—Iron: its History, properties, and Processes of Manufacture. By Wm. Fairbairn, C. E., LL. D. 1 vol. 8vo. New Edition. 5 00
- FEUTCHWANGER.—A Treatise on Gems. 1 vol. 8vo. cloth. 1 75
- GOODYEAR'S Translation. A Treatise on the Assaying of Copper, Silver, Lead, Gold and Mercury, from the German of Th. Bodeuan and Bruno Kerl. 1 vol. 12mo. cloth. 2 50
- HUMBLE.—Dictionary of Geology and Mineralogy. 7th Edition, Revised. 1 vol. 8vo. cloth. 9 00
- HOSKOLD'S Practical Treatise on Mining Land and Railway Surveying, Engineering, Etc. 1 vol. 8vo. cloth. 16 00
- KUSTEL.—Nevada and California Processes of Silver and Gold Extraction, for general use, and especially for the Mining Public of California and Nevada; also, a description of the General Metallurgy of Silver Ores. By Guido Kustel, Mining Engineer. Illustrated by accurate engraving. 1 vol. 8vo. cloth. 5 00
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- PHILLIPS AND DARLINGTON.—Records of Mining and Metallurgy; or, Facts and Memoranda for the Use of Mine Agents and Smelters. By E. Phillips and John Darlington. 1 vol. 12mo. cloth. 4 00
- PERCY (John).—Metallurgy; the Art of Extracting Metals from their Ores, and adapting them to various Purposes of Manufacture. Iron and Steel. 1 vol. 8vo. cloth. 13 50
- PLATTNER AND MUSPRATT on the Use of the Blowpipe. 47 Diagrams. Third edition, revised. 8vo. cloth. London, 1854. 6 00
- Practical Use of the Blowpipe; being a Graduated Course of Analysis. 12mo. cloth. New York, 1855. 2 00
- SCOFFERN'S Useful Metals and their Alloys. 1 vol. cloth. 5 50
- SMITH'S Blowpipe—Vade-Mecum. The Blowpipe Characters of Minerals Alphabetically Arranged. 8vo. cloth. London, 1852. 1 75
- URE'S Dictionary of Arts, Manufactures, and Mines. 2,300 Engravings. From last London edition. 3 vols. 8vo. cloth. New York. 16 50
- WHITNEY.—A Geological Survey of California. Report of Field Work from 1850 to 1854. By J. D. Whitney. Per. vol. quarto. 6 00
- WHEELER & RANDALL'S Quartz Operator's Handbook. Flexible cloth, 12mo. San Francisco 1855. 1 00

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THE PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

Life Insurance—The Money Drift.

EDWARDS ALTA—Sirs—I read in your issue of the 11th, a very important statistical paper, compiled by you from the Federal revenue returns, which proves the astounding fact that the distant Life Insurance Companies plying in California through "Agents," draw away nearly one million dollars per annum.

The drain under this head, as you state it, amounts to—  
Year ending 1st August, 1855.....\$465,739  
Year ending 1st August, 1856.....\$17,264  
And as we write the drain increases and must be now near a million a year—to be a million and a half next year, and so on.

And you naturally ask with surprise why this matter has not been taken in hand by some of our enterprising insurance men, so as to arrest the flight of a moiety at least of this enormous drain.

I think, sirs, your question is well put, and though my hands are full, I am yet willing to step forward and assume some of the responsibility and bear some of the preliminary expenses of forming such a Company.

When you reflect, sirs, that this million dollars a year is carried over land and sea, thousands upon thousands of miles, to places where it is lent out by distant Managers and Directors to their manufacturing and commercial friends around them, at five per cent. per annum, while our merchants and manufacturers, who are to compete with them, have to pay fifteen per cent. per annum for money [we supply them with the golden weapons to heat us] you will then conceive the magnitude of the injuries effected by the sapping and mining operations of those distant Insurance Companies. The money which must drain away, day by day, steamer after steamer, from our people, will if not stopped, impoverish this country quite as much as if it were conquered by a foreign power and held in perpetual tribute. A million a year, by compound interest, will be ten millions in five years, twenty millions in ten years, forty millions in fifteen years, eighty millions in twenty years, one hundred and sixty millions in twenty-five years, three hundred and twenty millions in thirty years! I will admit that the ordinary percentage of deaths on a business of thirty years will effect a drawback of one-third of the income, which in thirty years we will put at one hundred millions. Notwithstanding this, if we go on at our present scale of draining, we shall in thirty years lose by the Insurance operation two hundred millions of dollars! But our drain, if we don't stop it, will not stand at one million a year; it will increase year after year from one million to two millions a year, which, by my foregoing computation, would in thirty years foot up to four hundred millions! What it would amount to in sixty years I leave to other calculators. In round numbers, I should guess it would come to the full number of dollars equaling the national debt of the United States!

Now, sirs, I care not what may be said of me by critics or jealous opponents, some of whom cannot see farther than their own noses. I announce myself as ready to make an effort to stop this drain, and I hold every man who co-operates with me a benefactor of his adopted country.

Let the capital of a Local Life and Health Insurance Company be one hundred thousand dollars to begin, in shares of one hundred dollars each. I shall cheerfully take the names of co-operators in a book opened this day, in the office of the California Building and Savings Bank, California street, for that purpose.

I remain, your obedient servant,  
THOMAS MOONEY,  
Building and Savings Bank, California street.  
November 12th, 1857. 20116-4w

**MARRET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**JACUS SREW,** Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14f

**SECRETARYSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15f

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Administrator's Sale.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE of the order of the Probate Court of the City and County of San Francisco, in the State of California, made on the twenty-first day of November, A. D. 1857, in the matter of the estate of HENRY GANAH, deceased, the undersigned, Administrator of said estate, will sell at public auction, to the highest bidder, for cash in hand, in one parcel, and subject to confirmation by said Probate Court, on MONDAY, the sixteenth day of December, A. D. 1857, at twelve o'clock M., at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, in said City and County, all the right, title, interest and estate of the said Henry Ganah, at the time of his death, and all the lot, piece or parcel of land, situate, lying and being in the said City and County, and bounded and described as follows, viz: Commencing on the southerly line of Bush street, distant 157 feet 6 inches westerly from the southwesterly corner of Bush and Hyde streets; thence running westerly on said southerly line of Bush street 137 feet 6 inches; thence at right angles southerly 137 feet 6 inches; thence at right angles easterly 137 feet 6 inches; thence at right angles northerly 137 feet 6 inches, to the southerly line of Bush street, the point of commencement, being 50-vara Lot No. 1, 367.

ANDREW T. SMITH,  
Administrator of the estate of  
Henry Ganah, deceased.  
Dated, November 21, 1857. 2v16-4w



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 23, 1867.

City Stocks.

The transactions in city shares during the past week have been confined to a limited number of companies; however, the sales have been unusually large. San Francisco Gas stock shows an improvement, several hundred shares realizing \$66@67 per share.

Within this period under review, Spring Valley Water stock was disposed of to an unusually large extent, and under a very material decline. During the previous week no sales were effected in this Board, and on the 4th instant we have this record of 120 shares being sold at \$66, while during the present week upwards of 1,500 shares were sold within a range of \$65@60, closing at \$60 50, under an apparently better feeling.

The California Mutual Life Insurance Company was recently incorporated under the names of more than fifty of our leading moneyed citizens. The capital stock is fixed at \$100,000, together with a Guarantee Fund of \$250,000, divided into 1,000 shares of \$100 each.

We note considerable sales of Legal Tender Notes at 71 1/2 @ 71 1/4, and 71 1/4 seller 30.

Mining Share Market.

During the past week the mining share market acquired more strength, and the list exhibits considerable improvement over the transactions of the previous week. This information, as a whole, is of a favorable nature, and the indications are that a still greater advance will ensue.

CROWN POINT—advanced to \$622 50 early in the week, declined to \$590, rose to \$665, then sold at \$595, and closed yesterday at \$620. The drift on the 700-foot level—the south drift being opened 132 feet, and the north drift 142—have passed through much quartz with considerable pay ore, but the "pay" continues so scattered that it requires close sorting to obtain any margin of profit.

CHOLLAR-POTOSI—sold within a range of \$128 @138, and closed at \$131. The ore extracted during the week ending Nov. 15th, amounted to 1,636 tons, of which amount the Plute Switch Station yielded 969 tons. So far as we can judge from the present developments this amount will not be increased during the subsequent week.

HALE & NORCROSS—has been well maintained at about \$800 per foot, a few feet having sold at \$825 s 15, closing at \$800 s 30. The new shaft is now of sufficient depth to open the new station, which is 150 feet below the 780-foot level, making it the 930-foot level, and from which point they are about ready to drift.

GOULD & CUNNY—is dull, opening at \$350 seller 30, declining to \$320, and closing on Thursday at \$325. We have nothing new from this mine during this period under review.

YELLOW JACKET—exhibits a steady advance from \$380 to \$415 s 3, closing at \$407 50. An assessment of \$100 per foot was levied on the 15th instant. Our information from this mine is meagre. The shaft is nearly 200 feet in depth toward the new level, requiring about two hundred feet more before the new station will be opened.

SAVAGE—has met with largely increased sales during the past week, upwards of 3,000 feet having changed hands, opening at \$107 seller 3, advancing to \$110, receding to \$100, then selling at \$103 50, and closing at \$107 50. The amount and approximate value of this ore extracted during the past five weeks compare as follows:

Table with 3 columns: Date, Value per Ton, Total Value. Rows for November 16th, 17th, 18th, 19th, 20th, 21st, 22nd, 23rd, 24th, 25th, 26th, 27th, 28th, 29th, 30th, and October 19th.

The north mine, on the third station, produced 676 tons of this amount, and from the south mine, same level, 352 tons; the north mine, on the seventh level, yielded 410 tons. A telegram of the 22d instant states that the fourth station shows no change. The east cut from the south winze, on the third station, is said to be improving—"all ore in the fac."

IMPERIAL—has been less active, but has been well sustained, improving from \$153 to \$162, receding to \$155 buyer 3, then selling at \$159@157 50, and closing at \$162. The haulion returns from the Rock Point mill, during the current month, show a yield of \$23,033, against \$16,984 same time in October. The Gold Hill Mill, owing to repairs early in the month, has not yet reported, and the first clean-up will be in place of the second return, which is shortly expected.

KENTUCK—rose from \$132 to \$159, receded to \$147 50, and closed at \$142. The receipts of bullion by this company from the 1st to the 16th instant amounted to \$22,463, against \$24,807 same time previous month. It will, however, be remembered that the returns for October included three days of the present month.

AMADOR—was in this market at \$200 seller 30. It is believed that this haulion yield will reach \$40,000 during the present month; so far this receipts amount to \$19,500. Owing to the lessened expense during the current month, it is expected that a larger dividend will be paid the next.

GOLD HILL QUARTZ—is in better request, advancing from \$95 to \$105 seller 3, and closing at \$116. The 290-foot level continues to yield well, and from this 154-foot level a small quantity of good ore is regularly obtained. A dividend is anticipated in December. OVERMAN sold at \$44@50, and closed at \$49. The ore taken from the east drift, on the 300-foot level, is not so good as formerly.

ALPHA—sold at \$450 seller 30. EMPRE uniformly at \$175. OPHIR at \$60@64 seller 30, and closed at \$67 50. CONFIDENCE was in the market at \$35 seller 3. SIEBRA NEVADA rescinded the assessment of \$4 per share levied on the 13th instant.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,090,660. The sales in the open sessions amounted to \$234,167, showing a combined aggregate to date during the past week of \$1,324,827.

NOVA SCOTIA is talking saucy, because she has been forced into the "Dominion" arrangement against her wishes. Her remonstrances not having been heeded, the papers say: "The people will see what is the next step to take?"

HENRY H. HAIGHT, Governor of California, is a native of Rochester.

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Table with columns: NAME, LOCATION, AMOUNT, AND DATE OF ASSESSMENT, DAY DELINQUENT, DAY OF SALE. Lists various mining companies and their financial details.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table with columns: MISCELLANEOUS STOCKS, Bid, Askd. Lists various stock prices including United States 7 1/2-10ths Bonds, Legat Tender Notes, California State Bonds, etc.

Table with columns: GAS COMPANIES, Bid, Askd. Lists prices for San Francisco Gas Co and Sacramento Gas Co.

Table with columns: RAILROADS, Bid, Askd. Lists prices for Sacramento Valley Railroad, San Francisco and San Jose Railroad, etc.

Table with columns: BANKING INSTITUTIONS, Bid, Askd. Lists prices for California Loan and Savings Society, Bank of California, etc.

Table with columns: INSURANCE COMPANIES, Bid, Askd. Lists prices for Fireman's Fund Insurance Co., San Francisco Insurance Co., etc.

Table with columns: MINING STOCKS—WASHOE DISTRICT, Bid, Askd. Lists prices for Alpha, Baltimore American, Belcher, Bullion, etc.

San Francisco Market Rates.

Table with columns: Wholesale Prices, Friday, Nov. 22, 1867. Lists prices for Flour, Extra, Do. Superfine, Corn Meal, etc.

Table with columns: Coffee, Costa Rica, Do. Rio, Tea, Japan, Do. Green, etc. Lists various commodity prices.

Table with columns: Retail Prices. Lists prices for Butter, California, fresh, do. pickled, etc.

San Francisco Metal Market.

PRICES FOR INVOICES.

Table with columns: Jobbing prices rule from ten to fifteen per cent. higher than the following quotations. Lists prices for Iron, Dnty, Pig, \$9 per ton, Railroad, \$8 1/2 per ton, etc.

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RESOLVED, That we regard a mining paper of journal of great importance to the mining interests of California, and recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, in the consideration and support of the miners of the Pacific coast.

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July 1st, 1867. San Francisco. A. T. DEWEY. C. W. M. SMITH. W. A. EWER.

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Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN.

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Important to Californians.—Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press PATENT AGENCY has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Amador County.

*Ledger*, Nov. 16th: A party of Austrians have a very rich discovery of quartz on Jackson Creek, near the Indian rancharia, about two miles above this place. They have done but little work on it, but the rock is represented as being extremely rich. One piece, about the size of a goose egg, produced \$10 in free gold.

The extensive frame for the new hoisting works at the Coney & Bigelow mine is now up, and the workmen are enclosing it. All of the machinery is expected here to-day.

The Golden Eagle will soon resume work under a new superintendent, and try the value of a different kind of amalgamating from those formerly used.

## Calaveras County.

*Mokelumne Hill Chronicle*, Nov. 16th: For the past few weeks there has been an unusual excitement in regard to quartz in this vicinity. The whole region of country hereabouts is alive with anxious seekers after leads, and in most instances the "voyages of discovery" have been crowned with success. The first check which the spreading disorder received in this vicinity, was administered by Alexander, Seavers & Co. They purchased the old Rich Gulch claim, and without making any fuss about it, erected a 10-stamp mill and commenced crushing. Our citizens looked on with arms folded. At the expiration of a few months they have paid for their machinery, all the expenses of working the mine, and have the snug little sum of \$8,000 in bank. Mokelumne Hill opened its eyes and wiggled. A short time since it transpired that a company of capitalists had purchased an extension of their lead, paying a round sum for it as it was—totally undeveloped. Mokelumne Hill shivered with excitement. Since then every quartz vein within a radius of five miles of town has been located, and work commenced in earnest. The company which purchased the extension of the Rich Gulch claim—Staples, Norton & Co.—are making preparations for the erection of a 20-stamp mill.

The name of Cat Camp has been changed to Frankfort. The reports in relation to the extent and richness of the mines are flattering in the extreme.

Prof. Blake, after visiting the mines at Angels, Murphys, West Point, and in this vicinity, says that he thinks Calaveras will yet rank among the first counties in the State for gold bearing quartz.

*San Andreas Register*, Nov. 16th: From every direction we learn of the success of miners, who have started upon veins and commenced crushing the quartz in arastras; some of them actually making money from the surface down. The success of such quartz workers as Mr. Bovee of Angels, and Dr. Southwell of Carsons, has established beyond a doubt the existence of lodes in the vicinity of these places, of the best paying character in the State. While, in the vicinity of El Dorado, West Point, Mokelumne Hill, San Antonio, Indian Creek, Railroad Flat, Murphys, Fourth-Crossing, Jenny Lind, Campo Seco, and San Andreas, the prospects are all flattering.

A correspondent at El Dorado, writes: It is evident that none believe our mines are played out, and I would not be surprised if we should do better this winter than we did last. I notice that work is being resumed on several claims, which have lain idle for two or three years.

The Mokelumne Hill Ditch Co. at Camanche, are progressing rapidly with their extension from Camp Seco, to Frankfort and Haightville; very soon there will be an abundance of water in these camps. Prospecting since the late rains has commenced in good earnest.

*Contra Costa County.*

*Gazette*, Nov. 11th: The Central Coal Co. are about resuming work. They expect to ship during the winter from 800 to 1,000 tons per month.

*Kern County.*

*Havilah Courier*, Nov. 16th: Dropping in at the Havilah Assay Office we saw three gold bricks from the St. John mine, marked Havilah—W. H. Mead—gold—fine, 684 ozs., 149.84—155.01—130.85, making 435.70 ozs., footing up in value the snug little sum of \$6,316.13. Also a gold bar from the New York Co., valued at \$1,600. The St. John bullion was from 158 tons of rock, and they have 600 tons at the dump of the same kind, with quartz enough in sight to keep them running for two years, that prospects equally as well.

## Nevada County.

*Transcript*, Nov. 14th: On Tuesday evening a big strike was made in the Buckeye claim, near the Oriental mill, on Deer Creek, and it is estimated that \$3,000 in gold was thrown out by a single blast. The Oriental mill and Buckeye mine were recently purchased by Mr. Kittz and others of San Francisco. Some 12 years ago a rich pocket was found in the ledge, but when last worked it was not a paying enterprise. The new company went to work immediately and succeeded in making this rich strike.

Nov. 15th: Yesterday a wagon passed through this place having on a boiler weighing 9,375 pounds, designed for the Grizzly mine, which is located at Devil's Canon, near the Magenta flume.

Nov. 16th: A. Hamlin, John Snyder and R. Mellin struck a rich quartz ledge in Pleasant Valley last week. The ledge was found in a ravine which empties into the creek, and on the surface decomposed rock was obtained which prospected \$2.50 to the pan. The ledge is two and a half ft. thick and the rock contains a large quantity of free gold. The parties after striking this ledge located a claim of 1,200 ft., levied an assessment of \$20 to the share, and are now sinking a shaft upon the ledge.

The Rocky Bar mines in Washington district have been impeded in work by the breaking of a ditch in the Yuba, but they have repaired damages, and there is every prospect that the rich mines in the vicinity will yield abundantly. Considerable attention is being given to quartz mining, and some fine ledges are being worked along the banks of the Yuba.

The Scandinavian Company of Pleasant Valley are getting out timbers for an 8-stamp mill, and preparing to run the tunnel. The mine looks as well as ever. Preparations are being made to work the northern extension of this mine.

Nov. 17th: A few months since a gravel mining claim, located on the Ridge, was purchased by a gentleman for \$9,000. He sold it recently for \$12,500, and after the first run of twelve days the purchaser took out \$4,500 in gold.

*Grass Valley National*, Nov. 13th: Colonel O'Connor is making preparations to erect a mill on the O'Connor lead, situate on Union Hill. A quantity of rock from the Burdett mine, Union Hill, is now being crushed at the mill of Messrs. Laton & Son.

Nov. 14th: Another lot of specimens, valued at \$500, were taken from the Dromedary ledge last night.

The new hoisting and pumping machinery of the Eureka mine is completed and ready for operation, and consists of two substantial engines of 30-horse power each, with all the latest improvements.

*Gazette*, Nov. 14th: We saw yesterday at the Union Hotel, some very rich quartz from the Buckeye ledge, situated a short distance above Willow Valley. The ledge is owned by James Kittz, and was purchased by him about two months ago, together with the Oriental mill and other property, from a New York Co. The specimens shown us yesterday are very rich, the gold being visible in every piece, and containing besides a large proportion of good-looking sulphurets. The ledge is about three feet in width, is situated at the junction of the granite and slate, and as yet has been opened to a depth of only a few feet. Mr. Kittz is now having rock taken out for crushing, and will soon test it by mill process.

*Excelsior*.—Meadow Lake *Sun*, Nov. 16th: The rock in the Kentucky mine looks splendidly. It is of the same character as that of the U. S. Grant, and fully as rich. Extensive machinery, including hoisting works and mill, will be put upon the claim in the spring. By that time the mine will be fully developed, and will, doubtless, prove as rich a gold lode as there is in the State. The mine can be cheaply worked and the ore is very rich.

Owing to the water from the surface, produced by the late storm, work was suspended on the shaft of the U. S. Grant mine for several days. As fine looking ore as can be seen in the bottom of this shaft. The mine promises to be one of the most valuable on the coast.

We saw several days ago an enormous prospect from rock taken from the Pine Tree ledge. The quartz vein is from 12 to 20 inches wide and is very rich. The claim is being prospected by a shaft which is down about 35 ft.

## Placer County.

*Dutch Flat Enquirer*, Nov. 16th: The Yuba ditch is running 1,400 inches of water at present, and three or four claims are working day and night at Cañon Creek and Gold Run.

The You Bet correspondent writes: At present there are five mills for crushing cement run by water power on Brown's Hill and Wilcox Ravine. Mr. A. Neece, of the

firm of Neece & West, at Brown's Hill, the owners of one of the richest claims on the Blue Lead, has purchased the old Cozzens & Garber steam mill and mine, on Missouri Cañon, between this place and Red Dog, for the sum of \$12,000. The old and well known Brown claims, on Wilcox Ravine, are still paying well. Mr. G. S. Brown, the present owner, has been working them constantly, night and day, taking out from \$1,500 to \$2,000, with an average expense of \$400 per week. Yesterday I was shown in this claim some of the richest cement I ever saw, and from all appearances there was plenty of it.

*Auburn Stars and Stripes*, Nov. 13th: Another ledge, or an extension of either the Green Emigrant or Black ledge, has been discovered and partially opened, between the two latter named companies. The new company is known as the North Star Co. The ledge has been sunk upon to the depth of 20 ft., at which depth they find a width of 14 in. of conglomerate similar to the Green Emigrant and Black ledges. From this, they obtain a yield of from 10 to 20 cents per pan of loose free gold, without crushing. The rock is apparently very rich. They have sent 500 lbs. below for crushing. Allowing nothing for the rock when crushed, the free, payable gold will alone make the discovery a valuable and important one. Messrs. McLaughlin & Lowery are engaged on another claim in the same neighborhood, which promises as well or better than the North Star.

The Colfax correspondent of the *Placer Herald* says: The rains within the last few days have brightened the prospects of the miners in the surface diggings in this vicinity. Several parties who have been engaged in throwing up dirt for the last six months have been able to wash some of it, and the result has been all that could be anticipated. Walker & Co. washed up the dirt that has been taken from one of their side drifts, and the average will be about \$14 per day. Dillon & Co. have disposed of their claim for \$300. Abanathy is making preparations to work his claim on an improved plan. The mines at Burnt Flat are receiving the attention of the miners in this vicinity; in fact all the surface diggings in this section of the county promise to yield from \$8 to \$20 per day to the man. The quartz prospecting is looking up. Rich discoveries have been made near the Big Hill. The Rising Sun have erected machinery on their mine and anticipate to do good work soon. The Mountain View, which has lain still for some time, is about to be prospected in a manner creditable to the owners.

*Plumas County.*

The Taylorville correspondent of the *Quincy National*, of Nov. 9th, says: Cherokee Flat, or Caledonia, is one of the liveliest places in the county. Over 100 men are at work there.

The Golden Gate, Lone Star and Bull Frog mills have stopped running for a short time. Work has also been suspended on the Cosmopolitan mine at Genesee.

## Shasta County.

*Courier*, Nov. 16th: L. Wellendorf is in possession of some very rich specimens of silver rock from the Crystal ledge. The Bullion Co. have 100 tons of rock laying at their claim. This rock is estimated to be worth from \$50 to \$75 per ton.

Several good paying claims are reported on Arbutuckle. The Parks brothers have lately erected a hydraulic apparatus on their claim and expect to take out a large amount of gold during the coming winter.

## Sierra County.

*Downieville Messenger*, Nov. 16th: We recently saw a prospect from some rock from a ledge recently discovered, called the South Fork Co., which would indicate that the rock was worth at least \$1 per lb. The ledge is situated near the lower end of Breyfogle Flat.

The Ackerly ledge is being opened with a view to erecting suitable mills for crushing the rock in the spring.

The Camptonville correspondent says that the late rain raised the river enough to sweep away every wheel and wing-dam between Goodyears' and Foster's Bar, and close river mining for this season.

## Siskiyou County.

*Yreka Union*, Nov. 9th: The Knapp claim, on the north fork of Humbung, furnishes the best indications of a permanently paying ledge of any that has yet been worked in the county. They ran a tunnel which struck the ledge about 100 ft. below where it cropped on the surface, and have taken out from between this level and the surface 300 tons of rock, which has averaged \$50 to the ton, making a total yield of \$15,000. From this tunnel they have sunk a shaft on the ledge 70 ft., making a total depth of 170 ft. from the surface. The ledge has increased regularly in size from the surface downward. Twelve or fifteen tons have been

taken from the shaft below the level of the tunnel which have yielded \$65 to the ton.

A company of Chinamen have taken out of their claim on Poor Man's Bar, Scott River, from \$800 to \$1,500 per week for the last two months. They purchased the claim about one year ago for \$2,500, and at the time there was not a white man on Scott River who would have given \$100 for it.

Mr. Coddington, the owner of the old Live Yankee quartz claim on Salmon River, near Sawyer's Bar, has several men at work prospecting the claim. The success of the Black Bear Co. is stimulating the owners of other ledges to go to work systematically to prospect them thoroughly.

The storm of Tuesday last blew down the flume of the Altona Ditch near Mugginsville.

J. J. Jones & Co., of Humbung, have sold their claim to a company of Chinamen. Report says they received \$5,000.

## Yuba County.

The *Alta* of this city speaking of the Timbuctoo mines, says: The Warren claim at Timbuctoo yields about \$200 per day when water can be obtained, using about 500 in. The Antone and Union claims adjoin, and were worked by drifting previous to 1854, and since then by piping. They sometimes have to lie idle for lack of water. McAllis & Gordon have been at work seven years, and will probably work as much longer before they exhaust their claim. The Taylor claim uses 600 in. of water and pays \$400 per day, with six men. The Michigan Co. have a large claim, and have been at work 10 or 12 years. They have paid about \$50,000 in dividends, and perhaps twice as much for water. The Babh Co. pipe about 600 in. of water, and take out sometimes as much as \$500 in a day, employing 10 to 12 men. It is said that the total yield has been \$250,000. The O'Brien claim is a large one, and it is being opened by a tunnel 160 ft. below the present outlet. The yield per day with 600 in. of water is from \$150 to \$250.

## COLORADO.

*Denver News*, Nov. 6th: Thomas Wells and F. Ricketson, just arrived from California Gulch, have several fine specimens from the Five-Twenty lode.

The First National Bank shipped this morning a bar of gold bullion, weighing 262 7/100 ozs., valued at \$6,700.

Maj. DeMary has showed us a prospect of 13 pwts. and two grs. of gold, taken from two lbs. of ore from the Five-Twenty lode. He has also several fine specimens of ore, showing free gold. The vein is between three and four ft. in width, and has been traced some 400 or 500 ft. Twelve hours sluicing have given 20 ozs. of gold. The lode is one of the richest and most promising ever discovered.

A new reduction company is being formed. It is proposed to erect the Live Yankee process. Its capital is placed at \$250,000; par value of shares \$10.

## IDAHO.

*Owyhee Avalanche*, Nov. 2d: The new ledge of Col. D. H. Fogus & Co. is yielding very rich ore. The last crushing of 16 tons gave an average of \$190 per ton. The Lincoln mill is working the ore.

The Oro Fino, North Star and Ada Elmore ledges are each paying handsomely. The three ledges employ about 100 men.

Parties returned from the new diggings on Willow Creek, between the Mulhner and Burnt river, and near Mormon Basin, say the mines are fair, but water is very scarce.

The Iowa mill in Flint is in operation, with promise of success.

*Lewiston Journal*, Oct. 31st: The placer mines are still profitably worked in Warren's Diggings.

Williams & Maxwell's new quartz mill will be ready to work.

*World*, Nov. 9th: Great activity has lately sprung up in Rocky Bar Dist., in the substitution of arastras for working rebellious ores from ledges where the mill machinery now in use is inadequate. Rock which barely paid under the mill process, is now being worked with Mexican or Chili arastras with very great success. The ore from the Golden Star ledge, which barely paid by milling process, pays richly by arastra. Within the past two months, 20 tons of ore, by the latter process, yielded over \$3,000.

At another ledge, two men have, with an arastra, averaged \$110 each per week for the last six weeks. The Fielding C. Brown arastra, worked by Mr. Hazlett, is also paying handsomely. An offer of \$1,000 was made a short time ago to Geo. Ebell, for the privilege of working some from his ledge by arastra.

Nov. 9th: The North Star mine is yielding ore of almost unexampled richness. The disputes as to its ownership are settled. A large force is employed on the mine, taking out ore enough to keep two mills at work—the Cosmos and Minear. There is considerable silver in the ore, but it is chiefly



valuable on account of its gold bearing quality. Some large pieces of the ore that were shown us were literally covered with the shining metal.

**MONTANA.**

Post, Nov. 2d: Prof. G. C. Swallow, of St. Louis, who has been stopping here during the summer, has returned to St. Louis after acquiring interests in some of the finest ledges in Flint and Highland Dist. He expects to bring out machinery in the spring to open his mine.

There is a rumor that the mill of the St. Louis & Montana Co. of Flint Creek, cleaned up lately an amount of bullion estimated at from 90 and 100 lbs., to two wagon loads of quartz.

**NEVADA.**

**Esmeralda.**

The Pine Grove correspondent of the Virginia Enterprise, of Nov. 14th, says: The Pioneer Mill Co. have finally succeeded in purchasing a major interest in the Wheeler Co's Mastodon ledge for \$10,500. The Pioneer mill has been running of late on rock from the Midas and Wilson ledges, giving large returns per ton on the ore. The last run it made was on some rock taken out of the Wheeler claim by Messrs. Clark & Goodrich which yielded \$95 per ton. There were 44 tons in that run. A short time since Capt. Todman experimented on the blue sulphuret rock, of which there is a great mass in the Wheeler mine, and has succeeded in being able to work so as to show large returns in gold from it. The arastras which formerly belonged to Emanuel Penrod, have been purchased by ex-Lieut. Gov. Crossman and Sam. Halsey, who have recently purchased a large number of tons of the Wilson ore, for which they paid Mr. Toombs \$70 per ton. The Wheeler mine which has never heretofore, to any extent, had ore extracted from it at more than one place at a time, is now having it extracted from three different places, at the rate of about four tons a day to the two laborers. This ore will average from \$50 to \$80 per ton in free gold. The croppings of the Deposit mine are being worked by Mr. Ross, who is sliding down the steep hill great cow-hides heavily laden with rich ore in saoks, taken from it. Some rock from the Wilson claim is now being worked by the Pioneer mill. It is taken from their upper tunnel, and is of very fine character. Messrs. Clark & Goodrich, who have been engaged for some time in taking rock out of the Wheeler claim on shares, giving that company one-fifth of the value of the rock for the privilege, have been doing a good thing for themselves. Their last run of 43 tons, worked by the Pioneer Co., retorted at the rate of \$95 per ton. The terms of the contract permits the contractors to take out 100 more tons, which they will proceed to do immediately. Toombs & Abraham are still working on the Wilson mine as contractors, paying Mr. Wilson a certain price per ton.

Later heads: The sale of Wheeler ground to the Pioneer Mill Co. has just been consummated.

**Humboldt.**

Unionville Register, Nov. 9th, The Pioneer mill has been undergoing repairs, whereby its capacity of reduction has been considerably increased. The mill is now kept constantly at work, day and night, on ore from the Manitowoc and Arizona ledges. The supply of ore appears to be exhaustless as the ledges are constantly improving as depth is attained.

Work on the mine in Winnemucca is progressing with most excellent prospects ahead. The French Co's new mill will soon be ready to run.

**Reese River.**

A friend writing from Belmont, under date of Nov. 5th, says: Mining in this section of the country is now assuming a more business like shape and permanence than formerly; even the poor prospector in the hills feels that his success is sure, and only a matter of time.

The famous Highbridge ledge—the Comstock of this district—is now looking magnificently, and some claim plenty of ore in sight in the Combination Co's claim to pay all the expenses of their big mill, which is being rapidly brought to completion. This will be a larger and better mill than the Gould & Curry mill at Virginia City. The Combination Co. have an immense property here in mines, ranchee, and buildings, and are doing everything on very thorough, yet economical principles.

There are many other claims, perhaps equally as good as this lode, which are not so well proved. Several new strikes have been made a few miles south of the Highbridge outcrop, that is possibly a continuation of it. The discoverers claim it is good enough, and now they cease to prospect for ledges, but will develop this for a "home stake." Again valuable mines are being developed in the Spanish belt, about seven

miles northwest of Belmont, in this same district, which are well defined and large, rich ledges.

The Belmont Co's mill is now running on very good ore, from their own mine. As yet, we have no custom mill, and of course there is not much inducement for miners to throw out their rich ore on the surface.

Hot Creek, 38 miles east of here, is growing up rapidly; and seemingly on true merits. It is showing a large bullion yield from the ore. Empire and Reveille Dist., a few miles south of Hot Creek, are also in the best of hopes, based on milling results from their ore, taken from large and numerous ledges.

Some visitors express surprise that so many good mines creates so little excitement. The multitude of them, and daily contact with so many rich ledges, tends to familiarize the people with them, and prevent excitements. Silver mining is scarcely begun in Nevada.

Reveille, Nov. 9th: The California mill, lately crushed 53 tons of ore from the Florida mine, which gave an average yield of \$379.36 per ton. The ore was of the sulphuret variety, and was well assorted.

Silver Bend Reporter, Nov. 9th: The various mines on the Spanish Belt are turning out exceedingly well. At a depth of 50 ft. the Westport discloses a ledge 12 feet in width, 5 1/2 ft. of which will average not less than \$150 to \$200 per ton by the ordinary process for working ores.

The X. L. C. R. Co. has some very rich ore at the surface; also the Pennsylvania Co. The natural facilities for working the ores of this locality are not excelled by any other in Central Nevada.

The incline upon the Belmont Co's Transylvania No. 1, has reached the water line at 153 ft. from the starting point. The ledge is 15 ft. thick, and almost entirely good ore. From the extreme surface to its lowest developed point this lode preserves a wonderful evenness and in its faultless and symmetrical beauty cannot be excelled, and challenges the admiration of all who behold it. The level now running will, when completed to the line of the claim, give the Belmont Co. a body of ore for stoping of the depth of 97 ft., of an average thickness of 10 ft., and in length nearly 600 ft.—sufficient to keep their mill in continual motion for more than a year.

The Combination Co. are now erecting steam hoisting works at their mine. The body of rich ore in the level at the water line has been found continuous as far as explored—now over 100 ft. in length along the vein—and of great width. A good portion of this ore it is estimated will yield \$500 per ton, and a large quantity of it is ready for the mill.

The pulp assay of the 3 1/2 tons of Fisherman ore, taken to the Metacom mill near Austin for reduction, was \$420 per ton. Six tons of second class ore, worked at the Hot Creek mill, yielded \$175.35 per ton. The Reveille Co. are taking out ore for the Hot Creek mill from the Mediterranean and Atlantic mines, estimated to be worth about \$150 per ton.

During the month of October there were shipped from Austin 223 bars of bullion, weighing 15,075 lbs., and valued at \$223,075.58. Of this amount \$82,449.39 were shipped by the First National Bank, and \$33,462.19 by John A. Paxton & Co.

Seven and a half tons of ore from the Diana mine, Lander Hill, lately worked at the Metacom mill, yielded the sum of \$5,579—nearly \$850 per ton. The second class ore from this mine generally yields near \$200 per ton.

Nov. 13th: The Manhattan mill is turning out 3,000 ozs. daily. Most of the ore crushed is from the North Star mine, which is wonderful both in quantity and quality.

The product of the famous Murphy mine will this month exceed that of any month since the mill was opened. Last evening eight bars, valued at \$9,000, arrived in this city, making 29 bars received so far this month. The value of these bars is about \$30,000.

The 14 tons of rock from the Northern Belle ledge, taken to the mill at Ione to be worked, yielded at the rate of \$123 per ton. Work is progressing on the Geo. Washington, Potooi and other ledges, and excellent rock obtained.

Yesterday 3,611 ozs. of crude bullion arrived from the mill of the Old Dominion Co. at Hot Creek.

Nov. 14th: At a depth of 95 ft. the workmen in the North Star mine have cut through a vein of sulphuret ore, from eight to ten inches thick, specimens of which yielded by assay \$300.

Last evening 2,500 ozs. of crude bullion arrived from Bunker Hill.

Nov. 15th: A new district named Pleasant Valley, has been discovered and organized, about 100 miles east of Austiu. The mines

were first shown to Mr. A. J. Leathers by some Goshute Indians, where a ledge was found cropping out about four ft. in width and for a length of 300 or 400 ft., showing ore throughout, and in places the ore was of extraordinary richness, containing masses of horn silver so pure and soft that a finger nail will make a bright streak upon it. The ledge was located under the name of Hidden Treasure. A quantity of ore was taken to the Centenary mill at Newark, and assays were made, going from \$1,600 to \$2,800 per ton. We learn that a ton could be easily gathered from the croppings that would be worth over \$1,000. The specimens brought to Austin were very choice, and would assay several thousand dollars per ton.

The 20-stamp mill of the Centenary Co. in Newark Dist., is now prepared to work successfully. Some 400 tons of ore are already out that will pay \$150 per ton.

A salt bed has been discovered six miles from the mill, which produce abundantly. Three hundred tons of salt were gathered which assayed 50 per cent. chlorid of sodium. A second gathering will produce 700 tons that will assay 81 per cent. Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, Nov. 15th: Schamp's new mill, situated in Washoe Valley, started up a day or two since. The water wheel by which it is driven is one of the largest in the State, and throughout it is in every respect as complete a mill as can be found in the country.

The Crown Point Co. are drifting in the ledge at the depth of 700 ft. from the surface, where they find a large body of quartz, the most of which is barren, although they have cut one small strata of very rich ore, showing that metal exists at that depth. Some of the specimens are almost pure black sulphurets of silver, and indicate that there is a good body of ore near at hand.

Within a few days the Yellow Jacket Co. will start a new level in the south shaft at 200 ft. greater depth than heretofore run. The design of the company is to sink 200 ft. more before they stop, which will make the Yellow Jacket the deepest mine in the State by 80 ft. The work of sinking is being prosecuted with great vigor, and before spring opens a new level will be run at a depth of 980 ft.

The total amount of bullion shipped from this city and Gold Hill for the past week was 5,747 lbs., worth \$169,830.15. The total amount of bullion received for assay at the various offices here and in Gold Hill was 77,383 ozs.

Gold Hill News, Nov. 16th: The Union G. & S. M. Co., Palmyra Dist., will sell stock on Monday the 18th, to satisfy assessments. The mine is represented as one of the best in Palmyra Dist.

**UTAH.**

Salt Lake Vedette, Nov. 5th: The Bingham Cañon gold mines are yielding from \$5 to \$8 to the day to the hand. If these mines were not situated directly under our nose we would hear a great deal more of them.

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## San Francisco:

Saturday Morning, Nov. 23, 1867.

## Notices to Correspondents.

**ARATOR.**—Ammonia or other nitrogenous compound appears to be less an absolute necessity for the purpose of forming a fertile soil than those of the principal mineral ingredients required by the growing plant. Experiment has distantly shown that an appreciable amount of ammonia and nitric acid becomes precipitated by rains and dews, and consequently susceptible of absorption by the leaves and roots of plants, possibly also by means of their foliage, from a humid atmosphere; but no appreciable amount of phosphoric acid, potash, etc., could be so conveyed, other than in a secondary manner—that is, by the solvent agency of the rain water upon the otherwise dormant fertile minerals composing any soil.

**A TRAVELER.**—Mining for eggs, for such literally is the case, according to Humboldt's description, occurs on the Orinoco. The missionary who accompanied this celebrated traveller and Bonpland, at this part of the river, carried a long pole and showed that by means of it the extent of the stratum of turtle eggs lying beneath their feet, could be as accurately ascertained as a miner could determine the limits of a bed of marl, of bog iron ore, or coal. He says: "Here they talked continually of square perches of eggs; it was like a mining country divided into lots, and worked with the greatest regularity." Humboldt further describes how the lieutenant or commissary divided the ground.

**FUELO.**—Chemical combination will not in many cases commence spontaneously, an elevated temperature being one of the most common excitants; for example, a bit of phosphorus will commence to burn slowly the instant it comes in contact with the atmosphere, and in hot weather will speedily burst into flame; on the other hand, a heap of charcoal may for years be similarly exposed without any alteration taking place. If, however, two or three pieces be taken, and after being made red hot are thrown upon the dry heap, chemical action will at once commence and continue until the whole mass is consumed, if measures are not adopted to prevent such a result.

**B. A.**—It has been calculated that owing to diminution of density, if indefinitely continuous, one cubic inch of air of the earth's surface would fill the entire orbit of Saturn; on the other hand, if a mine could be dug to a depth of forty-six miles, the air at the bottom would be as dense as quicksilver.

**ALCHEMIST.**—The term regulus was first employed in Alchemy, and particularly to the metallic form of antimony; the term means "the little king," as great expectations in the transmutation of metals was expected from this substance. In modern metallurgy a regulus of any other metal means a concentrated mass of metal combined with sulphur.

**ENQUIRER.**—No alkalis exist which are perfectly insoluble—many are extremely so, such as potash and soda. Others are sparingly soluble; such usually consist of the alkaline earths, such as lime and baryta.

CONTINENTAL Life Insurance Company,  
302 Montgomery street, corner of Pine.

## Iron Work for the San Francisco Dry Dock.

THE LARGEST PUMPS IN THE UNITED STATES—  
CREDIT TO SAN FRANCISCO MECHANICS.

The Vulcan Iron Works Company, of this city, have just completed the iron work on machinery for the San Francisco Dry Dock, now nearly finished, at Hunter's Point. This machinery consists of two powerful steam engines, constructed in the most substantial manner, and two enormous pumps—the largest ever built in the United States! The necessity for such heavy machinery becomes apparent when the immense size and capacity of this structure is considered—a capacity sufficient to take in the largest ships afloat, with the exception of the Great Eastern. The first ship which will go into this dock will be the British frigate *Zealous*, now on this coast. The pumps referred to are to be employed for removing the water after the ship has been floated into the dock. They are of such extraordinary dimensions that we have thought it would interest our readers to give a description of them, which has been kindly furnished us by Mr. Joseph Moore, President of the Vulcan Iron Works Company, and where we had the pleasure of making a careful examination of them a few days ago.

The engines are two in number, right and left, each having a 22-inch cylinder with 4-foot stroke, working with Myers' cut-off, adjustable to any degree of expansion and any desirable number of revolutions per minute. The pumps are driven directly from the crank shaft, by means of an upright shaft, geared by bevel pinions to each pump, set one on one side and the other on the other side of the well.

As already stated, the pumps are two in number, of the class known as centrifugal, and the most approved for this description of work. The casings are of mammoth dimensions, about ten feet in diameter, while the runner or wheel, working within them, is eight feet in diameter, having eight discharges which, when running at their proper speed of 150 revolutions, are each capable of lifting to the height of 27 feet, 2,100 cubic feet of water per minute—equal to 159,600 miner's inches, which would fill a ditch twelve feet wide and three feet deep!

The pumps are placed upon a channel plate or square suction, four feet six inches square, and weighing 30,000 pounds, which will be well fastened into the brick work, at the foot of the pump well, and separated from the dock by a huge iron gate, measuring four feet six inches in height and breadth, and worked from the surface—27 feet above the bottom. Some idea of the magnitude of this pump may be formed from the fact that the weight of the material alone, of which they are constructed, exceeds 75 tons—and this for the pumps alone, exclusive of engines and hoilers.

The hoilers to furnish the necessary steam to drive these mammoth pumps are four in number, 54 in. in diameter, 16 ft. long, and present 1,000 feet of heating surface each; yet they will consume only two tons of coal to free the dock from water, or to raise 504,000 cubic feet of water (16,150 tons) in two hours, to the height of 27 feet.

Everything connected with these pumps is made of the best material, and put together by the best workmanship on the coast—the contractors having spared neither money or care to render the work as perfect as anything of the kind ever built. The work reflects the highest credit upon the managers of the Vulcan Foundry, which institution may well feel a just pride in having been selected for the fabrication of this important and notable mass of machinery.

The entire work has been most carefully arranged for durability, efficiency, and for giving the most economical results. Few, except those practically conversant with such things, can form any adequate idea of the responsibility, difficulty and skill required in designing and getting up work of this kind, or of the constant care and watchfulness required to carry out the original designs of the engineer, through the working drawings of the draughtsman, and the complicated manipulation of the workshop, to a successful termination, so that every piece of iron, from the heaviest casting down to each individual bolt, shall be found

in its place, and fully answering the purpose intended. We shall watch, with much interest, the removal of this ponderous machinery from the shop to its place of duty, and shall take a becoming pride in recording, for the credit of our San Francisco mechanics, the success which will, without doubt, attend its first practical trial.

The above machinery was designed by Col. A. W. Von Schmidt; drawn in detail and proportioned by Mr. H. Huttner, draughtsman of the Vulcan Iron Works; superintended, in the shop, by Mr. Wm. Birch, Messrs. Von Schmidt and Thos. Hardy, are the contractors for the construction of the Dry Dock; Mr. Jas. Pollock, of the P. M. S. Co., acts as superintendent for the Dry Dock Company. The work will probably be ready for docking in about two months.

**MORE CHLORINATION WORKS.**—Mr. Mosheimer has now under contract the erection of three different Chlorination Works—one at Cold Springs, near Placerville, for Professor Pascal; another for the Havilah Mine, in El Dorado county, near Mud Springs, which will be of a capacity to work four tons of sulphurets per day; the third at the Soulshy Mine, Tuolumne county, near Sonora, to work two tons per day.

The difference of working by the chlorine process over the ordinary mode of working, may be inferred from the fact that the Washington Mine, in Mariposa, paid on a hundred tons only \$10 per ton; while the same ore, worked in Mosheimer's Chlorination Works in this city, yielded over \$100 per ton. The difference consisted in the thorough working of the sulphurets, in which the chief portion of the gold contained in the vein rock of that mine is to be found. This is, of course, an extreme case; yet there are no doubt many hundreds of mines in California, which can never be worked to a profit except by a judicious saving and treatment of the sulphurets; while there are still other hundreds whose profits might be largely increased by the same mode of working.

**VALUE OF CORN-HUSKS.**—Corn-husks are worth \$70 per ton in St. Louis, where they are used for making mattresses. This, we suppose, is for the inside husks, clear of the stalks. We should suppose that the California "soap root," being so much more durable, will be made to take the place of husks, when it becomes known there. We notice that an enterprising Boston firm has already introduced it into that city. It is sold at about half the price of curled hair, and is said to be nearly or quite as good. It is put up in the form of rope, the same as hair.

**A NEW REPEATING SHOT GUN** has been introduced here by the Roper Repeating Rifle Co., Amherst, Mass. It is well worthy of examination and trial by our sporting community. It is simple in construction, is loaded at the breech, and weighs about six and one-half pounds. It is fired four times within as many seconds, by simply cocking and discharging, and is re-charged in less time than it takes to write the fact. For charging, durable steel cartridges are used, placed in a revolving cylinder, called a carrier—a part of the barrel—and take their proper position in the act of cocking the gun. This ingenious piece of mechanism can be seen at the office of Mr. Henry Eitel, No. 111 Second street.

**COLUMBIA IRON FOUNDRY.**—This is the name given to an establishment recently opened at No. 120 Fremont street, for the manufacture of house fronts, sash-weights, and machinery castings generally, at the old stand of the Franklin Foundry. It is under the management of Mr. Reese Llewellyn, formerly of the Atlas Works, who has had many years of experience in the business, both here and in New York.

**OIL BORING** is not entirely suspended in California. The *Contra Costa Gazette* says the Messrs. Sappington are still "going down" at their well in Marsh Cañon, and "working with energy and confidence."

## Return of the Alaska Scientific Expedition.

This expedition returned to our harbor on Monday evening last, all hands in good health and much pleased with the trip, on account of its scientific and industrial results, although it was one of much toil and privation. The party left San Francisco in the revenue cutter *Lincoln*, commanded by Capt. Howard, an old and experienced veteran in the revenue service, on the 21st of July last. It was organized under the direction of Prof. Pierce, of the U. S. Coast Survey, and conducted by George Davidson, as chief; A. T. Mosman, as astronomer; Geo. Farquhar, hydrographer, with whom was associated I. Forney as aid; Dr. Albert Kellogg, hotanist; W. G. W. Harford, conchologist; T. A. Blake, geologist; John Leeds, tidal observer, and W. Hamell as engineer. The lateness of the season prevented such full results as would have followed an early start; still the main object of the expedition has been accomplished, a large amount of scientific information has been gained, and we are informed that many facts of vast industrial value will be made known to the country, when the chief, Mr. Davidson, makes his report at Washington, which he will do so soon as he arrives there—it being his purpose to go East by the next steamer.

We learn, incidentally, that the party arrived at Sitka on the 12th of August, when work really begun.

## SEARCH FOR SILVER.

Researches have been made in the neighborhood of Sitka, for reported silver deposits; but nothing was found at the localities indicated, or elsewhere.

## TIMBER, ETC.

The botany of that region was explored, so far as his limited time would admit, by Prof. Kellogg. No hard wood timber was found, of value; but a valuable species of yellow cedar was found in great abundance, and of large growth. This wood is valuable for shipbuilding, and specimens of a Russian ship were brought down, perfectly sound, although the vessel had been built 32 years, and lain upon the beach as a wreck for several years past—the wood around the iron and copper bolts was perfectly sound. This wood is also valuable for cabinet work and other purposes. Sitka spruce is also very abundant. Almost the entire country is covered with a dense growth of *sphagnum* (peat moss), into which the feet of the pedestrian sink to the depth of ten or twelve inches at every step. The moisture to support this growth is derived almost entirely from the atmosphere; hence it is not confined to swamp ground, but abounds equally as much on hill sides as in swampy places. Potatoes, turnips, etc., grow well in many places, after the *sphagnum* is removed.

The party proceeded from Sitka to Kodiack Island, some 700 miles almost due west from Sitka, and near the Peninsula of Alaska, where they found an agreeable change from universal forests to a country covered with herbage. An abundance of good pasturage exists there.

## A VALUABLE COD BANK, ETC.

Perhaps the most valuable discovery made was an extensive Cod bank, probably surpassing, in extent and value, the Banks of Newfoundland, one advantage being the fact that the water is only 50 fathoms deep, 50 miles from the shore, whereas at Newfoundland the depth is 90 fathoms, within a few miles only of the coast. There are a number of islands convenient for drying the fish. All fish heretofore caught in our northern waters have had to be brought to this city to be dried. This discovery will soon secure for this coast a large fishing fleet, which will prove, what is greatly needed, a most excellent nursery for seamen. Good bait for cod fishing was also found in great abundance in the immediate vicinity. It is estimated that there are 20,000 square miles of soundings filled with cod and halibut. Excellent whaling ground was also found.

Much geographical information was collected, which will be of especial value to commerce, etc.

## MINERALS.

With regard to minerals, large and valuable coal deposits were found, convenient to shipping points. Gold is reported by Russians on the Kakuy, a river emptying into Cook's Inlet, about latitude 60°. Copper is reported plenty on Copper River, from whence native copper is brought to the coast by the natives as an article of traffic. The miners from the Stickeen report that they are making an average of \$5 per day with a rocker.

It is said that the annual collection of furs exceeds one million of dollars in gold value.

Salmon exist in great abundance in Sitka Sound.

The official report of the expedition will be looked for with much interest.



[Written for the Mining and Scientific Press.]

The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER TWO.

SYNOPTICAL HISTORY OF AMALGAMATION.

The knowledge of the affinity which mercury possesses for combining with gold and silver, was well known at even a very early part of the historic period of man; advantage having been taken of the property to remove the golden ornamentations of worn-out apparel, by first heating the latter to ashes and then triturating the remains with mercury. Humboldt has stated that prior to the discovery of America the Germans employed mercury to extract gold from auriferous sands, and also from copper and iron pyrites.\* No account, however, exists of the employment of quicksilver for the reduction of silver ores prior to 1557, when, BARTOLOME MEDINA, a miner at Pachuca, in the neighborhood of Real-del-Monte, Mexico, first introduced the "Patio" † mode of amalgamation, by the admixture of magistral, (heated copper pyrites) salt and mercury with the ore to be beneficiated.

How this important improvement became first suggested to Medina there does not exist any record. The chemistry of the day was quite insufficient for the purpose of leading us to infer that it was arrived at by any course of inductive reasoning. The probability is that Medina dabbled in alchemy, and as salt, copper and mercury were amongst the most frequent agents employed by these pioneers of modern chemistry, it is quite probable that some tentative trial had been made with calcined copper pyrites, salt, mercury and silver ore.

Some years afterwards, (in 1586) a Peruvian miner, named Carlos Corso de Leca, introduced the method called "el beneficio de hierro," (reduction by iron) which consisted in adding to the torta ‡ small pieces of metallic iron, the object being to avoid the loss of mercury often occasioned by the peroxidation of the chloride of iron, which, when formed, rapidly converts the mercury present into a sub-chloride (calomel). If applied in sufficient quantity, and not subjected to much exposure of atmospheric influence, iron would reduce the chloride of silver, produced to the metallic condition, as rapidly as the chloride became formed, and so promote amalgamation. No accounts are to be found which would justify the conclusion that this mode of treating silver ores was either extensively adopted or continued in use for any lengthened period; it was, however, based on sound chemical reasoning, though probably, as well as the mode introduced by Medina, both were the offsprings of experiment. In whatever way the latter invention may have arisen, it forms undoubtedly the originating source of the Freiberg harrel amalgamation, in which it is well known that small fragments of iron form so important a function. I cannot dismiss the statement just made without requesting particular attention to the circumstance that it is probable that the non-success of Leca, in introducing iron into the torta, and the success of Gellert in introducing the same agent into the Freiberg harrel, are respectively due to causes the most simple; but which, in the infantine state of science at the close of the sixteenth century, was necessarily unappreciated by the original inventor. The different results alluded to, in the opinion of the writer, undoubtedly arose from the fact, that, in the torta, atmospheric influence was constantly exercising its oxygenating action on the metallic salts formed—more particularly those of iron—which, unless neutralized by precipitation, or reduced to the lowest state of oxidation by the application of additional, or the presence in the mixture of a surplusage of metallic iron, would rapidly convert no small portion of the quicksilver into calomel, as previously explained, a fact that was experienced at an early period in Washoe by many amalgamators, and still continues when the distraction of the pans do not keep pace with the acidifying influence of oxygen. In the harrel, on the contrary, the materials for amalgamation are preserved from atmospheric influence; con-

sequently, no inimical oxygenating action results. The explanation just made, which, I believe, is the first that has ever been published of the varied results which occur sometimes even when the same process has been, to a large extent, followed; the exception, principally consisting of the difference occasioned by the free access in the one case, and the exclusion of the atmosphere in the other, forms a digression from the strictly historical details. It was thought, however, that no more favorable opportunity would occur for instancing, as an example, how very much extremely slight changes of condition may effect most important, and oftentimes disappointing, results.

ALONZO BARHA'S IMPROVEMENTS

Were introduced in 1590, and are still employed, in some instances, in Mexico and, I believe, occasionally in Chili, where pretty rich ores are obtainable. The method adopted by Barha consisted in amalgamating in large copper pans, which were heated from below. I do not at present remember the exact orthography of the Spanish term which was applied to this mode, nor probably am I correct in submitting "poultice reduction" \* as a free translation into English. Barha's method occasioned a considerable saving in mercury; but the consumption of copper was great, owing not merely (as always has been assigned by former writers) in consequence of the copper reducing the chloride of silver, but chiefly by the peroxidation of the salts of iron previously noticed, which not only rapidly dissolves copper, but also possesses the property of holding in solution no inconsiderable amount of the salts of the latter named metal, which is not precipitable therefrom, even by iron, until the salts of the latter are reduced to the lowest state of oxidation. These facts are well known to those occupied in the precipitation of copper from the cupreous solution of mines, in which cases it is found that, owing to the causes assigned, the consumption of iron is usually treble, and sometimes amount to more than six times, the quantity which simple theory would assign as being required. Those desiring more proofs of the asserted fact are referred, for inquiry, to the Parys and Mona mine, in the Isle of Anglesea, North Wales, the Wicklow, in Ireland, or the Rio Tinto, in Spain. Barha's method was found to apply, with good effect, when treating native chlorides without the use of magistral, by which means the consumption of copper only amounted to thirty-two for every one hundred and eight parts of silver, which ought to be obtained according to strict theoretical proportions. As the sulphides of silver require to be converted into a chloride or metallic silver, in order to promote the action of mercury, and the consumption of copper being so great, Barha's method was never widely adopted, unless when chlorides, or ores richer than the average, were pretty abundant.

Many of the changeful phenomena just described have not unfrequently fallen under the observation of puzzled pan amalgamators, by occasionally finding their reported amalgam, when converted into a har, being composed of a larger weight of copper than anticipated, frequently derived from the sulphate of copper employed. At other times the same operators have found that a more than usual loss of mercury has taken place in either or both cases; should they occur simultaneously, the cause may safely be sought for generally in the active oxygenating influence of the atmosphere. This mode was introduced into Europe in 1784; first, I believe, into Hungary, by Baron de Born, an Austrian mining officer, and was employed in the country named, in some localities, up to a very late period. An erroneous opinion has not unfrequently gone forth that the last described method of Barha gave origin to the European improvement which next succeeded, consisting of the

BARREL OR FREIBERG METHOD OF AMALGAMATION.

It would be but an indifferent compliment to the perceptive faculties of Gellert, who introduced the harrel mode of amalgamation into Saxony in the year 1790, to attribute his success as being based on rational inferences, founded on the phenomena accompanying Barha's method.

The success of Barha's mode of beneficiation is owing to the reciprocating action which takes place between chloride of copper, formed through the medium of the chloride of sodium (common salt) present, and the sulphides of silver existing in the "poultice" or pulp; chloride of silver and sulphide of copper † being thus formed by what is termed by chemists mutual decom-

position. If this was all that occurred, the loss of copper would be but trifling, so far as the relative expense of obtaining so valuable a product as silver is concerned, which would be obtained in the theoretical proportion of only thirty-two parts, by weight of the low-priced metal, for every one hundred and eight parts of silver, which would, by this means, become susceptible of forming an amalgam with the mercury present. The large consumption of copper being caused almost wholly in consequence of the oxidizing influence of the atmosphere on the salts of iron present, and their subsequent destructive action on the interior of the enclosing copper vessel, as briefly explained previously. The destructive action would, by Barha's mode, be further intensified by the additional agency of the artificial heat applied to the bottom of the pan, a circumstance noteworthy by the pan amalgamators of the present day. In order, however, to make these phenomena better understood by the general reader, attention is drawn to the following well established facts:

It was found after the introduction of the harrel mode of amalgamation by Gellert, that the loss of quicksilver was great, owing to the cause already explained, the remedy adopted and subsequently pursued was that of turning the mixed ore, water and pieces of iron for one hour or more in the harrels prior to the introduction of the mercury. In this way, the acid salts present, formed during the roasting of the ore, became reduced to neutral and proto forms, and consequently innocuous thereafter, provided the materials during the subsequent operation were preserved from the oxygenating influence of the atmosphere, as would be the case when enclosed in air-tight harrels. Notwithstanding the practical knowledge long ago ascertained which has just been described, a lengthened period elapsed before the Washoe pan amalgamators, by "blundering luck," tumbled upon the same circumstance, and now find it advantageous to pursue a similar method, namely, to work the pans a like period prior to the introduction of the quicksilver. In this last case, the iron of the vessel and stirrers supply the place of the scrap iron used by the harrel method, at the expense, however, of the durability of the pan. In the latter case, however, acid salts are continually being formed, owing to the pulp being continuously exposed to the atmosphere, thus adding greatly to the wear of this species of apparatus. Were this not the case, a corresponding equivalent of mercury, as compared with the iron thus destroyed, would become converted into calomel. Strictly speaking, the harrel process, as originally established, combines the methods of Medina, Leca and Barha; the last, however, being an accidental occurrence, owing to the circumstance that the ores of Saxony so beneficiated, excepting the lead or what the Mexicans term "fuego ores," almost invariably contain sufficient copper to assimilate their operation somewhat to the phenomena which occurs by Barha's method. On the other hand, the Washoe pan mode assimilates to the one introduced by Leca, viz: reduction by iron, superadded to that of Medina; but which experience has shown can be considerably facilitated by the employment of sulphate of copper, which, as formerly shown, acts when converted into a chloride by the common salt present on such parts of the ore as consist of sulphides of silver.

Practically, however, the writer has never found the double decomposition of chloride of copper with sulphide of silver to fully meet the requirements of theoretical calculators, which induces him to believe that the very great loss of silver which occurs in the Washoe pan method of amalgamation, as compared with what takes place in the harrel and Barha's methods, chiefly arises from the fact that the efficacy in producing the double decomposition alluded to, is, in a large degree, dependent upon the presence of chloride of copper, greatly preponderating in mass beyond the atomic proportion of the sulphide of silver present. If this should prove on investigation to be the case, it will be easy to understand why Barha's and Gellert's modes should be very effective in reducing all the sulphides of silver found in the ore—while the Washoe pan mode is ineffective to the extent of thirty-five per cent. of the fire assay. To Gellert is undoubtedly due a very large amount of praise; first, for ingeniously adopting a rapid mode of chlorinating silver by means of roasting; second, by employing Leca's mode of afterwards dechlorinating it by means of iron, so as to be made available for amalgamating with mercury; and lastly, insuring the more complete efficiency of the process by employing utensils for the purpose, that practically, whilst in operation, they and their contents would not be under any injurious atmospheric influence.

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\* It is unfortunate that this celebrated philosopher did not give, possibly from inability, the ratio of gold extracted from these latter.

† From the Spanish word signifying a court or open space.

‡ An abbreviation of "torrado," a kind of large pie.

\* So termed, probably, because the mixture in the copper pan had the appearance and consistence of the preparation for making an ordinary poultice; the more elegant term, pulp, has been adopted for a similar mixture at Washoe.  
† On this fact is based the employment of sulphate of copper in pan amalgamation.



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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## Canvassing Agents.

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Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Nov. 23, 1867.

## Notices to Correspondents.

**ARATOR.**—Ammonia or other nitrogenous compound appears to be less an absolute necessity for the purpose of forming a fertile soil than those of the principal mineral ingredients required by the growing plant. Experiment has distinctly shown that an appreciable amount of ammonia and nitric acid becomes precipitated by rains and dews, and consequently susceptible of absorption by the leaves and roots of plants, possibly also by means of their foliage, from a humid atmosphere; but no appreciable amount of phosphoric acid, potash, etc., could be so conveyed, other than in a secondary manner—that is, by the solvent agency of the rain water upon the otherwise dormant fertile minerals composing any soil.

**A TRAVELER.**—Mining for eggs, for each literally is the case, according to Humboldt's description, occurs on the Orinoco. The missionary who accompanied this celebrated traveller and Boupland, at this part of the river, carried a long pole and showed that by means of it the extent of the stratum of turtles eggs lying beneath their feet, could be as accurately ascertained as a miner could determine the limits of a bed of marl, of hog iron ore, or coal. He says: "Here they talked continually of square perches of eggs; it was like a mining country divided into lots, and worked with the greatest regularity." Humboldt further describes how the lieutenant or commissary divided the ground.

**FUEGO.**—Chemical combination will not in many cases commence spontaneously, an elevated temperature being one of the most common excitants; for example, a bit of phosphorus will commence to burn slowly the instant it comes in contact with the atmosphere, and in hot weather will speedily burst into flame; on the other hand, a heap of charcoal may for years be similarly exposed without any alteration taking place. If, however, two or three pieces be taken, and after being made red hot are thrown upon the dry heap, chemical action will at once commence and continue until the whole mass is consumed, if measures are not adopted to prevent such a result.

**B. A.**—It has been calculated that owing to diminution of density, if indefinitely continuous, one cubic inch of air of the earth's surface would fill the entire orbit of Saturn; on the other hand, if a mine could be dug to a depth of forty-six miles, the air at the bottom would be as dense as quicksilver.

**ALCHEMIST.**—The term regulus was first employed in Alchemy, and particularly to the metallic form of antimony; the term means "the little king," as great expectations in the transmutation of metals was expected from this substance. In modern metallurgy a regulus of any other metal means a concentrated mass of metal combined with sulphur.

**ENQUIRER.**—No alkalies exist which are perfectly insoluble—many are extremely so, such as potash and soda. Others are sparingly soluble; such usually consist of the alkaline earths, such as lime and baryta.

CONTINENTAL Life Insurance Company,  
302 Montgomery street, corner of Pine.

## Iron Work for the San Francisco Dry Dock.

THE LARGEST PUMPS IN THE UNITED STATES—

CREDIT TO SAN FRANCISCO MECHANICS.

The Vulcan Iron Works Company, of this city, have just completed the iron work and machinery for the San Francisco Dry Dock, now nearly finished, at Hunter's Point. This machinery consists of two powerful steam engines, constructed in the most substantial manner, and two enormous pumps—the largest ever built in the United States! The necessity for such heavy machinery becomes apparent when the immense size and capacity of this structure is considered—a capacity sufficient to take in the largest ships afloat, with the exception of the Great Eastern. The first ship which will go into this dock will be the British frigate *Zealous*, now on this coast. The pumps referred to are to be employed for removing the water after the ship has been floated into the dock. They are of such extraordinary dimensions that we have thought it would interest our readers to give a description of them, which has been kindly furnished us by Mr. Joseph Moore, President of the Vulcan Iron Works Company, and where we had the pleasure of making a careful examination of them a few days ago.

The engines are two in number, right and left, each having a 22-inch cylinder with 4-foot stroke, working with Myere's cut-off, adjustable to any degree of expansion and any desirable number of revolutions per minute. The pumps are driven directly from the crank shaft, by means of an upright shaft, geared by bevel pinions to each pump, set one on one side and the other on the other side of the well.

As already stated, the pumps are two in number, of the class known as centrifugal, and the most approved for this description of work. The casings are of mammoth dimensions, about ten feet in diameter, while the runner or wheel, working within them, is eight feet in diameter, having eight discharges which, when running at their proper speed of 150 revolutions, are each capable of lifting to the height of 27 feet, 2,100 cubic feet of water per minute—equal to 159,600 miner's inches, which would fill a ditch twelve feet wide and three feet deep!

The pumps are placed upon a channel plate or square suction, four feet six inches square, and weighing 30,000 pounds, which will be well fastened into the brick work, at the foot of the pump well, and separated from the dock by a huge iron gate, measuring four feet six inches in height and breadth, and worked from the surface—27 feet above the bottom. Some idea of the magnitude of this pump may be formed from the fact that the weight of the material alone, of which they are constructed, exceeds 75 tons—and this for the pumps alone, exclusive of engines and boilers.

The boilers to furnish the necessary steam to drive these mammoth pumps are four in number, 54 in. in diameter, 16 ft. long, and present 1,000 feet of heating surface each; yet they will consume only two tons of coal to free the dock from water, or to raise 504,000 cubic feet of water (16,150 tons) in two hours, to the height of 27 feet.

Everything connected with these pumps is made of the best material, and put together by the best workmanship on the coast—the contractors having spared neither money or care to render the work as perfect as anything of the kind ever built. The work reflects the highest credit upon the managers of the Vulcan Foundry, which institution may well feel a just pride in having been selected for the fabrication of this important and notable mass of machinery.

The entire work has been most carefully arranged for durability, efficiency, and for giving the most economical results. Few, except those practically conversant with such things, can form any adequate idea of the responsibility, difficulty and skill required in designing and getting up work of this kind, or of the constant care and watchfulness required to carry out the original designs of the engineer, through the working drawings of the draughtsman, and the complicated manipulation of the workshop, to a successful termination, so that every piece of iron, from the heaviest casting down to each individual bolt, shall be found

in its place, and fully answering the purpose intended. We shall watch, with much interest, the removal of this ponderous machinery from the shop to its place of duty, and shall take a becoming pride in recording, for the credit of our San Francisco mechanics, the success which will, without doubt, attend its first practical trial.

The above machinery was designed by Col. A. W. Von Schmidt; drawn in detail and proportioned by Mr. H. Huttner, draughtsman of the Vulcan Iron Works; superintended, in the shop, by Mr. Wm. Birch, Messrs. Von Schmidt and Thos. Hardy, are the contractors for the construction of the Dry Dock; Mr. Jas. Pollock, of the P. M. S. Co., acts as superintendent for the Dry Dock Company. The work will probably be ready for docking in about two months.

**MORE CHLORINATION WORKS.**—Mr. Mosheimer has now under contract the erection of three different Chlorination Works—one at Cold Springs, near Placerville, for Professor Pascal; another for the Havilah Mine, in El Dorado county, near Mud Springs, which will be of a capacity to work four tons of sulphurets per day; the third at the Soulsby Mine, Toulumne county, near Sonora, to work two tons per day.

The difference of working by the chlorine process over the ordinary mode of working, may be inferred from the fact that the Washington Mine, in Mariposa, paid on a hundred tons only \$10 per ton; while the same ore, worked in Mosheimer's Chlorination Works in this city, yielded over \$100 per ton. The difference consisted in the thorough working of the sulphurets, in which the chief portion of the gold contained in the vein rock of that mine is to be found. This is, of course, an extreme case; yet there are no doubt many hundreds of mines in California, which can never be worked to a profit except by a judicious saving and treatment of the sulphurets; while there are still other hundreds whose profits might be largely increased by the same mode of working.

**VALUE OF CORN-HUSKS.**—Corn-husks are worth \$70 per ton in St. Louis, where they are used for making mattresses. This, we suppose, is for the inside husks, clear of the stalks. We should suppose that the California "soap root," being so much more durable, will be made to take the place of husks, when it becomes known there. We notice that an enterprising Boston firm has already introduced it into that city. It is sold at about half the price of curled hair, and is said to be nearly or quite as good. It is put up in the form of rope, the same as hair.

**A NEW REPEATING SHOT GUN** has been introduced here by the Roper Repeating Rifle Co., Amherst, Mass. It is well worthy of examination and trial by our sporting community. It is simple in construction, is loaded at the breech, and weighs about six and one-half pounds. It is fired four times within as many seconds, by simply cocking and discharging, and is re-charged in less time than it takes to write the fact. For charging, durable steel cartridges are used, placed in a revolving cylinder, called a carrier—a part of the barrel—and take their proper position in the act of cocking the gun. This ingenious piece of mechanism can be seen at the office of Mr. Henry Eitel, No. 111 Second street.

**COLUMBIA IRON FOUNDRY.**—This is the name given to an establishment recently opened at No. 120 Fremont street, for the manufacture of house fronts, sash-weights, and machinery castings generally, at the old stand of the Franklin Foundry. It is under the management of Mr. Reese Llewellyn, formerly of the Atlas Works, who has had many years of experience in the business, both here and in New York.

**OIL BORING** is not entirely suspended in California. The *Contra Costa Gazette* says the Messrs. Sappington are still "going down" at their well in Marsh Cañon, and "working with energy and confidence."

## Return of the Alaska Scientific Expedition.

This expedition returned to our harbor on Monday evening last, all hands in good health and much pleased with the trip, on account of its scientific and industrial results, although it was one of much toil and privation. The party left San Francisco in the revenue cutter *Lincoln*, commanded by Capt. Howard, an old and experienced veteran in the revenue service, on the 21st of July last. It was organized under the direction of Prof. Pierce, of the U. S. Coast Survey, and conducted by George Davidson, as chief; A. T. Mosman, as astronomer; Geo. Farquhar, hydrographer, with whom was associated I. Forney as aid; Dr. Albert Kellogg, hotanist; W. G. W. Harford, conchologist; T. A. Blake, geologist; John Leeds, tidal observer, and W. Hamell as engineer. The lateness of the season prevented such full results as would have followed an early start; still the main object of the expedition has been accomplished, a large amount of scientific information has been gained, and we are informed that many facts of vast industrial value will be made known to the country, when the chief, Mr. Davidson, makes his report at Washington, which he will do so soon as he arrives there—it being his purpose to go East by the next steamer.

We learn, incidentally, that the party arrived at Sitka on the 12th of August, when work really began.

## SEARCH FOR SILVER.

Researches have been made in the neighborhood of Sitka, for reported silver deposits; but nothing was found at the localities indicated, or elsewhere.

## TIMBER, ETC.

The botany of that region was explored, so far as his limited time would admit, by Prof. Kellogg. No hard wood timber was found, of value; but a valuable species of yellow cedar was found in great abundance, and of large growth. This wood is valuable for shipbuilding, and specimens of a Russian ship were brought down, perfectly sound, although the vessel had been built 32 years, and lain upon the beach as a wreck for several years past—the wood around the iron and copper bolts was perfectly sound. This wood is also valuable for cabinet work and other purposes. Sitka spruce is also very abundant. Almost the entire country is covered with a dense growth of *sphagnum* (peat moss), into which the feet of the pedestrian sink to the depth of ten or twelve inches at every step. The moisture to support this growth is derived almost entirely from the atmosphere; hence it is not confined to swamp ground, but abounds equally as much on hill sides as in swampy places. Potatoes, turnips, etc., grow well in many places, after the *sphagnum* is removed.

The party proceeded from Sitka to Kodiack Island, some 700 miles almost due west from Sitka, and near the Peninsula of Alaska, where they found an agreeable change from universal forests to a country covered with herbage. An abundance of good pasturage exists there.

## A VALUABLE COD BANK, ETC.

Perhaps the most valuable discovery made was an extensive Cod bank, probably surpassing, in extent and value, the Banks of Newfoundland, one advantage being the fact that the water is only 50 fathoms deep, 50 miles from the shore, whereas at Newfoundland the depth is 90 fathoms, within a few miles only of the coast. There are a number of islands convenient for drying the fish. All fish heretofore caught in our northern waters have had to be brought to this city to be dried. This discovery will soon secure for this coast a large fishing fleet, which will prove, what is greatly needed, a most excellent nursery for seamen. Good bait for cod fishing was also found in great abundance in the immediate vicinity. It is estimated that there are 20,000 square miles of soundings filled with cod and halibut. Excellent whaling ground was also found.

Much geographical information was collected, which will be of especial value to commerce, etc.

## MINERALS.

With regard to minerals, large and valuable coal deposits were found, convenient to shipping points. Gold is reported by Rueians on the Kakuy, a river emptying into Cook's Inlet, about latitude 60°. Copper is reported plenty on Copper River, from whence native copper is brought to the coast by the natives as an article of traffic. The miners from the Stickeen report that they are making an average of \$5 per day with a rocker.

It is said that the annual collection of furs exceeds one million of dollars in gold value.

Salmon exist in great abundance in Sitka Sound.

The official report of the expedition will be looked for with much interest.



[Written for the Mining and Scientific Press.]

The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER TWO.

SYNOPTICAL HISTORY OF AMALGAMATION.

The knowledge of the affinity which mercury possesses for combining with gold and silver, was well known at even a very early part of the historic period of man; advantage having been taken of the property to remove the golden ornamentations of worn-out apparel, by first burning the latter to ashes and then triturating the remains with mercury. Humboldt has stated that prior to the discovery of America the Germans employed mercury to extract gold from auriferous sands, and also from copper and iron pyrites.\* No account, however, exists of the employment of quicksilver for the reduction of silver ores prior to 1557, when, BARTOLOME MEDINA, a miner at Paebuca, in the neighborhood of Real-del-Monte, Mexico, first introduced the "Patio" † mode of amalgamation, by the admixture of magistral, (burned copper pyrites) salt and mercury with the ore to be benefited.

How this important improvement became first suggested to Medina there does not exist any record. The chemistry of the day was quite insufficient for the purpose of leading us to infer that it was arrived at by any course of inductive reasoning. The probability is that Medina dabbled in alchemy, and as salt, copper and mercury were amongst the most frequent agents employed by these pioneers of modern chemistry, it is quite probable that some tentative trial had been made with calcined copper pyrites, salt, mercury and silver ore.

Some years afterwards, (in 1586) a Peruvian miner, named Carlos Corso de Leca, introduced the method called "el beneficio de hierro," (reduction by iron) which consisted in adding to the torta ‡ small pieces of metallic iron, the object being to avoid the loss of mercury often occasioned by the peroxidation of the chloride of iron, which, when formed, rapidly converts the mercury present into a sub-chloride (calomel). If applied in sufficient quantity, and not subjected to much exposure of atmospheric influence, iron would reduce the chloride of silver, produced to the metallic condition, as rapidly as the chloride became formed, and so promote amalgamation. No accounts are to be found which would justify the conclusion that this mode of treating silver ores was either extensively adopted or continued in use for any lengthened period; it was, however, based on sound chemical reasoning, though probably, as well as the mode introduced by Medina, both were the offsprings of experiment. In whatever way the latter invention may have arisen, it forms undoubtedly the originating source of the Freiberg barrel amalgamation, in which it is well known that small fragments of iron form so important a function. I cannot dismiss the statement just made without requesting particular attention to the circumstance that it is probable that the non-success of Leca, in introducing iron into the torta, and the success of Gellert in introducing the same agent into the Freiberg barrel, are respectively due to causes the most simple; but which, in the infantine state of science at the close of the sixteenth century, was necessarily unappreciated by the original inventor. The different results alluded to, in the opinion of the writer, undoubtedly arose from the fact, that, in the torta, atmospheric influence was constantly exercising its oxygenating action on the metallic salts formed—more particularly those of iron—which, unless neutralized by precipitation, or reduced to the lowest state of oxidation by the application of additional, or the presence in the mixture of a surplusage of metallic iron, would rapidly convert no small portion of the quicksilver into calomel, as previously explained, a fact that was experienced at an early period in Washoe by many amalgamators, and still continues when the distraction of the pans do not keep pace with the acidifying influence of oxygen. In the barrel, on the contrary, the materials for amalgamation are preserved from atmospheric influence; con-

sequently, no inimical oxygenating action results. The explanation just made, which, I believe, is the first that has ever been published of the varied results which occur sometimes even when the same process has been, to a large extent, followed; the exception, principally consisting of the difference occasioned by the free access in the one case, and the exclusion of the atmosphere in the other, forms a digression from the strictly historical details. It was thought, however, that no more favorable opportunity would occur for instancing, as an example, how very much extremely slight changes of condition may effect most important, and oftentimes disappointing, results.

ALONZO BARBA'S IMPROVEMENTS

Were introduced in 1590, and are still employed, in some instances, in Mexico and, I believe, occasionally in Chili, where pretty rich ores are obtainable. The method adopted by Barba consisted in amalgamating in large copper pans, which were beaten from below. I do not at present remember the exact orthography of the Spanish term which was applied to this mode, nor probably am I correct in submitting "poultice reduction" \* as a free translation into English. Barba's method occasioned a considerable saving in mercury; but the consumption of copper was great, owing not merely (as always has been assigned by former writers) in consequence of the copper reducing the chloride of silver, but chiefly by the peroxidation of the salts of iron previously noticed, which not only rapidly dissolved copper, but also possesses the property of holding in solution no inconsiderable amount of the salts of the latter named metal, which is not precipitable therefrom, even by iron, until the salts of the latter are reduced to the lowest state of oxidation. These facts are well known to those occupied in the precipitation of copper from the cupreous solution of mines, in which cases it is found that, owing to the causes assigned, the consumption of iron is usually treble, and sometimes amount to more than six times, the quantity which simple theory would assign as being required. Those desiring more proofs of the asserted fact are referred, for inquiry, to the Parje and Mona mine, in the Isle of Anglesea, North Wales, the Wicklow, in Ireland, or the Rio Tinto, in Spain. Barba's method was found to apply, with good effect, when treating native chlorides without the use of magistral, by which means the consumption of copper only amounted to thirty-two for every one hundred and eight parts of silver, which ought to be obtained according to strict theoretical proportions. As the sulphides of silver require to be converted into a chloride or metallic silver, in order to promote the action of mercury, and the consumption of copper being so great, Barba's method was never widely adopted, unless when chlorides, or ores richer than the average, were pretty abundant.

Many of the changeful phenomena just described have not infrequently fallen under the observation of puzzled pan amalgamators, by occasionally finding their retorted amalgam, when converted into a bar, being composed of a larger weight of copper than anticipated, frequently derived from the sulphate of copper employed. At other times the same operators have found that a more than usual loss of mercury has taken place in either or both cases; should they occur simultaneously, the cause may safely be sought for generally in the active oxygenating influence of the atmosphere. This mode was introduced into Europe in 1784; first, I believe, into Hungary, by Baron de Born, an Austrian mining officer, and was employed in the country named, in some localities, up to a very late period. An erroneous opinion has not infrequently gone forth that the last described method of Barba gave origin to the European improvement which next succeeded, consisting of the

BARREL OR FREIBERG METHOD OF AMALGAMATION.

It would be but an indifferent compliment to the perceptive faculties of Gellert, who introduced the barrel mode of amalgamation into Saxony in the year 1790, to attribute his success as being based on rational inferences, founded on the phenomena accompanying Barba's method.

The success of Barba's mode of beneficiation is owing to the reciprocating action which takes place between chloride of copper, formed through the medium of the chloride of sodium (common salt) present, and the sulphides of silver existing in the "poultice" or pulp; chloride of silver and sulphide of copper † being thus formed by what is termed by chemists mutual decom-

position. If this was all that occurred, the loss of copper would be but trifling, so far as the relative expense of obtaining so valuable a product as silver is concerned, which would be obtained in the theoretical proportion of only thirty-two parts, by weight of the low-priced metal, for every one hundred and eight parts of silver, which would, by this means, become susceptible of forming an amalgam with the mercury present. The large consumption of copper being caused almost wholly in consequence of the oxidizing influence of the atmosphere on the salts of iron present, and their subsequent destructive action on the interior of the enclosing copper vessel, as briefly explained previously. The destructive action would, by Barba's mode, be further intensified by the additional agency of the artificial heat applied to the bottom of the pan, a circumstance noteworthy by the pan amalgamators of the present day. In order, however, to make these phenomena better understood by the general reader, attention is drawn to the following well established facts:

It was found after the introduction of the barrel mode of amalgamation by Gellert, that the loss of quicksilver was great, owing to the cause already explained, the remedy adopted and subsequently pursued was that of turning the mixed ore, water and pieces of iron for one hour or more in the barrels prior to the introduction of the mercury. In this way, the acid salts present, formed during the roasting of the ore, became reduced to neutral and proto forms, and consequently innocuous thereafter, provided the materials during the subsequent operation were preserved from the oxygenating influence of the atmosphere, as would be the case when enclosed in air-tight barrels. Notwithstanding the practical knowledge long ago ascertained which has just been described, a lengthened period elapsed before the Washoe pan amalgamators, by "blundering luck," tumbled upon the same circumstance, and now find it advantageous to pursue a similar method, namely, to work the pans a like period prior to the introduction of the quicksilver. In this last case, the iron of the vessel and stirrers supply the place of the scrap iron used by the barrel method, at the expense, however, of the durability of the pan. In the latter case, however, acid salts are continually being formed, owing to the pulp being continuously exposed to the atmosphere, thus adding greatly to the wear of this species of apparatus. Were this not the case, a corresponding equivalent of mercury, as compared with the iron thus destroyed, would become converted into calomel. Strictly speaking, the barrel process, as originally established, combines the methods of Medina, Leca and Barba; the last, however, being an accidental occurrence, owing to the circumstance that the ores of Saxony so benefited, excepting the lead or what the Mexicans term "fuego ores," almost invariably contain sufficient copper to assimilate their operation somewhat to the phenomena which occurs by Barba's method. On the other hand, the Washoe pan mode assimilates to the one introduced by Leca, viz: reduction by iron, superadded to that of Medina; but which experience has shown can be considerably facilitated by the employment of sulphate of copper, which, as formerly shown, acts when converted into a chloride by the common salt present on such parts of the ore as consist of sulphides of silver.

Practically, however, the writer has never found the double decomposition of chloride of copper with sulphide of silver to fully meet the requirements of theoretical calculators, which induces him to believe that the very great loss of silver which occurs in the Washoe pan method of amalgamation, as compared with what takes place in the barrel and Barba's methods, chiefly arises from the fact that the efficacy in producing the double decomposition alluded to, is, in a large degree, dependent upon the presence of chloride of copper, greatly preponderating in mass beyond the atomic proportion of the sulphide of silver present. If this should prove on investigation to be the case, it will be easy to understand why Barba's and Gellert's modes should be very effective in reducing all the sulphides of silver found in the ore—while the Washoe pan mode is ineffective to the extent of thirty-five per cent. of the fire assay. To Gellert is undoubtedly due a very large amount of praise; first, for ingeniously adopting a rapid mode of chlorinating silver by means of roasting; second, by employing Leca's mode of afterwards dechlorinating it by means of iron, so as to be made available for amalgamating with mercury; and lastly, insuring the more complete efficiency of the process by employing utensils for the purpose, that practically, whilst in operation, they and their contents would not be under any injurious atmospheric influence.

\* It is unfortunate that this celebrated philosopher did not give, possibly from inability, the ratio of gold extracted from these latter.

† From the Spanish word signifying a court or open space.

‡ An abbreviation of "torrado," a kind of large pie.

\* So termed, probably, because the mixture in the copper pan had the appearance and consistency of the preparation for making an ordinary poultice; the more elegant term, pulp, has been adopted for a similar mixture at Washoe.

† On this fact is based the employment of sulphate of copper in pan amalgamation.

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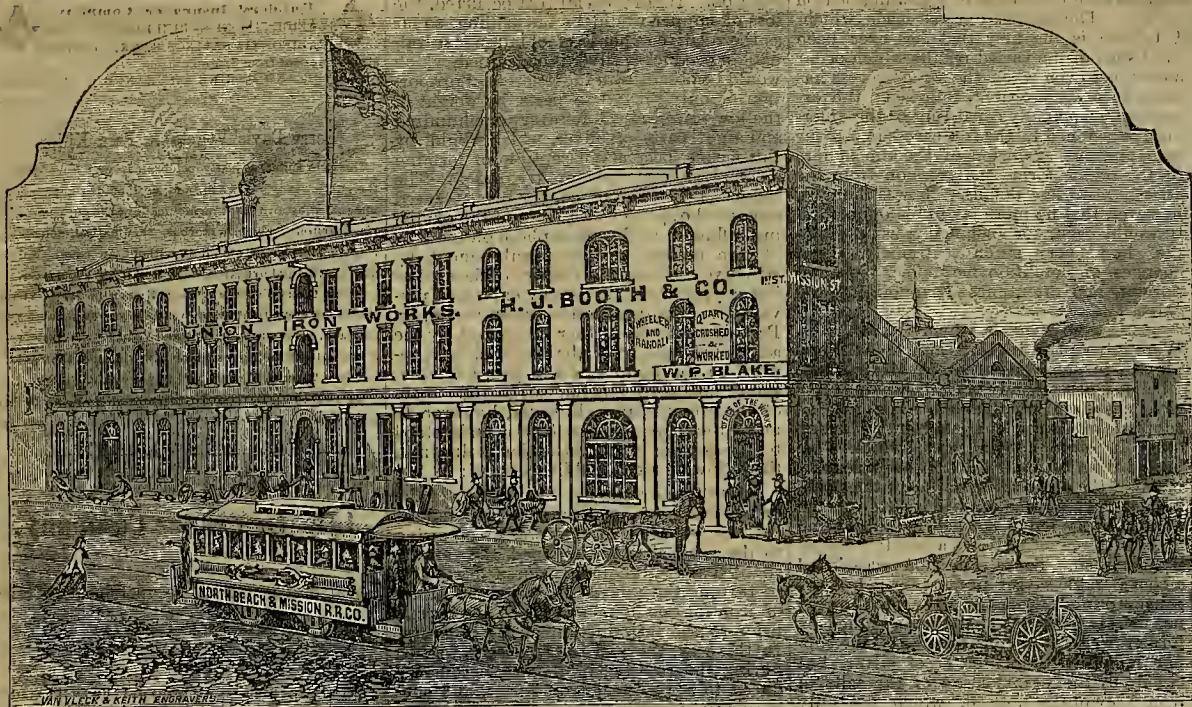
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Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in the delivery by way of Hamburg and Bremen:  
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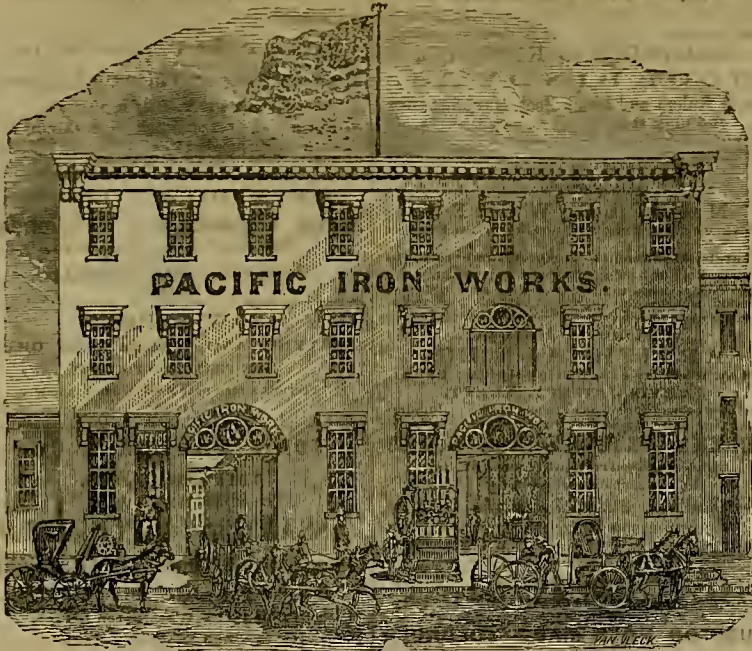
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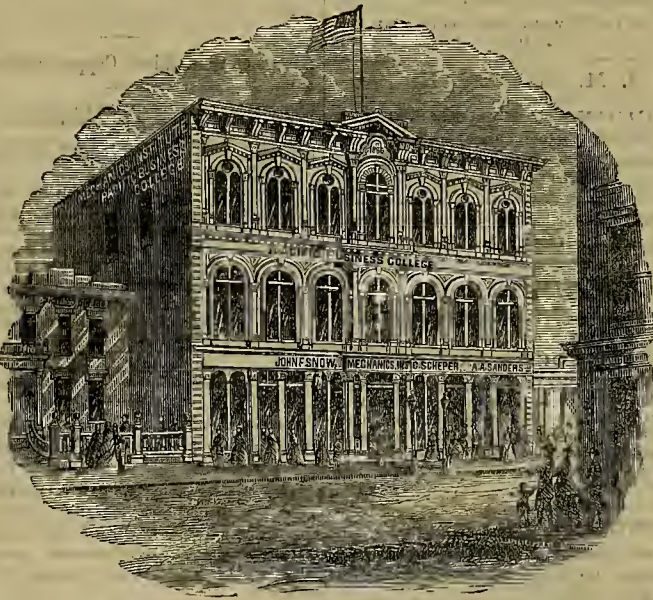
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Important to Californians.—Many inventors have lately had their claims for Patents seriously and in some cases fatally delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors. The Mining and Scientific Press Patent Agency has strictly complied with the requisitions of the Department, and properly filed all necessary papers as Claim Agents.

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**JAMES MACKEN, COPPERSMITH,**  
No. 226 Fremont st., bet. Howard & Folsom  
All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.  
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**FIRST Paint Manufactory IN CALIFORNIA.**

**EPES & E. H. R. ELLERY**  
Have the Patent Right for the Pacific Coast to manufacture, sell and use

**Ellery's Patent India Rubber Cement & Paint.**  
It is for all exposed surfaces; impervious to wet; will not rot, peel, blister or crack, in any climate. A superior Paint for brick, wood, cloth, metals, etc.; successfully used in the Eastern States. The old iron roof of that large building, the New York Race Mills, was in such bad condition it was about to be taken off ten years since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT making a good tight roof. A coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Atlantic Lead Works use our Paint only.

**NEW CLOTH ROOFS** put on copious and all seams cemented and saturated, then coated with the India Rubber Cement and Paint—the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others. The roofs of all the houses and steam cars, decks of steamboats, etc., around New York—for eight dollars per one hundred square feet. **NEW OR OLD TIN ROOFS** cemented and painted with the India Rubber Cement and Paint guaranteed at from one cent to two and a half cents per square foot, according to size and condition of roof. Good men and the best materials used.

We have just cemented and painted old tin roofs of Dr. H. B. Cogswell, Tibbs & Co., D. J. Oliver, etc., and the wood work of Sheriff Davis' building, 88 feet front, on Folsom street, between Third and Fourth streets—only one cent. The work will speak for itself. Now painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—one cent. See the above and further references at our office.

**ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT** is composed of India rubber and other gums, dissolved in linseed oil, mixed with the various coloring matters and ground in any color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness, and put on as other paints are, with a paint brush—retaining sufficient elasticity to give and take with the heat and cold. Fifteen hundred fishing vessels at Cape Ann use the India Rubber Paint, finding it superior to all others.

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Office, No. 226 Jackson street, corner Battery, San Francisco, Cal. 6v15

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FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.

23 Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents.  
24v12 F. E. WEYGANT, Proprietor.

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The present Session commenced July 29th, and will close December 20th. A full course of instruction is given. Six Teachers are employed. For further particulars, Address HERMON PERRY, Sacramento, Cal.  
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Pacific Mail Steamship Co's STEAMSHIPS FOR NEW YORK, JAPAN AND CHINA. LEAVE FOLSOM STREET WHARF, AT 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 15th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following. Steamer leaves San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 19th or 19th connect with French Transatlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Departure of 10th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. E. Co's steamer for Central America. Through tickets can be obtained. The following Steamships will be dispatched on dates as given below: November 9th—CONSTITUTION.....Capt. J. M. Caryly Connecting with HENRY CHAUNCEY, Capt. Oary November 18th—MONTANA.....Capt. E. S. Farnsworth Connecting with the RISING STAR, Capt. Conner. November 30th—GOLDEN CITY.....Capt. W. F. Lapidge Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendances free. Steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship GREAT REPUBLIC, Capt. S. Doane, will be dispatched December 4th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONG KONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets. OLIVER ELDRIDGE, Agent.

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ESTABLISHED..... May, 1850.

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RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20.....10 cents. Over \$20 and not exceeding \$50.....25 cents. No fractions of cents to be introduced in an Order.

Required for the sum of \$..... Payable at..... State of..... Payable to..... Residing at..... State of..... Sent by..... Residing at..... State of.....

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The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands.

As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

Table listing California, Nevada, Oregon, Idaho Territory, and Montana Territory post offices with their respective counties.

Table listing Washington Territory post offices with their respective counties.

New Mining Advertisements.

Ancient River Channel Blue Gravel Company. Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-second day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

North Star Gold and Silver Mining Company. Reew River Mining District, Lander County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 423 Front street, San Francisco, California, on a Saturday, the seventh day of December, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Oxford Beta Tunnel and Mining Company, Emerald District and County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1867, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine.

Seaton Mining Company.—Location of Works: Drytown Mining District, Amador County, State of California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1867, an assessment of one hundred and fifty cents per share was levied upon the capital stock of said Company, payable on the twentieth day of December, 1867, in United States gold coin, to the Secretary, at the office of the Company, No. 60 Exchange Building, San Francisco, California.

Adella Gold Mining Company, Rock Creek, Sierra County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1867, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, No. 429 Pacific street, San Francisco.

Cordillera Gold and Silver Mining Company, Chihuahua, Morelia Mining District, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office, No. 321 Washington street, San Francisco, Cal. no9

Chalk Mountain Blue Gravel Company.—Location of Works: Nevada County, California. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of October, 1867, the several amounts set opposite the names of the respective shareholders as follows:

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., at their salesrooms, 318 Montgomery street, San Francisco, on Monday, the twenty-fifth day of November, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Olney & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

Ethna Allen Gold and Silver Mining Company.—Location of Works: Austin, Lander County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

And in accordance with law, and an order of the Board of Trustees, made on the fifteenth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, at No. 418 Montgomery street, San Francisco, Cal., on Monday, the second day of December, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Great Central Mining Company.—Location of Works: Yuma County, Arizona Territory. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., at No. 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-fifth day of November, 1867, at the hour of 4 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Hancock Copper Mining Company. Location: Low Divide District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of November, 1867, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on and after November sixth, 1867, in United States gold and silver coin, to the Secretary, at his office, 609 Market street, San Francisco, Cal.

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fourth day of October, 1867, an assessment of fifteen cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, or to J. K. Johnson, at Crescent City.

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 523 Kearny street, San Francisco, or to O. Fanner, Treasurer of the Company, at Silver Mountain, Alpine County.

Moant Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Whitman Gold and Silver Mining Company. Location of Works: Cortez District, Lander County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

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Moant Tenabo Silver Mining Company, Cortez District, Lander County, Nevada. Notice is hereby given, that the Annual Meeting of the Stockholders of the above named Company will be held on THURSDAY, the twenty-eighth day of November, 1867, at 11 o'clock A. M., at the office of the Company, No. 331 Montgomery street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

Nuestra Señora de Guadalupe Silver Mining Company. Location of Works: Tayoltita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1867, an assessment (No. 2) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Pfeiffer, at the office, No. 210 Post street, or to the Treasurer, A. H. McKean, at his office, No. 637 Washington street, San Francisco.

Quail Hill Mining and Water Company.—Location of Works: Quail Hill, Calaveras County, Cal. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Quail Hill Mining and Water Company.—Location of Works: Quail Hill, Calaveras County, Cal. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

And in accordance with law, and an order of the Board of Trustees, made on the eighteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Duncan & Co., auctioneers, at the office of the Company, room No. 10, second floor No. 402 Montgomery street, San Francisco, on Monday, the eleventh day of November, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

Postponement.—By order of the Board of Trustees of the Quail Hill Mining and Water Company, this day made, the above sale is postponed until Monday, the twenty-fifth day of November, 1867, at the same hour and place.

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of Certificate of each parcel of said stock, were sold, as by law provided, at public auction, on the twenty-eighth day of October, 1867, for delinquent assessments thereon, and will not be transferred by said Company:

Table listing certificate numbers and share amounts for the Whitman Gold and Silver Mining Company.

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of Certificate of each parcel of said stock, were sold, as by law provided, at public auction, on the twenty-eighth day of October, 1867, for delinquent assessments thereon, and will not be transferred by said Company:

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Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

for rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

This Amalgamator Operates as Follows: The pan being filled, the motion of the miller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed. Mill men are invited to examine these pans and setters for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 28 Secord street, and 108 Jessie street. 12v16tf

E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boilers, Castings,

AND ALL KINDS OF MACHINERY,

No. 537 Washington, and 532 Merchant st., San Francisco

HAS FOR SALE

- One Engine, 5-Horse Power, \$100
One Engine with Boiler, 7-Horse, 600
One Engine, Lark for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,300
One 30-Horse Boiler 300

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15qr

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 23v12 3m

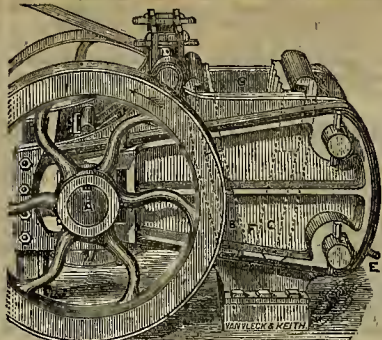
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-qr THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to his Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the inventors are enabled to offer these machines to the public at the following low terms: No. 1.—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price \$500 No. 2.—Or 15-inch Crusher, capable of similarly putting through five to six tons per hour. 850 No. 3.—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour. 1,300

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar, E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County: Rawhide Ranch, Tuolumne Co., Sept. 23, 1866.

JAMES BRODIE, Esq., San Francisco.—My Dear Sir: I give you my pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

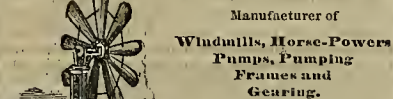
For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of commissioning, without having recourse to legal means for past infringements, or desirous of receiving Letters of License for the limited period named, are requested to address as below. A claimant, with explanation of this machine, will be found in the "Mining and Scientific Press," of September 23rd, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 23d, 1866. JAMES BRODIE, Pacific Foundry, Express Building, 402 Montgomery street, San Francisco. 12v15tf

E. O. HUNT, Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Secord St., and 108 and 110 Jessie St. 2v15qr

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Secord St., and 108 and 110 Jessie St. 2v15qr

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less of this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, For Wells, Fargo & Co's Express. 11v15 6m

NELSON & DOBLE, AGENTS FOR Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel, manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters, Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 10v14qr

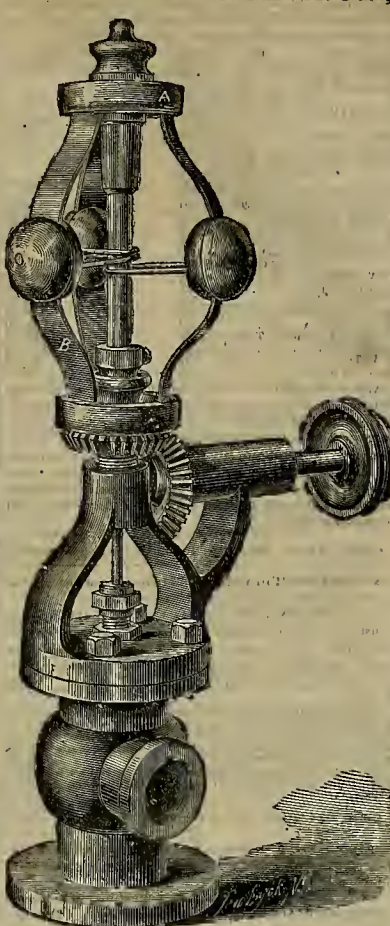
TO SPORTSMEN.

THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of ROYER'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing HENRY ETEL, 111 Second street, Or Lock Box 1172 P. O., San Francisco. 13v15-2m6m

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. HEWEY & CO., Patent Agents, Publishers and Job Printers, 503 Clay st.

PICKERING'S ENGINE REGULATOR,



Warranted the Best in Existence. Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2am1q

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine, With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine, Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO., Pacific Iron Works, 9v15it San Francisco, Aug. 23, 1867.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

—BY— WM. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13r SAN FRANCISCO.

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a Quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address F. M. SHAW, San Francisco, care Mining and Scientific Press. 26v143m

TO SPORTSMEN.

THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of ROYER'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing HENRY ETEL, 111 Second street, Or Lock Box 1172 P. O., San Francisco. 13v15-2m6m

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Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. HEWEY & CO., Patent Agents, Publishers and Job Printers, 503 Clay st.

The Largest Armor Plate in the World—Interesting Process.

One of the finest, thickest, and heaviest armor plates ever rolled in the world, was recently pressed into the very perfection of a manufactured armor plate at the great Atlas Ironworks of Sir John Brown & Co., Sheffield. The size of this monstrous slab of iron, when in the furnace, was a little over 20 feet long by about 4 feet broad, and 21 inches thick. Its rough weight was over 21 tons. It was built up in the furnace before being rolled by five plates, each three inches thick, and one plate of six inches. The plate, when laid in the furnace, rested upon little stacks of fire bricks, so that the flame and heat played equally around it till it was all glowing white, and the successive layers settled down into one dense mass. As the time for "drawing" approached, bands of workmen, to the number of about 60, arranged themselves on each side of the furnace, as near to it as they could bear the heat. Then the doors were opened to their fullest, and what had been a glare before, and what had been a heat, were quite eclipsed by the intense light and fervency with which the long tongues of flame leapt forth. In the midst of this great light lay a mass even whiter than the rest. To this some half a dozen men drew near. They were all attired in thin steel leggings, aprons of steel, and a thin curtain of steel wirework dropping over their faces like a large, long visor. All the rest of their bodies were muffled in thick, wet sacking. Thus protected they managed, with the aid of a gigantic pair of forceps slung from a crane above, to work as it were amid the flames for a few seconds, and to nip the huge plate with the forceps. The signal was then given, and the whole mass of iron, fizzing, sparkling, and shooting out jets of lambent flame, was by the main force of chains attached to the steam rollers, drawn forth from the furnace on to a long wrought-iron car. The heat and light which it then diffused were almost unbearable in any part of the huge mill, but the men seemed to vie with each other to approach and detach the colossal pinchers which had drawn the iron forth. More than a dozen attempts were made before this was effected, and more than a dozen of the best and most skillful workmen were driven back one after another by the tremendous heat and glare. At last all was made clear. The forceps was drawn away, the chains cleared from the rollers, and the other workmen seized the chains attached to the iron truck, and drew it to the incline by main force, where it was left by its own weight to run into the jaws of the rolling-mill. The workmen rushed for shelter in all directions as the mass was nipped between the rollers, and wound rapidly in amid quick reports like those of dull musketry, as the melted iron was squeezed by the tremendous pressure from the mass, and flew out in jets of liquid fire on all sides. The turning of the rollers crushes the plate through to the other side, where it rests for a minute on a wrought iron truck similar to that on which it was brought from the furnace. The action of the rollers is then reversed after they have been brought closer together by about an inch. These again nip the plate and draw it back in an opposite direction, and again and again does this mass go forward and backwards, each time passing between a smaller space, till the whole of the huge thickness was reduced to a compact mass 15in. thick, in a quarter of an hour. During every stage of the process, quantities of fine sand are thrown upon the plate; this takes fire as it touches the flaming surface, and covers it as it melts, with a coat of silica, or with a glaze like that of earthenware, thus preventing the active oxidation, which would otherwise take place. After every discharge of sand, and these go on almost incessantly, buckets of water are thrown upon the plate and explode in scalding steam, and when these are partly dissipated, men rush forward and with wet besoms, with handles 20ft. long, sweep off whatever little scraps of oxidation may have taken place. Thus, every time the plate passes through the mill, the sand is scattered, the water thrown, and the surface swept, and at every roll the chief roller of the establishment runs forward, and under the shelter of wet clothes, measures with a gauge its thickness end to end. The required dimensions were obtained, as we have said, by less than a quarter of an hour's rolling, and a plate 15in. thick, the product of the labor of nearly 200 men, and of the consumption of nearly 250 tons of coal, was shot out by the rolling mills and left to cool. When this had been effected, two large rollers of iron, each weighing 15 tons, were left upon its ends to keep the whole perfectly level. Nothing further now remained in order to complete it as the finest specimen of armor



plate manufacture ever attempted, but to plane off its rough ends and edges. The flat surfaces on either side, which form what is called the skin of the plate, are never interfered with, for the action of the steel rollers leaves them literally almost as smooth as plate glass.

THE NAPOLEON CANNON.—A special correspondent of the London Times, writing from Paris of the Napoleon's new cannon, says: "It seems to be a sort of light revolving cannon. I suppose it is to be a surprise, like the rifled guns in the Italian campaign. The strangest stories are circulated about it; the Emperor is supposed to be himself the inventor, or, at least, the joint inventor with the Colonel of Artillery, who had so much to do with the model gun of 1858, and who is supposed to have turned out these new weapons from his factory at Meudon. It is supposed there are great numbers of sealed cases deposited somewhere or other, and each battalion is to be provided with two of them. Rumor says that the projectiles are not discharged by the force of gunpowder, but by some other agency, and that the effect is a shower of bullets. One would almost wish for a war, to see these new infernal machines.

WROUGHT IRON is often found to stand more wear or friction than cast iron. At Denver there is a quartz grinder which had, as usual chilled cast iron rubbers. When they require renewing, there were no cast iron to be had, so rubbers of wrought iron were substituted as a temporary resort. But, to the surprise of every one, these outlasted two sets of castings, doing the same work. This induced a trial of steel. But it proved inferior to the wrought iron, which is now used altogether. The explanation probably is, that to the fibrous structure of wrought iron is due its lessened liability to abrasion; whereas the crystalline and brittle structure of cast iron presents chipping angles to the man.—Atla.

A CURIOUS trial of strength occurred in Buffalo some days since. There was a dispute as to the relative strength of two tugs, and it was decided by attaching a strong hawser from the stern of one to the other, and that at a given signal each endeavored to pull the other backward. The winning, and of course the strongest tug, dragged the other off captive.

THE NORTHERN PACIFIC RAILROAD.—The engineers of the Northern Pacific Railroad have completed their survey of the passes in the Cascade range, and find them not as bad as formerly believed. The altitude of the highest was 4,000 feet, and of the lowest 3,150 feet. Only six passes were examined. The object of the survey is to furnish data to lay before Congress in order to obtain, if possible, a subsidy.

DISEASE is simply obstruction. The man who can touch the bottom of his lung with a bit of fresh air, and the end of his toe with a little blood, may laugh at the doctor and break off acquaintance with the undertaker, He is sure of getting into the nineties.

**Pacific Chemical Works,**  
Laboratory, Sixteenth street, near Folsom. Office, 623 Montgomery street, San Francisco.  
**FALKENAU & HANKS,**  
MANUFACTURING AND CONSULTING CHEMISTS.  
Particular attention given to the analysis of Ores. Minerals, Metallurgical Products, Mineral Waters, Soils Commercial Art Articles, etc. 1415-15

**SANTA CLARA COLLEGE, S. J.**  
SANTA CLARA, CAL.  
Conducted by the Fathers of the Society of Jesus.

THE SEVENTEENTH ANNUAL SESSION of this College will commence on August 23, 1867.  
TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.  
For further information and catalogues, apply to the President of the College, or to Rev. A. Maraschi, St. Ignace College, Market street, San Francisco.  
5v15-1m REV. A. MASNATA, S. J., President.

**Pratt's Abolition Oil.**  
FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Diarrhoea, Cholera, Pains in the Breast, Lame Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 624 Sacramento street, opposite What Cheer House, San Francisco. 14v14-1y

**N. P. LANGLAND,**  
**STAIR BUILDER,**  
No. 49 Beal street,  
Between Market and Mission,  
SAN FRANCISCO.  
10v14-1y

Stair Work of all Kinds.  
MADE TO ORDER  
And Shipped to all parts of the Coast.

On Hand and for Sale.  
CONSTANTLY  
NEWEL POSTS and BALUSTERS

**NEW YORK PRICES.**  
**C. E. COLLINS,**  
No. 63 Montgomery street, San Francisco.  
**EXCLUSIVE AGENT**  
FOR THE  
**AMERICAN**  
**WATCH FACTORY.**  
A large assortment of these  
**Superior Watches,**  
In Gold and Silver Cases,  
Constantly on hand, and sold at Factory prices. Also,  
**ENGLISH AND SWISS WATCHES.**  
Imported directly from the Manufacturers.  
The American Company are now making  
**VERY FINE WATCHES FOR LADIES.**  
A large assortment of Gold Chains and Jewelry 25v10-6m

WATCH REPAIRING AT NEW YORK PRICES.  
WATCH REPAIRING AT NEW YORK PRICES.

**WE ARE NOW OFFERING**  
**OUR IMMENSE STOCK**  
—OF—  
**Fine Custom Made Clothing**  
AND—  
**Gents' Furnishing Goods**  
**AT PRICES THAT DEFY COMPETITION.**  
Our Stock of Clothing Consists of  
**ALL THE LATEST STYLES**  
BOTH OF MATERIAL AND FINISH.  
A Large Assortment of  
**Trocks, Valises, Carpet Bags, Blankets, Etc.,**  
AT EXTREMELY LOW PRICES.  
**J. R. MEAD & CO.,**  
8v10 Cor. of Washington and Sansome streets

**M. S. WHITING, F. G. BERRY.**  
**WHITING & BERRY,**  
No. 609 Sacramento street, two doors above Montgomery, SAN FRANCISCO.  
**TEA, WINE AND SPIRIT MERCHANTS,**  
IMPORTERS AND WHOLESALE DEALERS IN FINE Brandy, Whiskies, Gins, Port, Sherry and Champagne Wines, Ale, Porter, Cider, Bitters, Cordons, Syrups, etc., for medicinal and family use, and supplies to families, apothecaries, physicians, city and country dealers, hotels, clubs, etc. In large or small quantities.  
This is our only exclusive Tea, Wine and Spirit Store on the Pacific coast. It is neither a saloon nor sample room (as no wines or spirits are allowed to be drunk on the premises), but a depot where selected Teas and Pure Wines and Spirits may be found, at wholesale and retail, for medicinal and family use. In this respect it is our aim to vie with Binger & Co., of New York, Bickel & Davis, of London, and Cozzens & Co., of Washington, where every facility is offered to ladies, as well as to gentlemen, in making their own selections and purchases in quantities to suit. Our Treatise on Wines, Spirits and Teas may be had at our depot gratis, and will be mailed to consumers and dealers in the interior when requested.  
609 Sacramento street, 2d door from Montgomery, San Francisco. 14v15-1y

**Notice to Miners,**  
**Well-Borers and Water Companies.**  
**M. PRAG** IS NOW PREPARED TO MANUFACTURE manlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch and guarantee care satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done.  
M. PRAG,  
8v13-1y Stove Store, No. 125 Clay street, below Davis.

**Assayer and Chemist.**  
A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine, if desired. Proper references given. Inquire at this office. 8v15-1y

**Mechanical Drawings.**  
Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

**HAYWARD & COLEMAN,**  
IMPORTERS AND REFINERS  
—OF—  
**Illuminating, Lubricating,**  
—AND—  
**PAINT OILS!**  
CONSISTING OF  
KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSSEED, CASTOR AND CHINA NUT.  
—ALSO—  
**SPIRITS OF TURPENTINE & ALCOHOL**  
Note.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning off.  
A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.  
**Lamps and Lamp Stock!**  
An elegant and complete assortment on hand. 19v13-3m 414 Front street, San Francisco.

**Golden City Chemical Works.**  
**LABORATORY,**  
Corner of Seventh and Townsend Streets.  
**OFFICE**  
Corner of Montgomery and Bush Streets.  
**CAPITAL STOCK, - - - \$500,000**  
Trustees:  
H. P. WAKELEE, THOS. H. SELBY,  
NICHOLAS LUNING, THOS. BELL,  
CHAS. E. McLANE.  
**H. P. WAKELEE, MANAGER.**

THIS COMPANY ARE NOW PREPARED TO FURNISH Sulphuric, Nitric and Muriatic Acids of superior quality, in quantities to suit.  
Orders will be received at the office only for Chemicals of every description, which will be manufactured as may be required. The Company beg to say that they have the advantages of all improved machinery and apparatus for the manufacture and manipulation of these products, and our Laboratory is fitted up with the most recent improvements which experience and science suggest, and is surpassed by none in completeness and perfection for the purposes it is designed. 9v14 3m

**THE CENTRAL PARK OF THE PACIFIC.**  
**Woodward's Gardens,**  
**ART GALLERY,**  
**MUSEUM, GYMNASIUM,**  
—AND—  
**ZOOLOGICAL GARDENS.**  
A GRAND INSTRUMENTAL CONCERT every Saturday afternoon, and on Sundays a GRAND CONCERT OF SACRED MUSIC, appropriate to the occasion.  
THESE BEAUTIFUL GARDENS ARE VISITED DAILY by hundreds of the pleasure-seeking public, and all agree in pronouncing them the best and only first-class suburban resort on the Pacific Coast.  
The extensive grounds are covered with the rarest trees and shrubbery, making it a most desirable spot for small parties wishing to enjoy a Pic-Nic.  
To all departments new attractions are being constantly added.  
These Gardens are accessible by the Howard and Market street Cars.  
Entrances on Mission and Valencia streets, between Thirtieth and Fourteenth. OPEN EVERY DAY.  
Admission to all parts, 25 CENTS. Children, under 12 years, half price. 10v15-6r

**Pacific Powder Mills.**  
**SUPERIOR BLASTING AND SPORTING POWDER:**  
Black Diamond, in 1/2 canisters.  
do do in 3/4 canisters.  
do do in 1 1/2 kegs.  
Dunlop's Pride, in 1/2 canisters.  
do do in 3/4 canisters.  
do do in 1 1/2 kegs.  
do do in 3 kegs.  
Pacific Mills River Shooting, in 1/2 canisters.  
do do do in 3/4 canisters.  
do do do in 1 1/2 kegs.  
do do do in 3 kegs.  
do do do in 2 1/2 kegs.  
Pacific Mills Rifle, in 1/2 canisters.  
do do in 3/4 canisters.  
do do in 1 1/2 kegs.  
do do in 3 kegs.  
do do in 2 1/2 kegs.  
Blasting and Mining Powder \$3 per keg.  
Safety Fuse and Shot for sale by  
**HAYWARD & COLEMAN, Agents,**  
20v15 1m 414 Front street, San Francisco.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the MINING AND SCIENTIFIC PRESS, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.

**PACIFIC**  
**Insurance Company,**  
—OF—  
SAN FRANCISCO, CAL.,  
Office, No. 422 California Street  
CASH ASSETS, JULY 1, 1867.  
**\$1,238,054 91.**  
**FIRE, OCEAN, MARINE, INLAND**  
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California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Nov. 18, 1867.

President Whitney in the chair. Twenty-five members present.

R. H. Stretch, late State mineralogist of Nevada, was elected a resident member.

PROPOSED SITE FOR AN ACADEMY BUILDING.

Dr. A. B. Stout, from the Committee on Building, submitted a report of progress, recommending that the Legislature be petitioned to authorize the occupation and improvement by the Academy of Yerba Buena Square, and proposing, if the grant is obtained, to lay out and ornament the grounds, establish a botanical garden, and erect a building in which the geological, paleontological, hotanical, zoological and mineralogical collections of the Academy, and of the State Geological Survey, could be preserved and opened to the instruction and pleasure of the public. The square comprises 16 acres, and under the charge of the Academy would be not only promotive of scientific uses, but be kept open at all times to the people as an attractive and healthful park. On Dr. Cooper's suggestion, the committee was continued, with instructions to report again and to take such measures as are likely to promote the object in view.

MINERALOGY OF THE PACIFIC.

Professor Whitney made the following remarks on the elementary substances occurring in California and the Pacific States and Territories, both of North and South America, in continuation of his remarks upon the same subject at the previous meeting:

The subject of the relation of the accidental minerals occurring on the Pacific coast was brought forward by me at the last meeting, and I wish now to add a few words in regard to the elementary substances occurring in California, an inquiry which will also afford us some interesting data for comparing this geological and chemical conditions prevailing through the great chain of the Cordilleras of North and South America.

I find on carefully tabulating the facts observed by the Geological Survey, in regard to the mineral combinations existing on the coast, that of the 64 elementary substances existing in nature, so far as yet known to chemists, there are only 36 which have yet been proven to occur in California, in mineral combinations.

Those which are wanting here are the following: Bromine, Glucium, Cadmium, Cassium, Cerium, Didymium, Erbium, Fluorine, Iodine, Indium, Lanthanum, Lithium, Nihium, Norium, Palladium, Ruthenium, Rubidium, Strontium, Tantalum, Terhium, Thallium, Thorium, Uranium, Vanadium, Bismuth, Tungsten, Yttrium, Zirconium (28.)

Of elementary substances occurring in the adjacent States, and not yet detected in California, there are, so far as I know, only three, namely: Bismuth, Fluorine and Tungsten. This would make 23 elements wanting on the Pacific Coast of North America. Of these a few are extremely rare in general, and would hardly be expected to occur here. Among these are Didymium, Erbium, Indium, Lanthanum, Norium, Thorium. But there are others, the absence of which is indeed quite surprising. Fluorine, for instance, is an element of extremely wide distribution, and one which occurs in great quantity in most mineral countries. Here it will probably, hereafter, be detected in our micas, and perhaps in other combinations, and also in mineral and sea water; but its most abundant source, fluor-spar, seems entirely wanting in this State.

Bismuth is another element of common occurrence in various combinations, but it has not yet been detected in California. A few minute scales of a mineral that I determined to be bismuth silver, from the Twin Ophir mine, Nevada, is the only authentic instance I know of thus far, of the occurrence of this element on the Pacific coast. Tungsten, Uranium and Vanadium, are tolerably widely disseminated; the latter, however, less so than the former. No trace of either has yet been found on this coast north of Mexico; of Strontium, Zirconium, and Glucium, the same may be said. If now we compare the distribution of the elements in the South American Andes with that on this coast, we shall find some striking points of resemblance, and to a large extent, either the absence, or else the great rarity of several of the elementary substances not seen in other mineral regions, is a fact which holds good along the whole ex-

teny of the American Continent on the Pacific side. Fluorine, in combination with calcium, is almost as rare in Peru, Bolivia, and Chili, as on this coast. Indeed, until recently, it was supposed by Domeyko not to occur at all in Chili, but recently one or two localities, where it is found in small quantity, have been made known. Tungsten occurs in Peru at one locality in the form of Wolfram, and in Chili in one or two localities, also in Lower California, but its combinations are extremely rare along the whole coast. The same may be said of Uranium. Strontium and Zirconium have not yet been discovered in Chili or Peru, although the former occurs in one locality in New Grenada, and Glucium has only been recently found in Chili in very minute quantity in one locality. No combination of Lithium is yet known on the Pacific coast.

Among the general facts connected with the occurrence of mineral substances and the elementary bodies on the Pacific coast, and especially in the Cordilleras of North and South America, the following may be met and is generally applicable to the whole of the vast region extending from British Columbia to Chili:

1st. The paucity of species considering the extent of the region as compared with other parts of the world, and especially with other mineral regions.

2d. The remarkable absence of the prominent silicates, and especially of the zeolites.

3d. The absence of a large number of the elementary substances, and the paucity of several others of very common occurrence in other mineral regions.

4th. The very wide spread and attendant occurrence of the precious metals, gold and silver, and the not uncommon occurrence of platina.

5th. The great abundance of ores of copper, and the comparative absence of tin and lead.

6th. The similarity in the mineralized condition of the silver—sulphur, antimony and chlorine being the principal mineralizers of these metals—while in Chili the rarer combination of iodine, bromine, and selenium occur, these latter being as yet unknown north of Mexico.

7th. The absence or paucity of veinstone or gangue of one of the most prominent minerals occurring as much in other mineral regions, namely, fluor, to which it may be added, that both calcite and barytes are extremely rare as veinstones in California, and to judge from all the Mexican and Chilean collections that I have seen, well crystallized specimens are very rare in those countries.

8th. There is no elementary substance and but few mineral species peculiar to the Pacific coast.

ALTITUDE OF DEATH VALLEY.

Prof. Whitney presented a paper from Major Williamson, detailing a series of barometrical observations, and the processes by which they were verified, to ascertain the altitude of Death Valley—a remarkable depression lying partly in San Bernardino and partly in Inyo county, between Owen's Lake and the Nevada State line. This valley is stated in the Geological reports to be about 150 feet below the level of the sea, and is further remarkable for the peculiarity of its flora. The Nevada papers have lately denied, on the authority of observation made by Mr. Gabb, the accepted statements on this subject, and asserted that Death Valley is really several thousand feet above the sea, and has no such peculiar features as have been assigned to it. Prof. Whitney said this contradiction resulted from confounding the upper sink of the Amargosa river, in Nevada, with the lower sink of the same stream, in California, distant 70 miles in a direct line and 200 by the river, which is the true Death Valley, and was not seen by Gabb. Major Williamson's paper demonstrates that the lower sink of the Amargosa, though situated in the high Sierra, is at least 100 feet below sea level, and several thousand feet below the summits of the surrounding mountains. The paper will be published by the Academy.

CALIFORNIA CONIFERÆ.

Mr. Bolander, referring to a previous enumeration of pine species in California, submitted by him, stated that he must now reduce the number of true species by one, leaving the total at only fifteen. He also remarked upon this species of fir in this State, enumerating four only, which are strongly marked. He showed the leaves and seeds of two species, and commented upon the mistake of Murray, in asserting that there is a fifth species, which he calls *Picea Magnifica*, but which is really *Picea Amabilis*. Mr. Bolander thought the tendency to multiply species erroneously was attributable to a desire to make a market for seeds, those of new species being always in demand at good prices.

McCORMICK'S REAPER.—The inventor of this world famous reaper, was recently invited by the Emperor Napoleon to give a private exhibition of his machine. McCormick didn't refuse.

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SAN FRANCISCO, SATURDAY, NOVEMBER 30, 1867.

{ VOLUME XV.  
Number 22.

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Stock Prices—Bid and Asked.  
San Francisco Weekly Stock Circular.  
Mining Shareholders' Directory.

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California

### MINING MACHINERY.

It is the general expression of mining engineers and experts who have visited the Exposition, that the display of mining machinery is not as large and interesting as there was reason to expect. One explanation of the disappointment may be found in the fact that the objects exhibited are scattered about in the vast assemblage of machines in the outer circle, or are placed in the outbuildings of the Park. If all had been brought together in one place, the display would have been considered much more satisfactory. There is, however, very little that is new and striking; there is no great improvement or advance to record; scarcely anything that has not been already described in mining and engineering publications. Some of the most important of late improvements in dressing machinery are not represented at all; such, for example, as the continual working *stossheerd* of Ritterger, and his other various contrivances for sizing pulverized ores before concentration. The California pan machines, concentrators, etc., which form the bulk of our mining exhibits at the exhibition of the Mechanics' Institute, are not to be found here, nor is there a stamp mill, or the parts of one. In fact, there is not one in Europe comparable with ours for perfection of construction or in working effect. The bulk of the exhibit, however, consists of the very machines in which we are most deficient, and in which we are lamentably behind the rest of the mining world, namely, *hoisting or extractive machinery*.

The various objects may be classed under the following heads:

1. Mining Tools.
2. Rock perforators or drilling machines.
3. Boring tools for wells or shafts.
4. Hoisting engines and apparatus.
5. Cables.
6. Cages and wagons.
7. Machines for crushing and dressing ores.

### I. MINING TOOLS.

Under this head are included drills, hammers, picks, blasting implements, lamps, etc. The tools of Germany and Austria were shown in their respective sections, and were displayed upon the walls above the maps and sections of mines. All of the drills are characterized by their extreme lightness, as compared with American tools of the same kind. Round bar iron, tipped with steel, or round steel is used instead of octagonal bars. The picks, however, are more heavy and clumsy than ours, and are not so well mounted. There is no wood so well adapted to the purpose as our hickory, and in no other country is so much pains taken, as with us, in fashioning the handles of common tools. Some turned pick handles from Australia, made of the hard woods of that country may be cited as an exception.

The various mining costumes sent may be appropriately noted here; although a description is impossible. In the Chilean section the heap of copper and silver ores was

permanently presided over by a figure of a miner with one foot resting upon a block of the ore. In the Austrian section two figures displayed the peculiarities of the German miners' dress, including, of course, the fanciful cap and the leather apron placed behind. In the Park of the French section a complete miner's cottage gives a view of the home comforts of the French collier, and at the same time serves the purpose of exhibition of the great variety of coal mining tools and lamps placed around the room.

### ROCK DRILLING MACHINES.

There is more of novelty under this head than any other. We find machines for drilling holes, driven either by the force of compressed air, or by water, under pressure; machines to drill one hole or to drill several at the same time, or to cut an annular groove or channel around a central core of iron opening tunnels. To describe all these machines would be to give you a long chapter of the experience at the tunnel of Mt. Cenis. The machine of Gen. Haupt has attracted much attention here and in England, and was noticed by the General himself, at the recent meeting of the British Association at Dundee. He claims to have achieved a perfect success in the application of steam to tunneling, and he makes out a very strong case against the advocates of compressed air, by showing what an enormous force is required, to force it to great distances in pipes of ordinary diameter. He proposes to mine in true military style by throwing up breastworks in front of a blast, so that the miners need not loose time by retreating at the word "fire," but stand and face the shots like heroes. This may suit military miners, but it will be a long time before we can find any better and cheaper protection than a cross-cut or side drift.

The drilling machine has been tested in Cornwall this summer, but is said not to have given the expected satisfaction to the Cornishmen.

In the Swedish section, we may see the boring machine of Bergstroem at work upon a mass of hard iron ore. It is said to be in successful use at the Perseberg iron mines of Sweden, and to have replaced hand labor in drilling, with a saving of 20 to 25 per cent. in cost. This machine is worked by compressed air, weighs only 122 pounds, and costs about \$100. It is small and compact, and is supported in place by set-screws bearing against the top and the bottom or the sides of the tunnel.

The Swedish machine is the most portable and compact which has been shown, but we are promised something still better by Darlington, of England, who will use the pressure of a column of water to operate the drill. His machine will be shortly introduced to the notice of California miners, and it has this great recommendation for them that it is very light and cheap, and is to be operated by water alone, and does not require any engine or expense for installation.

In the French section, Messrs. Huet & Gayler show a perforator which operates upon the hardest rocks by means of rough diamonds set firmly in the end of a long, hollow cylinder, about as large as a gun barrel. The cylinder thus armed, is made to revolve rapidly and is brought against the rock by the pressure of water. The diamonds at the end form a kind of "crown saw," and they cut the rock, whether limestone, sandstone, granite or flint, into powder. This is removed by a constant stream of water, which at the same time keeps the drill cool. An annular channel or opening is thus made in the rock, and the central core of rock passes into the hollow of the drill, and breaks out when the drill is withdrawn. The diamonds last a long time before they show wear, and when

they lose their cutting angles they are turned over in the setting. The tip of the drill in which they are set is attached to the cylinder by a bayonet joint, and can thus be changed with facility.

### COAL CUTTING MACHINE.

A machine is shown in the English section for under-cutting coal beds or blocking out masses of coal. It is operated by compressed air, and will cut a channel only two or three inches wide, and two feet or more in depth. It is said to be in successful operation in England, and to effect a great saving over hand labor, not only in work, but in coal also, as there is not so much waste.

Paris, Sept. 25th, 1867.

CO-OPERATIVE ASSOCIATION.—We would call the attention of our readers to the advertisement, in another column, of the Co-operative Union Association, located at No. 115 Sutter street. This Association has been founded for the purpose of enabling its members to obtain their groceries and provisions at the nearest approach to wholesale cost, by saving the profits of the "middle men," which often constitute an important percentage in retail prices. Co-operative associations, of various kinds, have become an important feature in the commercial and industrial history of the day. When properly organized and conducted, they are generally found advantageous to those interested in them. They afford the most legitimate and only efficient means for settling differences between labor and capital. While the "strikes" of the last few years have cost the working men of this country and Europe millions of dollars and indescribable misery and suffering, to say nothing of the bitterness of feeling engendered between the employer and employe, co-operative associations have multiplied, almost without number, and in almost all instances have been productive of good, and good only. Capital itself has in numerous cases recognized the beneficial influence of the principle, and entered into friendly alliance with labor to mutual benefit, both pecuniarily and socially. The workingmen of this city would be greatly benefited by discarding most of their present advisers, who are usually influenced by political or private considerations, rather than the good of those they affect to serve, and following the advice and example of the more considerate, better informed and less selfish co-operative writers of England and the Atlantic States.

PATENT SOLICITOR.—We would direct attention to the card of Dr. Daniel Breed, of Washington, which will be found in to-day's issue. We have had the pleasure of a brief acquaintance, only, with the Doctor, but can say he certainly promises well. It is the practice of at least one scientific journal in the Atlantic States to refuse to notice, or even advertise competing patent agents. That is not our rule, however, and we cheerfully give this notice to our Washington friend and competitor.

OVER THE SUMMIT.—The rails are now being laid through the summit tunnel, and the first passenger train, which will carry an excursion party, will be made early next week.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

### The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER THREE.

#### THE REDUCTION OF CHLORINATED SILVER ORES WITHOUT MERCURY

DR. PERCY'S, or, as it is sometimes erroneously called, VON PATERA'S, method. About 1840, owing to a considerable importation into England of native chloride of silver from Chili, Dr. Percy, the present Professor of Metallurgy at the School of Mines, London, proposed the method of leaching out the chloride of silver by means of the hyposulphite of soda, but I am not aware that any one proposed to introduce this method into practice, by acting on chlorinated silver ores artificially produced in the manner already described, until Von Patera adopted this method at the Joachimsthal mines, and subsequently employed on copper mats at Eiselhen and Freiberg. No known substance has the effect of converting the insoluble chloride of silver into a soluble form so economically, and at the same time efficiently, as hyposulphite of soda; and, in expert hands, it is a most effective agent. The precipitant employed to eventually obtain the silver so rendered soluble, is the five-fold sulphide of sodium.

Some have recommended this process for adoption on this coast, and certain parties tried the same and failed in Lower California. The latter, not so much on account of any inherent defect attached to the process itself, as being attempted upon ores not fitted for its employment, and under the direction of inexperienced individuals; in able hands it is a most elegant and effective method.

#### AUGUSTIN'S METHOD

Comes next under consideration. In this mode, also, the ore has to be chlorinated—the mode adopted being that of the ordinary Freiberg chloridizing process introduced by Gellert. In place, however, of using mercury for the purpose of obtaining the silver, a hot saturated solution of common salt is employed for the purpose, the silver contained in the argentiferous brine being precipitated by flowing through three vats, the bottom of each of which contains a layer of cement copper. The reader will perceive, by what has preceded, that, with the exception of the liqating method, and that associated with the reduction of the precious metals in association with lead, by means of its oxides or ores, all the methods for obtaining silver from the time of Medina, in 1547, to the year 1855, when Ziervogel first introduced the mode of extraction by the employment of hot water, that chlorinating by one means or another was essential to all.\*

#### PRELIMINARY TREATMENT OF LOW GRADE ORES PREVIOUS TO EMPLOYING ZIERVOGEL'S METHOD TO EXTRACT THE SILVER THEREFROM.

Before entering into technical details, it will probably not be an unacceptable piece of antiquarian information to many to mention, that the ore obtained by Ziervogel for his earliest experiments was procured from the same vein at which the father of Martin Luther wrought as a miner more than three centuries ago; the same vein also furnishes the largest amount of ore which is at the present time treated by the hot water method. The Mansfeld ores here alluded to, from which the silver is extracted by the above named method, are exceedingly poor in the precious metals, containing at the highest average not more than 2% per cent. of metallic copper and only 1-70 of one per cent. of silver. It may be well to here state, as the fact is most probably not known to

the bulk of readers, that the Mansfeld bituminous copper schists now under consideration possess a peculiar character, consisting, as they do very largely, of bituminous matter, which it is desirable should be got rid of to a great extent prior to subsequent treatment by the blast furnace. This is effected by:

No. 1.—*Roasting the Schists*, by burning it in heaps in the open air; which, when completed, is followed by

No. 2.—*Fusion of the Roasted Ore*, which is effected in a kind of blast furnace, called a *Brillen Ofen*, in which the roasted ore is mixed with any needful flux, concentration slags and fluor spar being those most commonly employed. The last named circumstance ought to be sufficient to convince the Stevens flux men of Boston that their boasted process is nothing new. In this stage of the operation, ore-furnace regulus (*Rohstein*) is obtained, containing from 22 to 33 per cent. of copper, which is now ready for

No. 3.—*Roasting of the Ore-Furnace Regulus*. This has been found from experience to be requisite, in order to obtain the most perfect results. This roasting is effected in kilns, (another pseudo invention palmed on ill-informed Californians) by which it is prepared for

No. 4.—*Fusion of the Roasted Ore-Furnace Regulus*. This final concentration is now always performed in a reverberatory furnace, the flux employed being quartzose ores, sand or ore-furnace slag. In the course of this last described operation, a concentration regulus is obtained which is generally composed of from 65 to 69 per cent. of copper, 6 to 7 per cent. of iron, 0.3 per cent. of silver, and the balance sulphur. When the concentration regulus is fully formed, the furnace is tapped and the regulus is allowed to flow into water, by which means it becomes granulated, and consequently of much more easy pulverization by the subsequent grinding process, which is requisite in order to prepare the concentrated regulus for the succeeding roasting or oxidizing process.

No. 5.—*Extraction of the Silver*. It may be mentioned that since 1831, with the exception of some parts of the Hartz and other European localities, silver ores have very generally been concentrated from their gangues, not by the ordinary aqueous methods, by employing buddles, etc., but by fire, by means of which a regulus is ordinarily obtained, constituting a chemical formula as follows, without the percentage proportions being given, viz:  $Fe S, Cu S,$  and  $Ag S$ , which has to be roasted until these compounds are first converted into sulphates (unless when the chlorinated mode is employed); this can only be insured by the roasted ore containing a sufficient supply of sulphur for this object and the free admission of oxygen during the operation. For this purpose, the well known double-bedded furnace is employed.\* The progress of the operation is carefully watched, and test samples from time to time withdrawn, in order to ascertain the progress made. This oxidized roasting is continued until the metallic contents of the furnace are converted into sulphates, and also, to some extent, into oxides, by the continuous action of an elevated temperature. This reduction from a sulphate to an oxide is found more particularly to take place with the sulphate of iron previously formed, which, from the combined causes above named, is the first to evolve its sulphuric acid and become converted into the per or red oxide of iron; the sulphuric acid so evolved doing good service, however, by aiding the conversion of the silver present into the desired sulphate. When the whole of the silver present has become a sulphate, the operation might be stopped, and the remaining soluble salts of silver and copper present removed by means of hot water, or, still better, hot water slightly acidulated. This would be the best mode in cases such as will generally occur with Comstock ores, if this process should ever be employed for their reduction, as the silver could be precipitated from the solution obtained by employing cement copper; which dissolved copper, as well as that leached from the roasted ore, could be recovered by again being reduced to cement copper by precipitation with iron.

I have thus deviated from describing the actual course now followed to a large extent in Germany, for the purpose of extracting silver, in order to illustrate how requisite it is, before forming any definite opinion respecting the prudence of adopting any particular method, of well weighing all the attending circumstances which may be connected therewith. Thus, in Nevada, the chief objects sought are gold and silver; the

\* It is in the furnace operations, as will be shown hereafter, that some of the chief improvements are to be sought. An ingenious friend has shown me how many inconveniences heretofore existing may be obviated by certain mechanical contrivances.

copper in the ore being scarcely of any account; on the other hand, with the ores reduced in no inconsiderable portion of German silver reduction works, the copper in the ore exceeds in value the silver to be obtained, and gold is not present. In consequence of the facts just named, at the European works alluded to, in place of leaching out the sulphate of silver at this step in the process, in the manner which I have previously indicated, (which would, on many accounts, be the most desirable mode, too lengthy, however, now to describe;) at Gotteshelohnungshutte, and other similar reduction works, a second stage in the roasting occurs, which is technically termed "the dead roasting," by which it is attempted to decompose all the sulphates, excepting the sulphate of silver; this last step being an exceedingly delicate matter, as will be hereafter noticed. By doing so, the sulphate of copper is converted into an oxide, in which form it is insoluble in the hot water which is employed to dissolve out the sulphate of silver; the former consequently remains in the roasted regulus so desilverized. After which, the highly cupiferous mass which remains, is smelted for black copper, and subsequently refined. The soundness of the mode employed in Germany, when such ores can be treated as above described, is easily to be seen when a comparison is made of the value of the different products sought are compared—copper and silver—thus: the value of the copper contained in a ton of concentrated regulus will amount generally to \$350, whilst the silver in the same will scarcely reach one-half of that amount, or about \$170. In addition to this great difference, it may be mentioned also that as much nickel is obtained from the granulated refinery slag as about pays the cost of the subsequent stages required to procure fine copper from the desilverized concentrated regulus.

The difficulties which chiefly present themselves during Ziervogel's method, especially if the desilverized copper has subsequently to be smelted, arises from the necessity of decomposing the larger portion of the sulphates, excepting only the sulphate of silver, no part of which latter ought to be decomposed, nor its solubility in water diminished by prolonged calcination, for it is not only requisite to convert the whole of the silver present into a sulphate, whether originally metallic or mineralized, and to maintain it in this soluble form, but at the same time convert the martial and cupreous accompaniments into oxides or insoluble basic sulphates.

Another essential of success is, that it should be constantly kept in view, that, if the roasting is insufficient, a portion of the silver will remain in its mineralized condition as a sulphide, and if subjected to too high a temperature, metallic silver may be formed by the decomposition of the sulphate; in neither of which cases could the hot water act upon them. The water employed should be entirely free from chlorides, otherwise to the extent of their presence would the silver be rendered insoluble.

With experienced and well directed workmen, results are obtained by this method which approximate as nearly as possible to perfection as can be fairly looked for when operating on the large scale; provided, however, that the ore is of the simple composition above noticed. When, however, arsenic and antimony are present, the problem is more difficult, and if not removed at one or more of the earlier stages, insoluble arseniates and antimonates of silver would be formed. In such cases, the roasting has to be so conducted as to secure the volatilization of these obnoxious metals. This and many other points for the sake of condensation are here omitted. Those wishing to peruse a more detailed account are referred to the EIGHTH VOLUME OF THE MINING AND SCIENTIFIC PRESS, page 262, on which will be found a copious description of this method. It will be obvious to any one conversant with these matters, that any gold existing in the ore cannot be extracted by Ziervogel's method, without having recourse to a second operation for the purpose of procuring that result. Two other difficulties will readily occur to many, so far as this coast is concerned. First—How is the continued attendance of numerous expert workmen to be obtained? Second—In what manner is the presence of sulphur in the ore to be secured, so as to obtain the requisite sulphatization at any reasonable cost of fuel and labor.

CLEANSING TUBS OR STONE JARS.—Some young housekeepers may like to know how to cleanse tubs or stone jars. Fill them with hay (dry hay) and pour on boiling water; cover up immediately, and let it stand until they get cold, and the vessel will be found to be perfectly sweet.

[Written for the Mining and Scientific Press.]

#### Glacial Action.

EDITORS PRESS:—In your paper of Nov. 9th, there appeared a paper by Prof. Blake, translated from the French, on the origin of the Yo-Semite Valley; wherein he attributes the phenomena presented by the granite domes, in its vicinity, to ancient glacial action. To my mind, the true reading of the facts which he presents, leads to quite a different conclusion. Now, if the wavy and striated surface of those elevated summits is entirely due to ancient glacial, why is not the granite rough and weather-beaten like the surface of granite boulders which are but a few yards across? But, he says, "the view extends over an immense expanse of summits, all rounded off, and in a great part so highly polished that they glitter in the sun;" a fact, showing that the annual fall of snow, which is converted into granular ice, has the power to continue the polish over the broad surfaces which he supposes to have been originally polished by ancient glacial action. If the action of the great depth of snow can be supposed to continue the polished surface, why may not its rounded, wavy, striated appearance be entirely due to the same cause; since feldspathic granite, on account of the large amount of potash it usually contains, is the more readily acted upon by atmospheric agencies? Snow falls many feet in depth upon those elevated summits, each winter, which, by the action of the prevailing winds, is drifted into the gorges and other inequalities, forming an icy covering, (not the less potent because it does not continue through the year,) dragging with it detached particles of the friable rock, thus giving the surface an annual scouring.

When phenomena can be traced to ordinary, visible agencies, where is the necessity of referring them to causes outside of those already existing and in operation? I have observed that when the advocates of extraordinary ancient glacial action wish to exercise their imaginations, they always select certain choice localities, where the formation, owing to its chemical composition, is easily acted upon by disintegrating agencies. Why should they not also see evidences of ancient glacial action upon the surfaces of mountains which are composed of the more recent and refractory, intrusive and eruptive rocks, and upon the slates, since the altitude of such mountains is quite as great? The formation of Yo-Semite Valley, like the other cañons, some of them in rock much less susceptible to ordinary chemical action, upon the western flank of the Sierra Nevada, is, no doubt, due to the erosive action of water through long extended periods of time. F. A. H.

SCIENCE IN NAVIGATION.—The New York Herald says a plan has been broached for the establishment of a system of storm signals on the Cape Hatteras lighthouse, by which vessels in sight or hearing can be warned of storms prevailing elsewhere. A line of telegraph is proposed to run from Newbern to Hatteras, by means of which the lighthouse keeper can be informed of storms at any distant part of the coast, and thus communicate by signal flags or cannon the information to passing vessels, who, being forewarned, can be forearmed. It is well known that storms frequently prevail in one direction on the Atlantic while everything is calm in another. It is also proposed to extend these signals to Key West, Fort Taylor, Havana and other points, and it is stated that the expense will be very slight.

LEOAL QUIBBLES.—The Grass Valley National says that John Williams, a Cornishman who stole quartz specimens from the Rush Creek quartz mine, and who was convicted thereof in Sierra County, was released on bail on account of some flaw in the indictment, and will await the action of the next Grand Jury. This case illustrates some of the beauties and consistencies of common law, to wit: The prisoner testifies that he stole the quartz, told where and how he got it, which all went to prove that he did not steal anything. The law is that real estate cannot be stolen, and the counsel for prisoner claimed that the quartz was real estate if taken from the ledge and carried away immediately.

At Louisville, a few days ago, a locomotive was found in the Ohio, where it had fallen in 1864, while being taken over the falls in a flatboat.

A MILLION OF DOLLARS, in gold, weigh 4,479 pounds, or within a fraction of 2½ tons.



## Mechanical.

## The Structure of Iron.

It was made a great objection to the Bessemer iron, when that manufacture was first introduced, that its structure was *crystalline* rather than *fibrous*. The idea was then almost or quite universally entertained that the fibrous nature of iron was its chief element of strength. Later investigations, however, have completely reversed this theory, and proved, beyond a doubt, that the *fiber* of iron is really an element of weakness, and that the best and strongest iron is that which is the most perfectly crystalline.

The fallacy of the former theory grew out of the ignorance with regard to the cause of the "fiber" of iron. It has recently been ascertained that this fibrous condition is due to the presence, in the iron, of foreign matters which are taken up during its manufacture, and which prevent the proper arrangement or adhesion of its particles, however powerfully the metal may be compressed or however carefully it may be twisted, doubled up, etc. The effect of this foreign matter is similar to that which is obtained when a hermetically sealed glass tube is heated, drawn out, doubled up, twisted, etc. However much it may be wrought and worked, it will not part with the air it contains, which in the end will impart to the glass a fibrous appearance, weakening rather than increasing its strength.

A great number of experiments, made by both the French and English, on armor plates, shafts, etc., have definitely settled this question in the manner stated. The intense heat employed in the manufacture softens the scoriaceous matter, but never expels it.

Neither iron nor any other metal is absolutely solid. All are either fibrous or crystalline, and in all their conditions they have void places or cells between their angles or between their fibers. If it were possible to compress any metal into a perfectly solid state, its bulk would be greatly diminished, and its density proportionally increased.

The formation of the *cell*, in crystalline iron appears to take place in the process of cooling, under the double action of the repellent and cohesive forces inherent in the metal. Fluidity is first obtained by the introduction of as much heat as is necessary to properly overcome the cohesive force of the molecules; then in reducing the heat by radiation, the cohesive force again comes into action till an equilibrium is attained, and the mass solidifies into innumerable arches or spherical cells. Important modifications in the cellular formation are obtained as the mass is more or less rapidly cooled.

Fusion seems to be an indispensable condition for the prevention of a laminated or fibrous structure—it is the most ready, and, in fact, the only process by which the iron can be properly freed from its scoria or foreign matter; hence the very objection, at first urged against Bessemer iron, has now been proven to be its most important and useful element.

In iron produced by the Bessemer process, the after use of the roller or hammer imparts new and valuable qualities which cannot be obtained in iron which has been obtained from the ordinary puddling furnace. The one, as is fully proven by a careful examination with the microscope, consists of broken down cells—their angles simply reduced—and the cells elongated; the other presents the usual fibrous structure, once thought so essential to the character of a good iron or steel.

Of course care must be taken in the rolling or hammering of iron to see that a proper degree of heat is employed, for it is well known to those practically acquainted with the manufacture of iron, that a metal of the same degree of chemical purity may produce bars greatly varying in quality, accord-

ing as the heat at which it is worked is greater or less, or the rapidity or slowness of the cooling is regulated. Metal which, worked at the right temperature, will produce good iron or steel, if worked too hot will prove short or brittle.

**PUMPING HOT WATER FOR BOILERS.**—Owen Redmond, of Rochester, writes to the *Scientific American* on the subject of pumping hot water, one of much importance in regard to the safe working of steam engines, etc. It might be considered a matter of course, by many, that if a force pump of given dimensions will inject a certain volume of cold water into a boiler within a stated period and continue to do so uniformly, that the same pump will inject a like quantity of hot water in the same length of time. Mr. Redmond says:

"I am of opinion that somewhere about here lies the key to the solution of so many mishaps in the bursting of steam boilers, and that the explosions generally arise from the want of a sufficient supply of water by the force pump. My theory is that a force pump for water of a high temperature ought to have twice the capacity of that used to pump cold water when the volumes to be pumped are alike, because it is a fact that although water does not boil in an open vessel under 212 degrees, it is quite otherwise in a vacuum or a partial one. Hence, it does appear that in the case of hot water, the moment that the plunger forms the vacuum, just then, the hot water being relieved from pressure, forms into steam more or less and partially fills the pump chamber and thus prevents the regular passage of water through the valve. I therefore conclude that if the water to be injected is of a high and varying temperature its regular flow is not to be depended upon unless the pump be made sufficiently large to contain both water and steam in quantity at the same time, owing to its sudden transition from water, in the supply pipe, to steam, in the vacuum chamber of the pump."

**METALLIC VEGETATION.**—This new chemical toy is founded on the decomposition of a solution of silicate of soda and a metallic salt, such as crystallized chloride of iron, proto-chloride of cobalt, nitrate of uranium, or sulphate of protoxide of manganese. A tumbler having a flat bottom is first filled with silicate of soda of a density equal to 22° Baumé, and then small fragments of a salt are thrown in. After some hours, a miniature forest may be seen, variegated by remarkable forms and most brilliant colors.

**MAGNETISM USED IN MAKING IRON.**—The *London Athenæum* says among the many new applications of electro-magnetism to the arts and manufactures, is that of making it instrumental in the smelting of ore. A fixed electro-magnet is placed opposite an opening in the side of the furnace containing the metal to be smelted, and a current of magnetism is directed on the molten metal. The effect on the iron is said to be very remarkable, rendering it hard and tough. The process is carried on with great success at one of the most important iron works in Sheffield.

**CAST IRON CAR WHEELS.**—An English writer in the *Engineering*, says that wrought iron wheels of the best English make, have been tried again and again on railroads, and abandoned as not being equal in strength and wearing qualities to American cast iron wheels. The cast iron wheel is about one-half heavier than the wrought iron. The American truck wheels are chilled, while the driving wheels have Krupp's steel tyres.

**WATER PROOF OIL.**—W. R. Wyckoff of Ripon, Wis., exhibited at the recent American Institute, in New York, an oil of his manufacture which is designed to render leather water-proof, soft and pliable. It is claimed that leather treated with it will not mold, and that neither rats or vermin will attack it.

**COPPER TUYERES VS. IRON.**—Copper tuyeres have recently been found to last much longer, and to prove upon the whole much more economical than iron tuyeres, especially with hard water. In some experiments recently carried out, iron tuyeres lasted only for about six weeks, sometimes not so many days, while copper lasted for from ten to twelve months, in active use.

## Scientific Miscellany.

**ANIMAL ELECTRICITY A MYTH (?)**.—M. Schultz-Shallenstein has recently published some investigations made by himself with regard to the relation of electricity to muscular action, in which he comes to the conclusion that there is no such thing as electricity in healthy muscle. His novel and startling conclusions are formulated as follows:

1. The supposition that living muscle produces electricity is incorrect. If needles be plunged into the foot of a living animal and be placed in connection with a galvanometer, no deflection of the galvanometer needle occurs.

2. Muscles removed from the body give evidence of electricity, but this is because of the combination of the decomposing tissue with the oxygen of the air.

3. Salt water causes the galvanometer needle to be deflected. This explains why salted meat gives evidence of electricity.

4. The supposed electric current in the human muscle is solely caused by the salt water in contact with the tissue.

5. In deceased structures the electric current is derived from the decomposing tissues.

6. The electricity of the secretions is also derived from the decomposing tissues.

7. Animal electricity is an illusion.

The author has requested the French Academy of Sciences to appoint a commission to witness and report on the experiments upon which his conclusions are based.

**FLUORINE.**—Many attempts have been made to obtain this highly electro-negative element in an isolated condition, but without success. M. Prat now avers that he has isolated fluorine by heating fluoride of lead either with nitrate of potash or binoxide of manganese. The result of this operation is a gaseous mixture of oxygen and fluorine from this the oxygen is obstructed from passing the mixture over the heated oxide of barium. The binoxide of barium is formed while the fluorine is left in the form of a gas. M. Prat says it is colorless, and has an odor resembling chlorine. It decolorizes indigo; reddens litmus; fumes on coming in contact with air; gives dense fumes with ammonia; decomposes water as well as hydrochloric acid; unites with hydrogen in diffuse light, forming hydro-fluoric acid; and last, it combines with all metals, excepting, perhaps, platinum and gold. M. Prat's experiments are to be repeated before a committee from the French Academy of Sciences. He seems to have selected a most direct path to success by first obtaining a mixture of two gases, which, it is well known, do not combine chemically.

**ZINC PAINT.**—An improved metallic zinc paint has been invented by Messrs. Webster, Deane & Rumble, of Birmingham, England. They propose to take spelter and melt it in a suitable furnace, and raise it to about 800° Fah.; they then cover the molten metal with a flux of borax mixed with caustic of soda or chloride of ammonia, or other suitable flux, to prevent the action of the atmosphere upon the surface of the molten zinc; they then add thereto about seven to eight per cent. (or more or less) of finely-divided iron wire or scrap, agitating the whole with an iron rod until the whole of the iron or scrap particles are taken up by the zinc; they then add sufficient antimony to cause the metal to run freely from the furnace. When the metal thus prepared has cooled down it is next pulverized and ground, when it may be mixed with any oleaginous matter or varnish, and the metallic zinc paint results. When the paint is intended to be used for coating ships' bottoms or marine purposes, they add thereto 1½ per cent. or thereabouts, of vermilion or oxide of mercury.

**TO CEMENT STONE TO IRON.**—A German chemist gives the following formula: Six parts Portland cement, one part finely powdered lime, burnt, but not slacked, two parts sand, or part slacked lime mixed with the necessary quantity of water. The sand and iron should each be damped before cementing. In forty-eight hours the cement will be nearly as hard and durable as the stone itself.

**ELECTRICITY IN STEAM BOILERS.**—Dry steam has electric properties; when in a gaseous state it is a non-conductor of electricity. The electric discharges which may be obtained from dry steam, are supposed to attend the process of condensation. A small steam boiler, insulated upon a glass plate, and under considerable pressure of steam, may be made to deliver continuous electric flashes.

**THE INTERNAL HEAT OF THE EARTH.**—Dr. Julius Sebavarez read a paper on this subject before the British Association, in which he concludes that the different corollaries of the central-fire doctrine were not adequate to explain the different groups of natural phenomena for the sake of which these corollaries were deemed essential 50 years ago. He adds some suggestions as to how experiments should be made in order to ascertain the temperature of the earth at different depths, simultaneously in different quarters of the globe. Sir Charles Lyell said he was glad to know that the subject of underground temperature was to be taken up at the expense of the British Association. He had long been convinced that, so far as the evidence now goes, there is an increase of temperature very generally as we descend from the surface of the earth as far into the interior as we can enter, but it is a mistake to suppose that the best observations indicate a uniform increase. That, he believed, would be one of the results of the inquiry, but it would also be a great point to ascertain what was the amount of difference of temperature at different places.

**EXPLOSION EXPERIMENT.**—The *Paris Cosmos* describes an interesting experiment which may be new to many of our readers. A large bell-glass full of air is placed over water, and a stream of mixed air and hydrogen gas is slowly sent up through the water, so that each bubble of gas, as it escapes, meets the point of a Ruhmkorff coil, and is ignited by the spark. The result is not a sudden explosion, but a succession of lighted bubbles, which continue their course within the bell-glass, describing a series of curves. The effect is most brilliant when the experiment is performed in the dark, the small flames then darting about and crossing each other's track in all directions, give the appearance of a bell-glass filled with fire-flies.

**THE SLAUGHTER OF CATTLE.**—A series of experiments took place lately in Paris with a view to try whether cattle might not be spared the frightful tortures it is supposed they endure on being felled with sledge hammers. Physiologists had affirmed that the severing of the spine will strike the animal down as if by lightning, but the experiments have not corroborated this opinion. Oxen not only showed signs of life, but gave evidence of suffering for more than fifteen minutes after this operation. Experiments were tried on sheep and calves with a similar result.

**ANATOMICAL PREPARATIONS.**—Glycerine has been found to be a valuable ingredient in preventing putrefaction. The subject to be preserved is immersed in a mixture of fourteen parts of glycerine, two parts of brown sugar and one part of nitrate of potash, until a slight deposit begins to be formed in the bottom of the vessel. When removed from the solution the muscles and articulations are perfectly rigid, but they will recover their pliancy after exposure to warm, dry air.

The diameter of the earth, multiplied by one hundred and eight, gives the diameter of the sun; the diameter of the sun multiplied by one hundred and eight, gives the mean distance of the earth from the sun; and the diameter of the moon multiplied by one hundred and eight, gives the mean distance of the moon from the earth.

**THUNDER MADE VISIBLE.**—Dr. Töpler focalizes a ray of light on the object glass of a telescope, which is connected in such a way that any disturbance of the air becomes visible; for instance, the intense, sonorous vibrations of the atmosphere produced by electric explosion show themselves in the telescope as visible rings or circles of light.

**IMPROVED INSULATOR.**—A new insulator for telegraphic purposes has been brought out in Philadelphia, which consists in giving the ordinary sulphur and glass insulator a coating of paraffine; this being a thorough repellent of water, is found to make the insulator more perfect in wet weather.

A PERFECT LUBRICATING OIL should have just sufficient viscosity to keep the axle and bearing from coming in contact, should be unaffected in consistency by changes in temperature, should not be volatile, and should not change from chemical causes.

**THE COLOR OF MARS.**—Mr. Huggins, F. R. S., is of opinion that the color of the planet Mars, is not due to the peculiar absorption or other effects of its atmosphere, but that the color has its origin in the material of which some of the planet's surface is composed.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## RECENT INVENTIONS.

**A CARPET STRETCHER** is among the latest novelties of invention at the east. It was recently exhibited before the American Institute, at New York, when it was highly spoken of. It is for tacking down and stretching carpets. It is made of wood and metal; is about the size and length of a broom handle. A small tin pipe runs down along side of the stick to a small iron mouth at the bottom, where there is a spring hammer and a piece of iron with teeth which takes hold of the carpet. The operator stands, putting the tacks in the small pipe at the top, and placing the "teeth" on the edge of the carpet and stretching it as necessary, then pulls a string, the hammer goes down, and the tack is in. The machine is very simple, and costs \$4 at retail. This seems to be just the thing needed for housekeepers, who propose to let their carpets remain down longer than they should do, on account of the hack-breaking operation of stretching and tacking them down again. With this instrument, such work will be pastime. If it is not a "big thing on the carpet," it is certainly a valuable little one, and one which will call forth many thanks from weak-backed mothers and daughters.

## PATENTS RECENTLY ISSUED.

**70,121.—LIFE-PRESERVER.**—Reuel Robinson San Francisco, Cal.

I claim the frame, A, provided with airtight compartments, and a flexible case for the legs, body and arms, and having a seat, D, and opening, F, all substantially as described.

The object of this invention is to provide a life-preserver or boat for vessels, so constructed that it will not occupy the space required for freight or other purposes, and furnish to each person a simple and complete life-boat and armor combined, in which one having provisions can live at sea for an indefinite time, and so have a safe and ready means of escape from the ship in case of wreck.

To do this the inventor constructs a raft or float, of sufficient depth to give it the required buoyancy and strength, say six feet long by two feet wide, and four inches deep, more or less with water tight compartments. Through the center of this an opening is made about four feet long, sharp at each end, and twenty inches wide at the middle; in this raft is placed an armor to fit it, made of water proof material, about 20 inches deep, with a narrow piece or strip of wood or other material at the bottom. This armor is secured to the sides of the opening. Legs are attached below. Conveniences are affixed for paddling and receptacles for food and drink. It may be conveniently placed in the bottom of a berth, so as to not to occupy room which might be otherwise needed. The individual sits astride very much as if upon a saddle. As nearly the entire weight of the person is placed below the main bearings, it can be capsized only with great difficulty, and the person is readily adjusted again by his own specific gravity; being securely attached to the raft, by means of straps, etc.

**70,126.—GRAIN ELEVATOR AND FEEDER.**—Benjamin F. Sherman, San Francisco, Cal.

I claim, 1st, The elevator-feeder described, arranged at the lower end of the elevator, and operated by the gear, D, on the lower pulley-shaft of the elevating-belt, in combination with the gears, E, F, and G, so constructed and arranged that the feeder may be swung around in the arc of a circle to bring it to the grain to be fed to the elevator.

2d, Lengthening or shortening the saw-feeder by taking out or putting in the extension pieces, H' and H, substantially as described.

The object of this invention is to provide a feeder for the common grain elevator, so arranged that when the grain is removed by it, a sufficient quantity may be brought within easy reach of the common elevator, without the aid of man power; also so constructed that it may be lengthened and extended to any part of the storehouse or vessel.

For the accomplishment of this object, the inventor attaches to the ordinary elevator-case, by means of brackets, a yoke,

Through this yoke is placed a shaft, to which, by means of bevel-gearing, the elevator and his improvement are connected. Adjustable extension pieces for lengthening or shortening the feeder, are placed along each side of the case, which may be taken out or put in at pleasure. It is claimed by the inventor that with this improvement, much time and expense will be saved in discharging ships, as well as in emptying storehouses.

**70,130.—MEANS FOR PROPELLING VESSELS.**

R. R. Stevens, Mokelumne Hill, Cal.

I claim the combination and arrangement of the cams, D, D, and D', D', with the frames, H and G, and cranks, F and F', constructed and arranged to operate the paddles, P, as described.

The design of this invention is to provide a paddle or paddles for steam vessels, which shall combine a powerful means of propulsion, with the avoidance of the dead weight and lifting or hacking of water inseparable from the ordinary paddle wheels, and by which a large amount of power is lost.

To accomplish this object a frame of wood or other material is constructed at the sides of the vessel in which the paddles are placed, which consists of two smaller iron frames upon each side, supported by suitable shafts placed across the under frame, the two iron frames being connected by double eccentrics or cams, with crank shafts operating in gears. These cranks connect at each end to a double piston rod, the paddles being vertically attached to upright bars, which extend up through the iron frames.

The inventor, in making his claims, admits that vertical paddles are known, and that attempts have been made to use them in certain forms for propelling vessels; but by certain defects in their application to the machinery, and a want of parallelism and certainty of action, they have thus far been practically useless.

**70,101.—SYPHON PROPELLER.**—John Marquis, San Francisco, Cal.

I claim the propelling of a vessel by water raised to any height that can be acquired by means of steam or hot-air siphon, or its equivalent, the fall of the water from the height being the propelling power, either by its own weight or velocity, or pressure, substantially as described.

The design of this invention is to provide the means of propelling a vessel through the water without the aid of the ordinary steam engine, paddles and machinery now in use; and consists in elevating the water to a certain height above the water line of the vessel, and allowing it to descend upon the surface of the water in the vessel which floats. In order to accomplish this, the inventor employs a steam-siphon, consisting of a pipe placed transversely across the vessel, abaft of midships, with radial arms attached to each end, and extending down upon each side of the vessel, to near the surface of the water. A vertical pipe is attached to the transverse pipe near the center, which descends to the water through the vessel, passing through an inverted trough above the keel, an opening or well being made in the bottom of the vessel, corresponding to the size of the trough. In front of the vertical pipe is placed the engine and boiler for steam or hot air of sufficient capacity for operating the siphon. A small pipe leads from the boiler or hot-air chamber of the engine to the vertical pipe, regulated by a valve or valves. The vacuum created will raise the water to the desired height, and it will descend in the opposite direction by gravity, with a force equal to its height and velocity. The principle is similar to that employed in the late English experiments on the Water Witch; with the important difference in its application, that Mr. Marquis employs direct action of steam through a steam siphon to raise the water, while in the Water Witch experiments a turbine wheel was used, necessitating the employment of a steam engine. No engine is required by Mr. Marquis' plan—all that is needed is a boiler and a few feet of steam pipe.

**IMPORTANT TO INVENTORS.**—Young's patent for distilling coal oil, was opposed on the ground that the process had long been known in laboratories, where it was often practiced on a small scale as a mere experiment. It was decided that such use was no bar to a patent, inasmuch as Young was the first to make it a really practical process, and of value to the public.

## American Mining Machinery in Europe.

AN AMERICAN ROCK DRILLING MACHINE TAKES THE HIGHEST PRIZE AT THE PARIS EXPOSITION.

The depressed condition of the mining interest in Great Britain, growing out of the great depth at which explorations have to be made there, the recent general movements for the advance of wages, and the important mining developments now being made in this country, has of late greatly exercised our English consuls. Prices of stocks have fallen, very materially, and destitution and dismay are beginning to appear in many sections of the mining region.

In casting about for relief, there appears to be no prospect of deliverance from the impending disaster, except in the introduction of new and improved machinery, to reduce the cost of mining. Proceeding upon that supposition, the English "Miner's Associations," acting in concert with others equally interested, sent two of their most competent experts—Dr. C. L. Foster and Mr. Chas. Fox—to examine and report upon the mining machinery which should be exhibited at the Paris Exposition. These gentlemen were also instructed to visit such other localities as would be likely to furnish them with practical information with regard to the object of their mission. In accordance with the latter instruction, Dr. Foster visited the mines of Sweden, and Mr. Fox went to Mount Cenis to examine into the working of the tunneling machinery employed there. The result of their examinations and conclusions have not yet been made public.

One important fact, however, in this direction, has been brought to our notice, through a correspondent of the *American Artisan*, writing from England, which will doubtless also find a prominent place in the report of the experts above alluded to.

It appears that the United States, was unofficially represented at Paris in this particular, by General Herman Haupt, of Philadelphia, who took over and exhibited a machine and system of mining, which was placed in the Exhibition in competition with the best machinery of Europe. The result of this exhibition was that the American General carried off the highest prize in his line of exhibit, with an expression of opinion from the judges that his machine and system of mining was not only the best, but the only one that was applicable to all kinds of mining, shafting and tunneling operations!

In addition to the above, we are further informed that the fame of this American machine had been brought to the notice of a Mr. Loam, a practical mining engineer of great reputation in Cornwall, who went to Paris especially to examine Gen. Haupt's machine. He appears to have expressed much confidence in the same after his return, and declared that "that American machine will work anywhere."

Be that as it may, there is no doubt but this "American Machine" has carried off the highest honors over any other machine known in Europe, not forgetting the famous machinery which has been so long employed at Mount Cenis. We infer that the machine especially referred to is a drilling machine, of superior construction and efficiency, capable of being applied to working either in hard rock or for cutting out coal. [This machine is referred to in the letter of our Paris correspondent, which appears to-day, received since this article was written.]

The peculiarities of the machine appear to consist in its lightness and small size, and the facility with which the drill can be changed and the machine itself operated. The cylinder, which gives the reciprocating movement is stationary, while the drill tool advances, the feed being automatic. The drilling engines weigh only about 125 pounds each; and three or four of these can be mounted on a pair of hollow columns, only four inches in diameter, placed ten inches apart, resting on a base only eight inches in diameter, and fixed firmly in the rock by

two large and stiff screws, arranged much like jack-screws.

It does not appear that the machine has been introduced to any extent into use in the United States or elsewhere, although it is somewhat known at the East. It is said that it would have been introduced into the Hoosac Tunnel, but for some personal antagonism between the inventor and those in charge of affairs there. We have made arrangements to learn further particulars with regard to this invention, and hope soon to be able to lay something further, with regard to it, before our readers.

**NEW RELIGIOUS PERIODICALS.**—We have before us the prospectus of "THE OCCIDENT," the first number of which will be issued by H. H. Bancroft & Co., as publishers, January 3d, 1868. This paper is to be established as the especial organ and representative of the Presbyterian organization on this coast. It will be published weekly, under the editorial management of Rev. James Eells, with Rev. E. B. Walsworth, as associate.

"THE SPARE HOUR," is the name of another religious periodical, the initial number of which will make its appearance about the 10th of December. It will be under the editorial charge of Rev. H. A. Sawtelle, and will be published as the organ and representative of the Baptist (open communion) interest on this coast. The open communion Baptists, as they are called, are identical in practice and belief with Mr. Spurgeon, and the great mass of Baptists in England, and differ from the regular Baptists only on the point of communion—the former communing with all evangelical churches, while the latter commune only among themselves.

**RIGHTS OF STOCKHOLDERS.**—Two cases were recently brought before Judge Sutherland, of the N. Y. Supreme Court, involving the right of stockholders to inspect corporation books, a privilege denied by the officers. In both cases the court granted its writ of *mandamus* commanding the officers to submit the company's books (leave to examine stock was prayed for) for inspection. The Judge intimated that the right of a shareholder to examine the books of his company existed at common law in the absence of any statute.

MR. C. T. RANEY, of the Railroad Depot Book and Periodical Store, Sacramento, is our duly authorized agent for that county. Members of the Legislature, and others who may wish for copies of the PRESS, will find a supply at the above place constantly on hand, in convenient wrappers for mailing.

It is said that an American house recently sent 500 hoop skirts to Japan, as a venture. The Japs put a cover on them and use them as umbrellas.

MARKET STREET HOMESTEAD ASSOCIATION.—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15f

BUSINESS NOTICE.—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

JACOB SHAW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street), takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14f

SECRETARYSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15f

CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions twenty per cent. cheaper than ever before, and the very best articles in market. The store is located at 115 Sutter street, Lick House Block. 2v15f

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with *pearl cement*—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v14f



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, November 30, 1887.

CITY STOCKS.

Transactions in city shares have been quite limited during the past week. We note sales of Pacific Insurance Co. stock at \$116 per share, and California Steam Navigation Co. at 7 3/4 cent. Sutter Street Railroad sold at \$20. At the close considerable sales of San Francisco Gas Co. and Spring Valley Water Co. were made at \$66 and \$91.50 respectively, the latter closing at \$90.50 seller.

We are informed, says the Bulletin, that the People's Fire and Marine Insurance Company, recently incorporated with a capital of \$100,000, having complied with the law by calling in twenty-five per cent, or \$25,000, will commence the issuance of policies on Monday, December 2d. The general officers of this company are as follows: President, C. F. McDermott; Vice President, John H. Wise; Secretary, John Fowler; General Agent, J. G. Taylor. This organization will swell the number of our local insurance companies to eleven, having an aggregate capital of \$5,700,000.

The receipts of the local insurance companies during the first ten months of 1887, according to the returns made to the Internal Revenue Department, have been as follows:

Table with 3 columns: COMPANIES, October, and Total. Lists various insurance companies and their respective earnings for October and total for the year.

The returns were made upon a ledger basis, the rate being fixed every month by the Collector of the district, as follows: In January, 7 1/2%; February, 5 1/2%; March, 5%; April, 5%; May, 7%; June, 7%; July, 7 1/2%; August, 7 1/2%; September, 7%; October, 7 1/2%.

The aggregate increase of receipts in October as against September is \$1,767. The receipts of the several companies in October as compared with September, show the following difference:

Table with 3 columns: COMPANIES, Increase, and Decrease. Shows the change in receipts for various companies from September to October.

From the foregoing statistics it will be seen that the more business our insurance offices do, the greater will be their loss. Let us exemplify. The publication of a penny newspaper accomplishes a general good; but it is obvious that if the paper cost three quarters of a cent, and the printing, pressing and other expenses involve three quarters of a cent more, the publisher is out of pocket one half cent for each paper circulated. But this loss is made up by more extensive circulation, and the greater inducement for advertising patronage, which is relied upon as the only profitable resource of the journal. This resource does not exist in insurance offices, and if they continue to do business at present rates, where is their "advertising patronage" to come from? It is quite evident that the company which does the least business is best off, at the present writing. The low rates, the high risks, and the rule or ruin competition which has been inaugurated are fast sapping the foundations of our staunchest and most reliable insurance companies, without giving better guarantees to property holders, or affording as sufficient safeguards against the wanton and criminal destruction of their property. While admitting that competition is the "life of trade," we can not reason ourselves into the opinion that the adage holds good in all cases. The insurance business is exceptional, and can not be "run into the ground" with profit to the parties undertaking that exploit, or benefit to the insured.

The receipts of the city railroads for the month of October, and previously this year have been as follows:

Table with 3 columns: October, Previously this year, and Total. Compares October receipts with the same month of the previous year and the total for the year.

The aggregate increase of receipts in October over September is very small, amounting to only \$624. The difference of the income of the several companies in October as compared with September is as follows:

Table with 3 columns: Increase, Decrease. Shows the change in receipts for various companies from September to October.

Although the several city railroads are in a prosperous condition, no dividends have been disbursed for some time, the North Beach and Mission road so late as August last, and the Omnibus and Central companies in September. Constant improvements and extensions have been a heavy drain upon their surplus earnings.

The State Board of Examiners, at their meeting on the 19th of November, in Sacramento, opened the bids for the sale of California State Bonds. The proposals were as follows: Woode & Chosman, \$6,000, at 93 cents; L. H. Fuller, \$1,000, at 90 cents; L. & S. Wormer, entire amount, at 98 cents; Joseph S. Paxson, of San Francisco, at 95 cents. These bids were all for the face value of the bonds, exclusive of accrued interest. The Board awarded to L. H. Fuller the amount bid by him, and to Joseph S. Paxson the balance of the amount advertised for. The amount of money on hand yielded bonds as follows: For State School Fund, \$20,000; for Seminary Fund, \$2,500.

Mining Share Market.

The general list of mining stocks during the past week shows a very material appreciation over prices that have ruled for some time past, the upward tendency having been gradual and without any undue excitement on the part of speculators. The enhanced value of Imperial seems to have been the initiatory step towards a sympathetic feeling; however, the intrinsic merits of the advance is warranted in a number of cases. All things considered, the present condition of the mines on the Comstock Lode is much better than was anticipated less than a month ago.

CROWN POINT—was in better request, advancing from \$30 to \$70, receding to \$50, and closing at \$53.5. The latest advices state that in the north drift, on the 700-foot level, they are nine feet in the face from where they cut quartz and pay ore on the 22d instant, and now continue in quartz with spots of pay. It is said that about seven feet of the ground will yield \$35 per ton at the mill. The south drift runs in porphyry and quartz.

HALE & NORCROSS—continues to be well maintained, selling at \$300 per share, and closing on Wednesday at \$291. The vein running toward the Savage ground, fifty feet below

the 700-foot level, is about ten feet wide, and produces an average yield of \$34 to the ton. The general average product of this mine during the current month runs a little less than \$40 per ton. At a meeting of the stockholders of this company, held on the 27th instant, seven hundred and twenty-four out of the eight hundred shares being represented, it was unanimously voted that the value of the shares be increased from \$50 to \$100 each, making the capital \$1,000,000. This increase will enable them to levy a larger assessment—which will be done very shortly—than could have been made with a capital of only \$500,000.

KENTUCK—has been somewhat inactive during the period under review, closing at \$14 to \$15. It is estimated by parties experienced in mining that this west body of ore, mined as it is the present month, will last for eight months. The future of the mine, however, dependent upon the east body, particularly by the Crown Point and Yellow Jacket Companies, and lying about four hundred feet to the east of the Kentucky shaft. The lowest level of the Crown Point, 600 feet in three hundred feet below the lowest level of the Kentucky; and the north drift in the former mine is being run jointly by the two companies, and on the dividing line. According to the report of the Superintendent of the Crown Point, the vein in the 22d instant, ran through ore in this drift which, if concentrated, would make a compact body of eleven feet; since which time the drift has improved in going east, and is now in pay ore. This east body of ore, at the 150-foot level, is estimated by parties experienced in mining that this west body of ore, mined as it is the present month, will last for eight months.

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The Secretary submitted the following report, extending from November 1st, 1885 to November 21st, 1887:

Table with 2 columns: Receipts and Disbursements. Shows financial details for the period from November 1st, 1885 to November 21st, 1887.

One statement from May 1st to November 1st, 1887: Tons worked, 15,844 1/2; average yield of hullion per ton, \$43.86; average cost of mining and milling per ton, \$24.72; average net yield per ton, \$19.14.

SAVAGE—continues to be actively dealt in and at better prices, advancing to \$112.50, then selling at \$108.50, and closing at \$104. The ore is said to be better than the ore extracted during the past six weeks as compared with the following information:

Table with 3 columns: Date, Tons, and Value per Ton. Shows production data for Savage mine from November 23rd to October 19th.

The north mine, on the third instant, continues to produce the largest amount, having yielded 885 tons of the aggregate reported for week under review. Dispatches of the 27th state that the south drift, on the fourth instant, passed the 200-foot level, and is said to be better than the ore to the south to reach the drift from the winze. In the east drift, from same winze, the ore is said to be fourteen feet wide. It is reported that all parts of the mine have generally improved in quality.

CHOLLER-POTOSI—met with moderate sales at \$120@121, rose to \$123 and closed at \$123. The ore is said to be better than the following information: On the third instant a shaft, at the south end, a fine body of ore comes in; it is said to be thirty-five feet wide, showing large assays. The deposit is in the 300-foot level, and is said to be better than the ore toward a large body of ore. The old mine yielded 1,700 tons of ore during the week ending Nov. 22d, and 1,647 tons were sent to custom mills during the same period. On the 24th inst, 268 tons were ordered to custom mills.

IMPERIAL—is in marked favor, advancing from \$188 to \$194, then selling at \$184, and closing at \$175. The bullion receipts during the current month—three shipments from Rock Point Mill and one from Gold Hill Mill—amount to \$25,368. The mines of this company have yielded a total of ore of 100,000 tons. A test has been made of the machinery at the Imperial-Empire shaft, and everything is found to work satisfactorily.

OVERMAN—declined from \$49 to \$43, rose to \$46.50, and closed at \$45. On the 24th inst. they commenced drifting at the 300-foot level, and a smaller quantity of ore is now extracted, and of an inferior quality. The receipts of bullion so far this month aggregate about \$7,000.

GOLD HILL QUARTZ—advanced from \$110 to \$132.50. YELLOW JACKET rose from \$405 to \$315, closing at \$290. ALPHA is quotable at \$400 per foot. An assessment of \$10 per share, or \$40 per foot, was levied on the 15th instant.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions, since the 22d instant, amount to \$284,070. The sales in the open session amounted to \$188,864, showing a combined aggregate to date during the past week of \$1,082,934.

IMPROVED BOILER-MAKING.—Unusual interest is manifested in our Eastern cities in various improved methods of constructing boilers for generating steam economically. Messrs. Conner & Bros., at Wilmington, Delaware, are manufacturing, under their own patent, a very compact boiler, consisting of coils of tubes placed near the furnace, connected with upright tubes in the upper portion, so arranged as to cause a free circulation of water, and greatly economize the heat with perfect security. An engraving, which is necessary to illustrate the device, may be given in a future number.

DR. LIVINGSTONE ALIVE.—Late telegraphic advices state, on what appears to be perfectly authentic evidence, that the distinguished African explorer, Dr. Livingstone, is still alive and prosecuting his researches with as much energy as ever.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.)

Containing the Names of Companies, District or Name of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Large table listing mining companies, their locations, assessment amounts, and meeting dates. Includes companies like Alpha, Bullion, Crown Point, etc.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table of stock prices for various companies and bonds, including United States 7 1/2% Bonds, California State Bonds, etc.

GAS COMPANIES.

Table listing gas companies and their stock prices.

RAILROADS.

Table listing railroad companies and their stock prices.

BANKING INSTITUTIONS.

Table listing banking institutions and their stock prices.

INSURANCE COMPANIES.

Table listing insurance companies and their stock prices.

MINING STOCKS—WASHER DISTRICT.

Table listing mining stocks in the washer district, including Alpha, Bullion, etc.

San Francisco Market Rates.

Wholesale Prices.

Table of wholesale prices for various commodities like flour, sugar, etc.

GROCERIES, ETC.

Table listing grocery items and their prices.

Table listing various goods like Do. Rio, Tea, Japan, etc. and their prices.

Retail Prices.

Table listing retail prices for items like Butter, Cheese, Eggs, etc.

New Incorporations.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

GARDENVILLE HOMESTEAD ASSOCIATION.—San Francisco, Nov. 21st. Capital stock, \$36,565; 103 shares, \$355 each. Trustees: Henry F. Williams, Samuel Gilmore, J. Fisher Smith, H. S. King and C. F. Parker.

ELECTION OF OFFICERS.—GARDENVILLE HOMESTEAD ASSOCIATION.—San Francisco, Nov. 21st. Samuel Gilmore, President; C. F. Parker, Vice-President; Henry F. Williams, Treasurer; and A. S. Gould, Secretary.

SHOEMAKERS' CO-OPERATIVE UNION.—San Francisco, Nov. 23d. W. F. Mcagher, President; James Beech, Vice President; Elliott Wescott, Secretary; John Kinsella, W. F. Mcagher, J. Hogan, A. B. Pinstone, James Beech, Trustees.

QUAIL HILL M. & WATER CO.—San Francisco, Nov. 23d. Trustees: George W. Beaver, A. J. Poss, W. E. Dean; President, George W. Beaver; Secretary, T. W. Colburn; Superintendent, Shorman Day. Office, 402 Montgomery street.

Valuable Books on Mining, Mineralogy, Geology, Metallurgy, Etc.

Large table listing various books for sale, including 'ANSTED'S Gold Seekers Manual', 'ANTISELL—The Manufacture of Photogenic or Hydro-Carbon Oils', etc.

DEWEY & Co., Mining and Scientific Press Office, San Francisco. 14713-14mf



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Nov. 16th: The plan of operations at the Morning Star mine will be radically changed, and a shaft sunk upon the ore deposit now opened, 100 ft.

The north drift in the Tarshish mine is now in good ore, and promises well.

The Glohe Co. on the Hercules lode are pushing their tunnel ahead.

Large quantities of rock from the croppings of the Leviathan Co's mine exhibits true gold-bearing indications. Some of it, pulverized, gave several colors to a pound of rock.

*Chronicle*, Nov. 16th: The last steamer brought out the agent of the Imperial Silver Quarries Co. of London, and work will be commenced before long on the Michigan Tunnel.

## Amador County.

*Ledger*, Nov. 23d: Mining in Alpine county is at last to be commenced in good earnest. We notice that several capitalists have recently arrived there from the East and Europe, who will at once commence vigorous operations.

*Dispatch*, Nov. 23d: The astrata at French Hill is able to crush three tons of rock in 24 hours. The first clean up, on ore from Brumel & Lockwood's claim on the Mother Quartz lode, paid \$9 per ton.

## Butte County.

*Oroville Record*, Nov. 23d: Copper ore of a very rich quality has been struck in this county, and from the specimens now on our desk, it is unexcelled in richness by any in the State.

## Calaveras County.

*Chronicle*, Nov. 23d: Bates, Redfern & Co. are prospecting a very promising lead in the Middle Bar District. Wesson & Co., whose claim is located in the same vicinity, are progressing rapidly in its development, and obtaining the most flattering prospects. The mine of Alexander, Seavers & Co., upon which a 10-stamp mill has been erected, is paying handsome dividends. Staples, Norton & Co., who have purchased a claim on the old Rich Gulch vein, are making preparations for the erection of a 20-stamp mill. Mitchell & Co., located at the junction, have contracted for the hauling of 100 tons of rock to the French mill at Rich Gulch.

At Railroad Flat, Hephurn & Co's mill is crushing some of the richest rock ever discovered in this part of the State.

The West Point correspondent of the San Andreas Register of Nov. 23d, says: The mining prospects of our district continue good. The Casner Bros. have just got into the Zacatara mine with their lowest tunnel, which taps the mine 140 feet below the surface. At this depth the ore is much richer than any hitherto taken from the mine—prospecting \$150 to the ton in free gold. At the Gouldson mine, they are taking out a large quantity of rich ore. Mr. Lasey expects to have his chlorination works in operation by the middle of next month. In the meantime he is vigorously prosecuting work on his mine at Valentine Hill, and is raising a large amount of ore. Widderholt & Co., on Soap Root Gulch, are sinking on their mine, which will in a short time pass into the hands of a San Francisco Co. Sixteen hundred pounds of ore from the Heckendorn mine, at Blue Mountain, crushed by White & Bro., at the Harris mill, last week, yielded at the rate of \$20 per ton in free gold, working through a common battery, and \$26 per ton from the tailings, worked through White's Aetna Calcining Furnace, making a total yield of \$46 per ton.

## Mariposa County.

*Mail*, Nov. 23d: Mr. J. Hambleton has purchased the Guadalupe mill and premises. He has reconstructed the mill and built a new water wheel of 29 feet 5 inches diameter, which will run a battery of four stamps, and arastra.

The mining interests of Coulterville are in a promising condition. McKee & Flanagan, on Bean's Creek, will start their mill within the week. This is a new mining enterprise. They have ready for crushing about 600 tons of ore. They have a mill of eight stamps. Peter Wyuants, on the North Fork of the Merced, is completing a new mill, to be run by water-power. The machinery will start within a week or ten days. Mr. Coward is putting up a 10-stamp mill on the same stream, which is nearly ready to work. The Coulterville Co. are sinking on the main lead, and are down 70 feet. This company proposes to erect a mill if the rock holds out. The French Co. are sinking on the Malvina vein, and are down 180 feet below the tunnel. The rock found and taken out promises to pay well.

Ores from the Josephine and Pine Tree mines which, under the old processes, yielded \$10 per ton, are now yielding, at the Bear Valley mill, under the Ryerson Dry Crushing process, \$40 to \$75 per ton.

## Nevada County.

*Transcript*, Nov. 22d: The storm has supplied the miners in every part of the county with plenty of water for washing, and unless we have a very long interval between this and the next rain, the mining season may be considered fairly commenced. The season opens more auspiciously for miners than any previous one for many years.

The North Bloomfield Gravel Co. are running a tunnel and deep cut for the purpose of opening a gravel range near Bloomfield, and they are working out their ground as the tunnel progresses.

Yesterday the Sprug Slide Gravel mining claim was purchased by Mr. Ragon by Dr. Farnham for \$21,000. The claim is located on the north bank of the North Fork of Deer Creek and about 11 miles north of Nevada. He will immediately open the ground which he has purchased and commence washing this season.

Nov. 23d: The Brown claim at You Bet, which was offered last spring for \$40,000, cannot now be bought for \$100,000. The average yield is \$2,500 per week.

Nov. 24th: Osear Maltman has recently greatly improved his sulphuret works, on the Grass Valley road. He treats sulphurets by the chlorine process, and has been exceedingly successful with all classes of sulphurets. The capacity of the works has heretofore been only about eight tons per week, but he is now building a furnace which will easily reduce 18 tons per week.

*Gazette*, Nov. 21st: A clean up of \$5,000 was made in the San Joaquin claims, at Birehville, on Saturday last, after a run of two weeks. The ground is now being worked by a party of Chinese, who have made a conditional purchase. They use 350 inches of water.

The Eureka Mining Co. have just declared a monthly dividend of \$20,000, carrying over a surplus of \$30,000. The North Star Co. have declared a dividend of \$10,000.

A company has been formed and arrangements perfected to run a tunnel into Gold Ridge, the main divide between the sources of Bear river and the South Yuba. The tunnel will start in near the head of Scotchman's Creek, and the projectors expect to have to run 300 ft. to get through the rim rock.

Nov. 22d: Remarkably rich prospects are now being obtained in the gravel claim of the Chalk Bluff Fine Gravel Co. near the Cascades. They find considerable coarse gold, nuggets having been picked up on the bed rock of the value of \$5. At no distant day they will be compelled to erect one or more mills to crush the cement, but the loose gravel will be washed in sluices and the tailings will be saved and re-worked another season. In the claims of the Red Diamond Co., near by, the prospects are equally as favorable.

The new mill of the Norridgewoek Co. is completed, and was started in operation last Tuesday. The mill has 10 stamps, and the machinery works finely.

Grass Valley National, Nov. 21st: Prospects in the Slate Ledge, between Perrin's crossing of Wolf Creek and Forest Springs, are flattering. One hundred and fifty tons of rock from Oshorue Hill, being crushed at the Orleans mill, will yield between \$80 and \$90 to the ton, and a crushing from the Union Jack mine at the same mill, yielded clear of all expenses \$23 per ton.

The Dromedary Co. have struck a ledge averaging from 8 to 15 inches in thickness, which in its general character gives evidence of being richer than anything yet struck in the mine.

Nov. 22d: Aaron Clark, picked up a specimen on Pike Flat, this morning, equal in value to \$100 in coin.

The miners are turning their attention to placer mining. Large sums of money have been taken from Alta Hill by the companies working them in times gone by, and we learn that Messrs. Early & Walker are now engaged in hydraulic washing the face of Alta Hill, and have a lead of gravel which bids fair to pay them handsome returns for their outlay and labor. Messrs. Hamilton & Harrison have been for some time past prospecting in the neighborhood of Crocker's ranch, and with a good prospect of success, as we learn they have struck a lead of gravel which affords sufficient encouragement to commence work as soon as the necessary preparations can be completed.

Grass Valley Union, Nov. 21st: A crushing from the Union Jack mine, made last week, showed a yield of \$5 per ton, the largest yet obtained from the Union Jack. The rock is cheaply worked, the entire expenses for extracting and reducing being but \$12 per ton, leaving a profit of \$23 per ton. The rock recently crushed was obtained

at a vertical depth of 150 feet from the surface, and 450 south of the Ione shaft. The lode at this depth varies in width from 18 inches to 8 feet. The Ione mill is now running night and day on Union Jack rock.

## Placer County.

*Auburn Stars and Stripes*, Nov. 21st: The quartz mill near Ophir, which was erected by the late Col. Hagen and destroyed by fire some months ago, has been rebuilt under the superintendence of Mr. R. W. Billet, and was set in motion last week. Mr. Billet has a large amount of promising rock out, ready for crushing. Specimens taken from the shaft have been shown us, which consist almost wholly of sulphurets. Working tests of these sulphurets yielded an average of \$480 per ton. Of the specimens which we have inspected, fully 80 per cent. consists of sulphurets. They much resemble the best of the specimens from Meadow Lake ledges that created such a furore about two years ago.

Herriek Robards, an old Californian, and generally an unfortunate one, who has prospected for years without any decided success, struck a fissure last Friday that yielded in 36 hours' digging and washing a little over 813 ozs. of gold. Being coarse, washed river gold, from a neighborhood that has always been famous for good dust, this lot is estimated to be worth \$19.50 per oz., which would give Robards \$15,853.50 for three days' labor.

*Dutch Flat Enquirer*, Nov. 23d: Mining is all the go here. The late encouraging prospects of the Rising Sun Co. have put our quartz men at work. This enterprising company have erected hoisting and pumping machinery.

*Auburn Herald*, Nov. 23d: The rock in the Wall ledge continues to prove rich. On Sunday last, we saw a piece of rock taken out at the depth of 50 ft., which was studded with free gold. The company have out about 20 tons of rock, which they believe will pay \$100 to the ton.

## Plumas County.

*Quincy National*, Nov. 16: Messrs. Westcott & Co., near Greenville, lately cleaned up \$2,500 for a week's run. Their vein is six feet in width.

The New Caledonia mill, built by H. C. Bidwell & Co., in Cherokee Dist., is now under way. The mine is highly valuable. The yield for the past week, we are informed, was \$4,000. The machinery of this mill was built by Prescott & Scheidell, of Marysville, and gives full satisfaction. Judkins & Kellogg have a seven-foot vein of fine pay on the lode as the Caledonia.

Messrs. Keating & Co. are erecting a new quartz mill in Light's Cañon, for the purpose of crushing rock from the Enterprise ledge. This ledge prospects well, and is expected to yield largely in silver.

We learn that Van Buskirk & Co. have obtained a prospect from the Buchanan ledge, in the north arm of Indian Valley, of about \$7 to the ton upon a working test. The rock was crushed in the Lone Star mill.

The Central ledge, Cherokee Dist., has commenced to prospect finely. A lot of the rock was crushed last week, and yielded 20 ozs. for 40 hours run.

## Sutter County.

*Banner*, Nov. 23: A correspondent writes: The Nimrod Copper ledge presents a cropping of some 60 ft. in width, and, from every appearance, is rich enough in copper to satisfy the most avaricious. The ore is contained in a grey rock and is of the kind known as the Peacock ore, and runs through the rock in seams of one-fourth to one-half an inch in thickness. The whole ledge seems to be half copper.

## Sierra County.

*Downieville Messenger*, Nov. 23d: The first run of the Phoenix mill, located just above Sierra City, will close with this week. The rock from the ledge up on the Buttes is run down on pack mules, and prospects remarkably rich.

The Chips Quartz Co. are getting out the material for a new mill. The old one is still tramping out rock and pays.

At Gibsonville, mining matters seem to be progressing. The correspondent from that place gives a descriptive account of several of the mines, but nothing new appears.—[Eds. Press.

The Comet Co., of Gardiner's Point, took out last week, with four picks only, \$1,490; and that was taken out along the main tunnel, whilst repairing the same.

## Tuolumne County.

*Nevada Gazette*, Nov. 25th: D. O. McCarthy, formerly proprietor of the Flag, has perfected arrangements for the purpose of working Kincaid's Flat, near Sonora, Tuolumne County. A company has been organized in San Francisco, the ground purchased, and a tunnel will be run through the ridge that will tap the vein to the depth of 126 ft.; the tunnel will be about 200 ft. in length.

## Yuba County.

*Marysville Appeal*, Nov. 24th: The late rains give an abundance of water for the miners, as well as rendering the earth soft and yielding to the hydraulic pipe.

The *Alla* of this city, speaking of the Smartsville mines, says: From Smartsville we hear that the valuable hydraulic mines of that locality are well supplied, and work has been recommenced on some claims in which there will be no cessation until next July or August. On the famous Blue Point and Union gravel claims work is being pushed with vigor, these claims being supplied from the Nevada Reservoir Ditch Co.

## ARIZONA.

*Miner*, Nov. 9th: Mr. Cook's furnace, built of lava rock, for the purpose of testing ores, has not been a complete success. The rock, it seems, will not resist very great heat. Mr. Cook, however, informs us that he has received a specimen of rock, said to have come from an extensive deposit in the vicinity of Walnut Grove, which stood a severe test, and as soon as he is satisfied that enough of the material can be obtained for his purpose, he will dispatch a team for a load of it.

Mr. Gray will go to San Francisco in about a week, and on his return hither will be accompanied by the eminent metallurgist, F. Kustel, who will introduce here the chlorination process, now so successfully employed in the reduction of sulphurets at Grass Valley, California. Mr. Kustel tested by this process a quantity of rock from the Galena lode, Big Bug Dist., and was satisfied that it would pay well to work such rock on a large scale.

Major Coffin writes from the East that money matters are all right, but that the company have not yet decided what to do.

## BRITISH COLUMBIA.

*Cariho Sentinel*, Oct. 10th: Notwithstanding the great scarcity of water, the news from Mosquito Gulch is encouraging. The result of work during the past week was as follows: Hoeking Co. (one day) 65 ozs.; Minnehaha Co. 50 ozs.; Holman Co. 50 ozs.; Point Co. 25 ozs.; Discovery Co. 12 ozs.; and Willow Co. 40 ozs.

Oct. 14th: On William's Creek the Wilson Co. have erected a hydraulic apparatus, and are now taking off the top dirt in large quantities. All the companies on this creek are doing well, taking out from 10 to 100 ozs. each per week.

All the companies on Stout's Gulch have resumed operations. The different companies taking out from 40 to 70 ozs. each during the past week.

On Conklin's Gulch, prospects are fair, all the companies at work are making wages.

The Minnehaha Co. in Mosquito Gulch, washed up for the week ending Oct. 13th, 112 ozs. Considerable prospecting is going on in Red Gulch, with more or less success.

The water in Lowhee Creek has not risen sufficiently to enable the hydraulic claims to commence work.

It is reported that the Rolly Co. on Grouse Creek has struck a prospect of \$5 to the pan. Other companies on the creek are doing well.

Miners on Lightning Creek are making wages.

Stevens Creek, which gave such flattering promise last spring of becoming a profitable mining camp, has not, so far, come up to general expectation.

Oct. 17th: The result of the last week's work in Mosquito Gulch were as follows: Willow Co. 25 ozs.; Point Co. 15 ozs.; Holman Co. 40 ozs.; and Jeffrey Co. 57 ozs.

Companies on Keithley's Creek are making \$15 per day to the hand.

The report that good prospects have been struck in the Rolly claim at Grouse Creek, has been confirmed. As much as \$5 has been obtained from two buckets of dirt. The Point Co. are making from 50 cts. to \$1 to the pan.

The companies on Antler Creek are getting good prospects.

On Cedar Creek the different companies are making from \$15 to \$20 per day to the hand. A party who lately prospected from Cedar Creek, towards the headwaters of the Thompson Creek, reports good prospects in several places.

## COLORADO.

*Georgetown Miner*, Nov. 7th: A. D. Foster has made six assays of ore from the full width of the pay vein, in the Junction lode on Democrat Mountain, taken from the crevice with his own hands, which gave the following results: 1st class sulphuret ore, \$1,749.92 silver per ton; 2d class, \$1,779.64 per ton; 3d class, with galena, \$479.56 per ton; 4th class, \$440.97 per ton; 5th class, \$215.76 per ton; 6th class, with clay or gouge, \$93.27 per ton. The above assays indicate an average of \$1,293.19 silver per ton of ore.

Byron E. Cox has made a new discovery



on Democrat Mountain, that shows four ft. of sulphuret ore. It is called the William Penn, and is the extension of the Midas. The discovery is owned by Cox, Sites & Rigby. They are now engaged in actively developing the property.

The Morning Star lode is opened by a shaft 33 ft. in depth, and has a 5-ft. crevice, carrying an ore seam of argentiferous galena two ft. in width. The ore assays as high as \$1,078 per ton.

Five tons of ore, from the W. B. Astor lode, run during the past week by Garrott, Martine & Co., the result was as follows: Average assay, \$265.50. Yield of the five tons, 1,017 ozs., coin value, \$1,146.48. Yield per ton \$229.33%. Per cent saved \$6.5. Currency value, \$1,400.

Denver News, Nov. 13th: Mr. Geo. L. Sites showed us last evening, a fine silver brick weighing 254 45-100 ozs. It was from four tons of ore from the Nyanza and Crescent lodes, and was from the reduction works of Garrott, Martine & Co. Its value was \$261.55.

At the First National Bank this morning, was a fine bar of gold bullion, weighing 192 33-100 ozs.; fineness, .814%; value in coin, \$3,283.20. At the mint were two bars belonging to Warren Hassey & Co., weighing and valued as follows: 38 46-100 ozs., 30 32-100 ozs.; \$639.92, \$546.12, in coin.

The Register says: Wm. Main, Jr., has been making experiments in amalgamating at the Monnier works, which have resulted so well that he is momentarily expecting orders from the company to start their works.

Mr. Badger has leased the Quartz Hill Co's mill, and Mr. Remick the La Crosse Co's, both to be run on custom ores.

Some persons have discovered a rich lode near the American Flag, on a line with the Burroughs, believed to be the extension of that lode. The Clark Gardiner Co. are mining and getting their ore crushed at Young's mill in Spring Gulch. Mr. George T. Clark is sending 150 lbs. of ore from Young America lode to the East. Joseph Keyon yesterday showed us a gold brick, very fine, weighing 101 1/2 dwts., which he says came from two tons of ore.

#### IDAHO.

Owyhee *Avalanche*, Nov. 16th: Great improvements have recently been made at the Oro Fino mine. A large ore house has been built, and the car-track leading thereto from the tunnel is substantially covered, to render it proof against the storms of winter.

Large quantities of ore has been taken out of the Ida Elmore.

Work on the North Star or Golden Charlot mine is rapidly progressing, and buildings for the reception of ore, etc., are being erected. The ore is of the same character as that of the Ida Elmore—being, in fact, a continuation of the same ledge. We noticed a large pile of ore on the dump, several pieces of which we examined contained gold visible to the naked eye. It also contains a large amount of silver in the form of black sulphurets.

Several tons of Woodstock ore are now at the Sinker mill, and will be crushed in a few days.

World, Nov. 13th: Mining at Willow Creek is mostly in small gulches. The diggings pay fair wages.

#### MONTANA.

Post, Nov. 9th: From the Salmon river mines we learn the following: There are now some 400 men at the mines. A majority will remain during the winter. The Douglas Co., on Napias, have taken from their claim of 400x50 feet, over \$40,000. They had \$2 and \$3 to the pan, and eight feet of bed rock, when work was suspended. Below the falls on Napias, \$50 per hand has been taken out. B. L. Heath & Co. have about 1,000 feet above the falls, and are now putting in a bed-rock flume. In Wright's Gulch, where water failed early in the season, good wages have since been made with rockers. Taking the camp on an average, it is believed it will afford good wages to 800 or 1,000 men, and sufficient water to give them steady employment. The quantity of second or third rate ground is unlimited. The Chinese are coming in thickly. A 10-stamp mill has been started for Flint Creek District.

Gulch mining has been sadly interfered with in the past week by the severe night frosts, and but little has been accomplished. Ground shoving on the bars along Alder Gulch is almost entirely suspended.

We saw to-day in the banking house of Messrs. Pippy & Co. two bars of bullion, which aggregated 45 lbs., the result of two days purchase.

The Philadelphia Co's mill cleaned up on Sunday about \$3,500 from the last week's run on the Union lead.

#### NEVADA.

Black Rock.  
Susauville *Sage Brush*, Nov. 9th: Parties

in from Black Rock state that the work is going ahead upon the two mills situated at Rani's Horn. The mill of Messrs. Oplyke, Atchinson & Co. is being built at Black Rock, north of the mill of A. Evans & Co. They will have their mill in running order in a few weeks. The ore that had been crushed at the old mill was cleaned-up by Isenbeck and produced a large mass of amalgam proportioned to the ore worked. Ten tons of the Snow Storm ore has been recently crushed in the same mill, and will be amalgamated in a few days. Every man upon the ground is reported to be at work and sanguine of success at the present working.

From the same paper of a later date, Nov. 16th, we find the above statement materially affected by the following: From parties that have arrived from Black Rock we ascertain that the experimenting of Professor Isenbeck in the mill of Evans, Harvey & Co., has been a signal failure. Some 15 tons of Snow Storm ore were crushed and manipulated at this mill and not a trace of gold or silver was obtained.

Notwithstanding this failure, the *Sage Brush* declares its faith in the richness in Black Rock.

The Humboldt Register, of Nov. 16th, says that after his failure at Evans' mill, Isenbeck, feeling a little unwell, started for California, where he considers the atmosphere more healthy for him just at this time, but promised his numerous and beloved friends that he would return again in the "Spring-time, Gentle Annie," when all would be made satisfactory!

The same paper adds: The Isenbeck "flats," we learn, are about worked out. In fact it has been a mystery to many, how they could be made to yield "pay dirt" so long, as they were very shallow and the gold coarse.

[A description of the ores of the Black Rock mines, together with further information concerning Isenbeck's failure, will be found in our editorial columns.—EDITORS PRESS.]

#### ESMERALDA.

Virginia *Enterprise*, Nov. 23d: A lot of 16 1/2 tons of ore from the Wilson mine, H. C. Toombs, superintendent, lately worked in Crossman's astras, yielded \$2,076.29. The Wheeler mine looks well in sulphuret ore. The Pioneer mill will do no custom work, but will be run altogether on ore from the Wheeler mine. The erection of the Williams mill is being rushed forward with all possible speed.

#### PAHRANAGAT.

San Bernardino *Guardian*, Nov. 16th: From Pahranaगत we learn that the New York Co. are in full and successful operation; that in addition to the mill already at work, a Philadelphia Co. is putting up another, and the camp generally is in a prosperous condition, all hands being employed and doing well.

#### REESE RIVER.

Reveille, Nov. 16th: The shipment of bullion from the Florida mine from Nov. 17th, 1866, to Nov. 12th, 1867, was \$106,563.35.

Nov. 18th: The Magnolia mine, in the Morey Dist., is now producing a superior quality of ore. A lot of 12 tons, worked at the Old Dominion mill at Hot Creek, yielded a pulp assay of \$259 per ton. A force of eight men is employed in the mine, and two teams are constantly engaged in hauling ore from the mine to the mill. The ore met with below the water line is an antimonial sulphuret, and is very similar to that produced by the mines of Lander Hill.

Last week, 10 tons of ore from the Buckeye mine in Summit Cañon, North Twin River Dist., were reduced at the Metacomb mill with the following result: seven tons of chloride ore gave a pulp assay of \$241 per ton, and three tons of sulphuret ore at the rate of \$231 per ton. The mine produces unique ore.

In six days of last week, from Monday until Saturday, inclusive, the Long Island mill, with a battery of five stamps and two roasting furnaces, produced bullion of the value of \$7,000. The ore reduced was from the Timoke mine, and was of a very high grade.

Nov. 19th: The negotiations for the transfer of the Santa Elena property in Washington Dist. have been concluded, and all the property—mines, houses, etc.—is now in possession of the agent of a New York Co. It is the intention of the present owners to erect immediately extensive smelting works for the reduction of the ore produced by the Santa Elena and other veins bearing rich galena.

A gentleman lately from Reveille Dist. reports success in obtaining large amounts of silver from the ores there mined. Eight tons of ore from the Sweepstake mine were

lately hauled to the mill at Hot Creek. One ton of this being first class yielded \$900; the balance had not been worked, but was estimated at over \$200 per ton. Seven tons were taken from the Davis lode to the same mill, producing an aggregate of \$987, or \$141 per ton. The first class ore produced \$208 per ton. There are but few miners now in the district, but these are profitably engaged in gathering ore, which is taken either to Hot Creek or Anstin for reduction. The two mills at Hot Creek are kept at work; that of the Consolidation Co. on tailings of its former workings, and the mill of the Old Dominion Co. on the company's and custom ore. Sixty-five tons of ore from Morey Dist. were lately worked at the latter mill which gave an average of \$171 per ton, and it is understood that the ledge from which it was taken was a large one, and all through it the ore is equally good.

The Troy mine, on Lander Hill, is producing ore of extraordinary richness. Ten tons were reduced at the California mill last week, which yielded by assays of the pulp at the rate of \$381.75 per ton. The Troy is opened through an incline to the depth of 375 ft., along which a small compact vein holds a fine quality of ore. It is a parallel vein to the Florida, both in its course, size, appearance, and character of mineral.

Splendid ore has been developed in the El Dorado mine, in Silver Bend Dist. At the depth of 104 ft. in the incline, about 60 ft. perpendicular, a stratum 15 ins. wide was uncovered, selected specimens of which gave, by assay, \$2,803.32 of silver per ton. The ledge has not been cut through in the incline, but it is known to be very wide.

The stage this morning brought \$2,000 ozs. of bullion from the mill of the Social and Steptoe Co. at Egan Cañon. It is 600 fine in silver and 12 1/2 fine in gold.

Last evening, Russell's stage from the Cortez Dist. brought six bars of bullion, of the value of \$5,000, produced by the mill of the Mount Tenabo Co. It was the result of the clean-up, and the mill has been closed.

Yesterday, a bar of bullion, weighing 1,535 ozs., arrived in the city from the Knickerbocker mill, near Ione.

Nov. 20th: Last evening, 3,200 ozs. of crude bullion, from the Old Dominion mill, arrived in the city.

At one o'clock to-day, two teams passed through the city with hoisting machinery for the Combination Co. at Belmont.

Silver Bend Reporter, Nov. 16th: Some of the Transylvania No. 1 ore is exceedingly rich, as will be seen by the following assay made by Messrs. Cahill Bros. on Wednesday: \$26,691.97 per ton. The assay was made for the Belmont Co., from ore taken from the upper level of their mine.

Within the past few weeks several promising ledges have been found and locations made in the hills across the neck at the lower end of Monitor Valley, commencing about a half mile south from the point where the El Dorado and Transylvania ledges disappear, and continuing in that direction. As there are two well-defined and distinct parallel ledges, lying about the same distance apart, as are the two ledges named, and from a similarity of ore, nearly all who have seen them consider the newly discovered veins and the Transylvania and El Dorado identical.

A day or two since we saw a beautiful specimen of horn silver from the upper level of the Belmont Co's Transylvania No. 1. It was nearly as large as a person's hand and about half as thick as a quarter of a dollar—having been scaled from the quartz, in the interstices of which it was formed. In the flame of a candle it would melt as readily as wax, precipitating globules of virgin silver. A great deal of this ore is found in the level whence it came, though seldom separated from the rock in such immense flakes as the specimen shown us.

In the incline of the El Dorado South a stratum of good ore has been disclosed, which is several feet in thickness and is fast increasing its size as greater depth is attained. In richness this ore is said to be fully up to the average quality of any in the district.

The Magnolia mine at Morey is producing a superb ore. A lot of 10 or 15 tons, just worked at the mill of the Old Dominion Co., Hot Creek, gave a pulp assay of \$259 per ton. Two teams are constantly employed in hauling ore to the mill from this mine, and eight men are at work upon it. At the water line the ore is an antimonial sulphuret—similar to that of the mines of Lander Hill.

The Old Dominion mill is now supplied with salt from a marsh about 30 miles east of the mill. The saline deposit embraces an area of 10 or 15 miles square.

Reveille, Nov. 21st: The roasting furnaces for the Old Dominion mill were completed last week, and the mill will now produce bullion to the full extent of its capacity.

The Old Dominion mine looks well, and after a while it will be in a condition to produce sufficient ore for the supply of the mill.

Nov. 22d: This morning 8,000 ozs. of bullion arrived from Rigby's mill in San Antonio Dist.

Three bars of bullion arrived last evening from the mill of the Belmont Co.

The mine of the Combination Co., on the Highbridge, presents a superb appearance. A large amount of ore of high quality has been brought to the surface, but the best is stered in chambers below ground until it can be taken to the mill.

We were shown this morning a variety of specimens of ore from the Twin Ophirs mine of the La Plata Co., in Park Cañon. They are chiefly remarkable for the exhibition of metallic silver, which occurs in flakes and occasionally in threads or wires. The ore is of an improved quality to that produced formerly by the mine, and appears to be of a different character. We learned that 500 tons were on the dump, the whole of which would yield a handsome profit over the cost of reduction. The mine is an extensive deposit of peculiar and valuable ore.

Eight tons of ore from the Sweepstake ledge in Reveille Dist. have been hauled to Hot Creek for reduction in the Old Dominion mill, with the following result: one ton of first class yielded \$900, and seven tons of second class \$2,800—at the rate of \$400 per ton.

#### WASHOE.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Nov. 19th: We were yesterday shown a specimen of ore said to have been found a mile west of the Comstock. It appeared to be rich in silver sulphurets. An assay is being made.

Nov. 21st: At the present time a very considerable amount of prospecting is being done in the vicinity of this city in the surface works of the numerous abandoned claims. A lot of four tons of ore from one such mine is now being worked at a mill in Silver City.

A party now in this city has some specimens of ore nearly covered with native silver, said to have been obtained from a newly-discovered mine about "ninety miles away." A few old miners have obtained the secret in regard to the situation, and will leave for the mine in a few days.

Nov. 23d: The claim of the Gold Hill Quartz Mill and Mining Co., Gold Hill proper, is looking exceedingly well in the 290-foot level.

The weekly shipment of bullion from Gold Hill and Virginia, by Wells, Fargo & Co., was 9,044 ozs., valued at \$266,862.42.

Trespas, Nov. 19th: We learn that 100 tons of ore from the mines of Como have been hauled to Birdsall & Carpenter's mill for reduction.

#### OREGON.

Jacksonville *Sentinel*, Nov. 16th: Times in the Sterlingville mining camp are as prosperous as ever. Spaulding and Johnson are driving their tunnel into the boulder channel, and expect to strike pay in a few weeks. There is work for 100 men in this channel, at good wages, if the waters of Applegate Creek are ever brought to work it.

Dalles *Mountaineer*, Nov. 16th: The mining season in the John Day mines is pretty nearly closed, except on Cañon and Dixie creeks.

Five miners have undertaken the construction of a large ditch from the main John Day River to the flat at the mouth of the creek. They have an extensive lot of mining claims, which will pay from \$6 to \$16 per day.

Among the new mining speculations about Cañon City, is the erection of a hydraulic of great power by Thompson & Armington, on the Marysville Hill. The hydraulic claims of Clark & Rice, at the foot of Rich Gulch, have been lying idle most of the past season, but promise to turn out well when water can be had.

#### UTAH.

Frank McGowan and John Holbrook, who have just arrived from the Sweetwater mines, report that up to the time they left the weather had been favorable, and the miners had improved it by getting well housed for the winter. A number of new and very rich claims, both quartz and placer, had been discovered, and the miners generally were in high feather over their really brilliant prospects.

HOW TO MAKE A HORSE SHINE.—Take a piece of sheep-skin, with the wool on, oil slightly, rub him smooth, wipe off the hair pretty hard, and this will make a dark-colored horse shine beautifully.



## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

G. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
DEWEY & CO., Publishers.

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## Canvassing Agents.

OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. C. T. Raney is our duly authorized agent for Sacramento County. Nov. 29, 1867.

Dr. J. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Nov. 30, 1867.

## Notices to Correspondents.

**TUBAL CAIN.**—By the reduction of ores is meant the treatment of metallic minerals in such a manner that the metals sought for shall be eventually obtained in the state, free from earthy or other impurities. The term is an alchemical one, but owing to its propriety, has always been employed by modern chemists and metallurgists, especially when treating of ores containing the precious metals. The term, in its simplest aspect, means the reduction of minerals from complex into less complex conditions. Thus, a regulus (excepting that of antimony, which forms an exception,) is a term ordinarily applied to the reduction of the metal sought into an impure sulphuret or oxide, which again may be further reduced to still more simple forms, and ultimately to the primitive or metallic state. You err in supposing that common usage has reversed the meaning of the term reduction, as applied to ores, because, as you assert, the word is vulgarly understood to apply in a manner quite the reverse of that above described. For example: iron or steel is frequently said, in the ordinary language of life, to be reduced to rust, or copper being reduced to a carbonate. Conversion or converted would be the correct terms to apply in such cases. It would be quite proper to say that a piece of coal or wood, after being burned, is reduced to a cinder, as the latter in such a case would not only be reduced in weight, but at the same time be reduced to a less complex chemical form. When iron becomes oxidized or rust, or copper becomes a carbonate, in each case the resulting rust or carbonate will weigh more than the original metal.

**MEDUSA.**—*Chignon* is the French word for the nape of the neck, from which word the term for the ringlingly bundle of hair is derived, which ladies at the present time are in the habit of disfiguring the posterior part of their craniums. The *London Hair-Dressers' Journal*, in a recent number, quoted the following from a treatise on hair-dressing published eighty-five years ago (1782): "Those ladies who are obliged to wear false hair, I would inform them that the greatest difficulty attending it is the putting it on properly. Now to put it on; and first, the false *chignon*. I have before said where this is to be placed, but if it is not made very flat and strong, with a good, small comb, it will make the head appear bumpy and awkward behind." *Chignons* do not therefore possess the merit of being a fashionable novelty. Our grandmothers speedily discarded it. How soon will their grand-daughters display the same good sense?

S. W., San Bernardino.—Capillary pyrites is a sulphuret of nickel. It is rather a rare mineral. It consists of the proto-sulphide of nickel; the proportion being about 65 per cent. of nickel and 35 per cent. of sulphur. It is harder than calc spar, brass yellow color, inclining to bronze. It is found as capillary, regular six-sided prisms. The most singular localities in which it is found are at the Dowlais Iron Works, near Merthyr Tydvil, South Wales, where it is found in regular crystals, occupying cavities in nodules of spathetic iron; and at the Sterling mine, Antwerp, N. Y., where it is in a somewhat similar manner found amongst crystals of spathetic iron as delicate capillary crystals.

## The Black Rock Mines.

There is probably no locality on the Pacific Coast from which such contradictory reports and opinions have been received, as from the Black Rock mines. While nearly all assayers and experts of established reputation have pronounced the so-called "ores" from that district to be utterly worthless, and no ores at all—there has been, ever since the discovery of the mines, a class of men with but little or no experience, either as miners or metallurgists, who have been persistent in their declarations that those "ores" were very generally of extraordinary richness. These men have even exhibited to the hopeful shareholders "hairs" and "buttons" of the precious metals, which they claim to have taken from the ores by assays and working processes—which they generally assert to be new and secret, and hence the fact that others do not succeed in their manipulations.

We have sought in vain, for two years past, to get access to some of these ores, but, with the exception of three or four very small specimens, have never been able to meet with any until a few days since, when Mr. John Cuddy, a gentleman who has been induced to invest a considerable amount of money and some labor and time in these mines, on the faith of those "secret process" men, brought to this office a flour sack full of specimens, which he had collected himself from more than twenty claims in that district. A brief examination of the contents of this sack satisfied us, at once, that so far as those samples went to illustrate the value of the Black Rock mines, they were the veriest humbugs that were ever palmed off upon a credulous public. Only two samples out of the entire number presented, were such as could for a moment be considered as coming from a vein carrying either silver or gold, and each of these (the Snow Storm and Green Series) were of an extremely doubtful character. All the others were unmistakably volcanic debris, such as were never known to yield either of the precious metals; and we venture the assertion, that not even the color of either gold or silver was ever found in any such rock, notwithstanding the oft-repeated assertions to the contrary by pretended experts and assayers.

It is one of the most extraordinary facts connected with mining on this coast, that mine adventurers, who themselves make no claims to a knowledge of such things, nevertheless persist in giving heed to the pretensions of men of but limited, if any experience in mining or metallurgy, to the almost utter rejection of those who are known to have had large experience in some of the most advanced and successful mining districts in other parts of the world. This unaccountable disposition on the part of mine owners has cost the country untold millions of dollars, and is being constantly repeated to the present day.

## STILL LATER FROM BLACK ROCK.

Since the above was written, our attention has been called to the following paragraph from the *Gold Hill Trespass*, fully confirmatory of what we have written above:

Yesterday we published intelligence from the Black Rock mines, upon the authority of Charles Isenbeck, who has just returned from that country, where he has been superintending the working of various ores from the mines thereabouts, at Evans & Co's mill. This morning we received a call from Mr. L. Bass, who is a partner of Evans in the Black Rock mill, who makes a statement directly in contravention of what Isenbeck informed us, and making a direct issue of veracity between the two gentlemen. We do not propose to take any stock in the fight, but feel willing that both parties shall have full benefit of all doubts arising as to the wealth of the Black Rock country.

Mr. Bass says: "I am part proprietor of the Black Rock mill; I engaged Charles Isenbeck to go there and superintend the working of the Black Rock ore, at a salary of \$1,000 per month, provided he could produce paying returns from the ore; I paid him \$500 in advance, and he went to the mill; I furnished him everything he demanded that

would insure success in reducing the ore; he worked between ten and twelve tons. Instead of the quicksilver gaining 122 pounds of amalgam, as stated by Mr. Isenbeck yesterday, it lost the usual amount in working; and all the amalgam found was about a half pound, which, upon examination and assay, proved to be nothing but copper, with no trace of gold or silver therein. After this test by Isenbeck, I called upon him to return the \$500 advanced upon contract, which he promptly refunded to me, he not having been able to procure any precious metals from the ore by his process. Mr. Isenbeck is the third person who has asserted that he could get rich returns from the ore; each has failed, and I never yet have seen a quarter of a dollar in silver or gold actually produced from working the Black Rock ores, and never any signs of either, except in fire assays, one of a dozen of which have perhaps shown gold and silver in paying quantities."

Mr. B. concludes his statement with still asserting his belief in the richness of the Black Rock mines, notwithstanding the above failure. We most certainly hope that his faith may be fully realized, for we do not wish to see loss or failure in mining enterprises anywhere; but if he relies upon such ore as has been submitted for inspection by Mr. Cuddy, as a fair sample of the best mines in that district, he had better abandon his enterprise at once as utterly hopeless.

## Pacific Chemical Works.

We have recently paid a visit to this establishment. We can truly say that in our frequent "raids" in search of signs of progress in our city, nothing has given us greater pleasure than this visit. Messrs. Falkenau & Hanks, the proprietors, recognizing in us a "kindred spirit,"—a lover of science for itself,—"showed us round" with the greatest courtesy, explaining their various processes and plans with that freedom from petty narrowness which characterizes true scientists.

These gentlemen are bound to make their mark. Their business union is a fortunate one. Both well grounded in the principles of their profession—one in European scientific schools, the other in those of the United States—they constitute a firm in which German exactness and pains-taking thoroughness are most happily blended with American originality and energy. Both have had large experience, and both have been teachers in their scientific specialty. They are no ordinary manipulators; they are thinkers. Engaged in the pursuit of the most fascinating of sciences, they discuss with enthusiasm the more abstruse metaphysical questions which such researches are sure to suggest to men of a philosophic turn;—without, however, losing sight of the fact that nothing is truly science except those truths which are demonstrated, and which can be stated in terms as rigidly exact as those of an algebraic formula. Such men as these are the real progressionists; men who, while their positive conclusions are always held in suspension until warranted by absolute proof, enter with a genuine heartiness into scientific investigations. Without such enthusiasm the most thorough scientific training is comparatively unproductive; for, although the beaten track may be unerringly followed, no new paths in the exploration of this immense field will be struck out.

But to our description of the establishment. In the arrangement of the different departments the most perfect system is apparent. Taking them in their order, we first visited the

## ACID ROOM.

Here are manufactured pure nitric, muriatic, and sulphuric acids. A furnace of peculiar construction, designed by Messrs. F. & H., and arranged in such a manner as to afford the greatest convenience, and at the same time to economize space, stands in the center. It has room for eight retorts, each capable of preparing from thirty to forty pounds of acid in twenty-four hours. These acids are put up in bottles containing about seven and a half pounds each. Both imported bottles and those of California

manufacture are used;—in the latter case it is necessary to "grind in" the stoppers. This is done at the establishment; and though apparently a simple matter, it is really a process involving not only a good deal of ingenuity as regards the apparatus devised for the purpose by Messrs. F. & H., but also considerable practice for the dexterous handling of that apparatus. The next is the

## CRYSTALLIZING ROOM.

This room contains two large boilers,—one of copper, the other of iron,—besides several smaller ones of the latter material. There are also tanks of different sizes, in which the crystallization of various chemicals is going on. Some of these tanks are lined with lead. Vats for clarifying and settling liquids, and other apparatus necessary in this connection occupy the remaining space.

## FURNACE ROOM.

Here are two calcining furnaces, one melting furnace for bullion or for crucible assays, one muffle furnace for scorification and cupellation, and a furnace with a top of boiler-iron, upon which to place a large sand-bath. Shelves filled with crucibles, scorifiers, cupsels, and molds, are at hand. Tongs and pokers of multifarious shapes, hang conveniently within reach of the furnace doors;—and an anvil stands ready for use, in the freeing of an assay button from its slag for cupellation, or flattening the cupelled globule for parting. In this room we saw an iron apparatus for the distillation of ammonia; as also two stone-ware condensers, used in the manufacture of that article. We may add, that these condensers were made at the pottery of J. W. Orr, in the immediate neighborhood of the works. A sink with a supply of water, and an inclined and grooved table for draining, complete the furniture of this apartment.

## NITRATE OF SILVER ROOM.

This is a small room devoted solely to the manufacture of the above named important article. The necessity for the careful avoidance of fumes and gases generated by any other processes which might be going on, will at once be apparent;—since, for the use of photographers, etc., the article must be absolutely pure. On one side of the room are air-tight closets with glazed doors, within which large evaporating dishes containing the nitrate of silver in solution are placed,—upon a frame-work,—each with its heating lamp beneath. Upon the weighing table close at hand, everything is in its place; consequently no leaving the room or the table is necessary. The apparatus used is for this room only. No assistant is intrusted with this manufacture. Although several men are employed in other parts of the establishment, the work in this room is performed entirely by the proprietors themselves. They find their reward in the high reputation which the article sent out from their establishment has already achieved. It is acknowledged as unrivaled.

## STORE ROOM AND PACKING ROOM.

Here are kept on hand, and put up for the market, the results of the work. Besides the acids and the nitrate of silver which we have mentioned, we saw here large quantities of cyanide of potassium, sodium in large and small packages, sodium-amalgam in one and two pound bottles, fused nitrate of silver, or lunar caustic, for medicinal use,—Nos. 1 and 2,—chloride of zinc, chromic acid, test lead for assayers, fine chemicals for photographers, etc., and a multitude of other preparations which it is not necessary here to particularize. We may mention, that cyanide of potassium is growing more and more into favor with millmen, and the demand is constantly increasing. It seems to act in a manner similar to that in which sodium-amalgam acts,—does not decompose so rapidly, and is much cheaper. In this room is also stored such apparatus as is not at the moment in use. We come now to the

## LABORATORY.

As we enter, we notice first the *Blowpipe table*. We will not mention in detail its appliances, but merely state that they comprise everything necessary for the making of ore assays, and for the determination of minerals; as well as for the many little operations for which this instrument is so often used by the chemical manipulator. Next to this table is another, upon which is placed a *desiccator*, consisting of a large bell-glass, so ground upon its edge as to fit perfectly airtight on the surface of a heavy glass-plate, which is also ground. It is for drying such matters as will not bear heat. The article to be dried is placed within it upon a support, underneath which is a vessel of sulphuric acid, for the purpose of absorbing every particle of the moisture. We come next to a case of shelves with glazed doors, containing a collection of pure chemicals, and rare preparations used for special purposes of investigation. Under this is a



chest of small drawers in which are kept all sorts of tools and implements, glass tubing and other glassware, porcelain crucibles, etc., etc. An exquisitely delicate apparatus for volumetric assays, with divers minutely graduated burettes, pipettes, etc., is arranged upon a stand alongside. The working-tables, one for each of the partners, each the counterpart of the other, and each provided with its own complement of re-agents, and other requisites, stand back to back in the center of the room. Between them is a recess which serves as a receptacle for dirty glasses, mortars, etc., which being done with for the time, are ready to be taken away by an assistant to be washed. Until an article is placed within that receptacle, it is never to be touched, no matter how dirty, or how empty it may appear. Even of the partners, neither ever thinks of meddling with anything upon the table of the other. The necessity for this invariable rule will be seen, when it is remembered that an experiment is sometimes on hand for weeks and that a thin film of what may seem to be nothing but dust, upon the inside of a glass, may be the precious crystallized result of the patient work of all those weeks. Again; the mere withdrawing of the stopper of a re-agent bottle, under certain circumstances,—as for instance, when the room is filled with fumes of such or such a nature,—may so modify the contents of such bottle, as to vitiate the next analysis made with such contents, and lead to wrong conclusions. It is therefore essential that the operator should be able to recall to mind every circumstance which may have contributed to produce an unexpected result; and this is obviously impossible, if any other person has had the handling of his apparatus.

The labor of weeks in a laboratory may be destroyed by a moment of carelessness, as well as by a moment of meddling. As an instance of this, Mr. Falkenau related to us the following incident: When that gentleman was Assistant at the Royal Laboratory in Munich, Bavaria, he had occasion to make a series of elaborate experiments for the analysis of a certain compound, in a case involving a question in reference to a valuable patent. He was occupied in this for nine months, and was on the point of completing his labors, which only farther consisted in the final operation of weighing several separate articles already arranged upon a tray, when a careless student, entering hastily, upset the tray, and ruined his work! There was no alternative; the patient labor of three-fourths of a year had to be commenced anew.

**WEIGHING ROOM, LIBRARY AND STUDY.**  
This room is the last in the list. In it are contained two delicate assay balances with the necessary appurtenances,—the library of the establishment, consisting chiefly of the most important works in German, French and English, upon the subjects with which it has to deal,—and desks with writing materials and all conveniences for making necessary calculations.

The proprietors find here already an extensive field for their work in the analysis of mineral waters, wines, fuels, ores, and commercial articles. Analyses pertaining to medico-judicial investigations, occupy a portion of their time. They are making arrangements to still further extend their operations by the manufacture of certain other articles which have not hitherto been made on this side the continent.

This establishment is unquestionably one of the most important upon the Pacific coast. As pioneers in the business, Messrs. F. & H. deserve great credit; and as thorough and reliable men, fully competent to carry it on as it ought to be carried on, they deserve, and will undoubtedly secure, the patronage and the friendship of all.

THE LEGISLATURE meets at Sacramento on Wednesday next. The inaugural ceremonies will take place on Monday or Tuesday.

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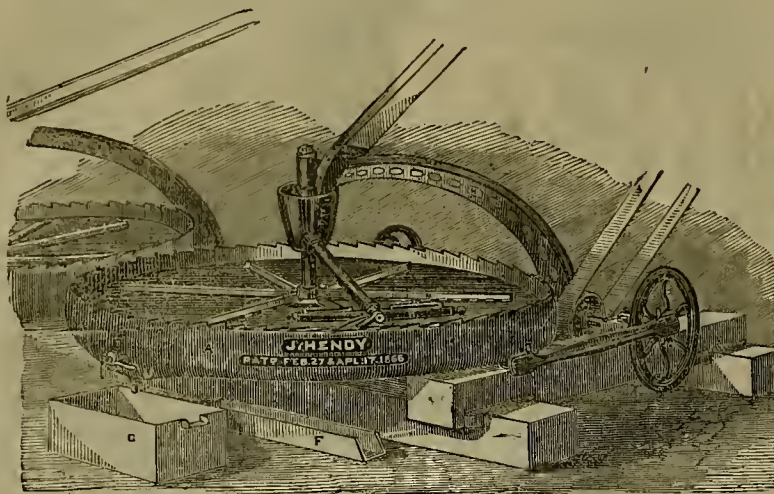
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**Directions for Operating Hendy's Concentrators:**

- FIRST—In setting up, set the pan, A, level by the inner rim, near its center.
- SECOND—While in operation, keep the Pan, A, about half full of sulphurets.
- THIRD—Open the gate, B, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.
- FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

**References:**

Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:

EMPIRE MILL. (7 Concentrators).....	Grass Valley, Nevada County.
NORTH STAR M. & M. CO. (4 Concentrators).....	Grass Valley, Nevada County.
NORRIDGEWOCK MILL. (2 Concentrators).....	Grass Valley, Nevada County.
VALENTINE & CO. Commercial Mill (3 Concentrators).....	Nevada County.
HUMBOLDT CANAL CO. (1 Concentrator).....	Humboldt County, Nevada.
ROBINSON & McALLISTER M & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.	
PLYMOUTH ROCK MILL CO. (2 Concentrators).....	Calaveras County.
MIDAS MILL CO. (4 Concentrators).....	Virginia, Montana.
GOULD & CURRY G. & S. M. CO. (4 Concentrators).....	Virginia City, Nevada.
VULTURE CO. (4 Concentrators).....	Prescott, Arizona.
NOYES & CO'S MILL. (2 Concentrators).....	Prescott, Arizona.
LUCY MINING CO. (3 Concentrators).....	Owyhee District, Idaho.
MOREY & SPERRY (1 Concentrator).....	New York.
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SAN FRANCISCO, October 10th, 1867.

J. HENDY, Esq.—Dear Sir:—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,

S. W. LEE, Supt.

SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. CO., }  
VIRGINIA CITY, Nev., Sept. 17, 1867. }

JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco. Yours, very truly,  
LOUIS JANIN, JR.

The bill was presented in accordance with the above request, and duly paid.

**CAUTION.**

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"J. HENDY, Patented February 27th and April 17th, 1866."

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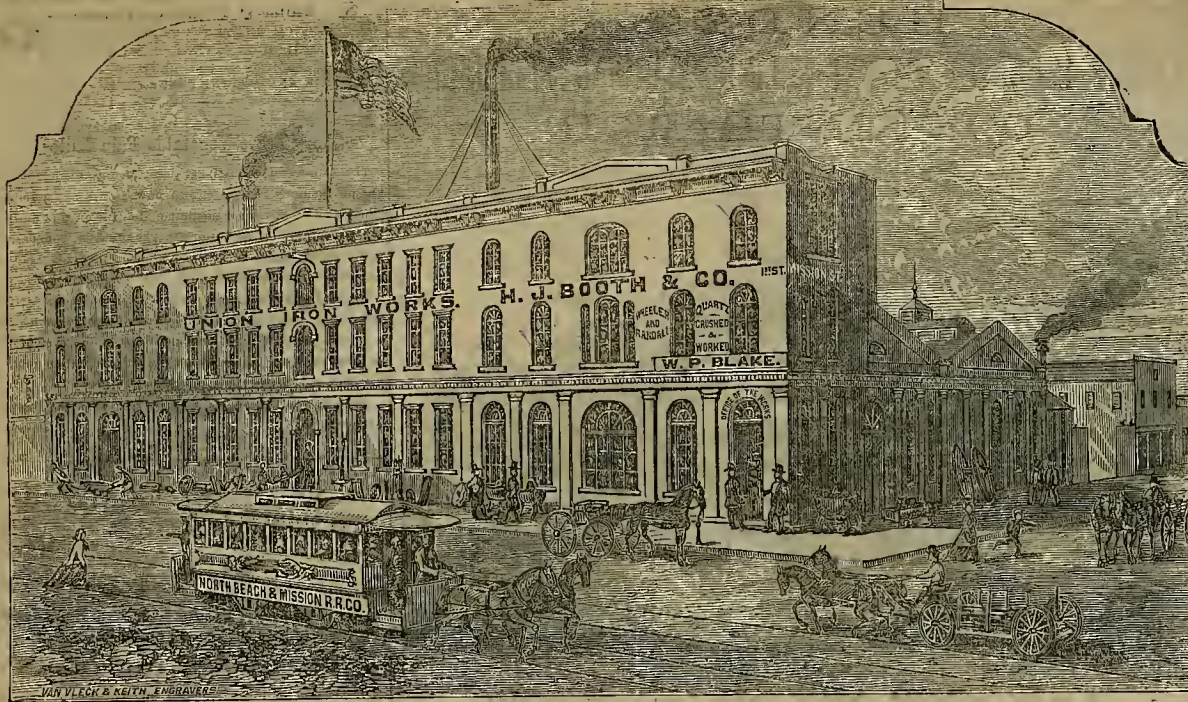
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**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tractory Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veitch's tubs, Prater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chilo Mills. Sifters of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

**STEAM BOILING TOOLS AND MACHINERY.**—of the latest and most approved construction, made from drawings lately made by Prof. Blake at the oil wells in Pennsylvania. We have the facilities for working gold and silver quartz and other ores, to test their value, by the hundred weight or ton.

Russia Iron steels, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

H. J. BOOTH, GEO. W. PRESCOTT, IRVING M. SCOTT  
24-12 H. J. BOOTH & CO.

**CANAL ACROSS FLORIDA.**—The old idea of cutting a canal across the northern portion of the peninsula of Florida seems to have been renewed again, with a fair prospect of being carried out this time. Some enterprising New York capitalists are moving in the matter.

**CAPTAIN ROBERT J. LINCOLN.**—instead of having been called to the bar a few weeks ago, as several papers stated, has been a practising lawyer for more than a year. He has just been admitted, however, to the bar of the United States Supreme Court.

**MR. SIMORIN,** Professor of the French School for Mining, under instructions from Napoleon to examine the resources of Colorado, and Mr. Haine, who is looking for a settlement for German emigrants, arrived at Denver, October 5th. Many hundred German miners propose to emigrate to Colorado.

**DEODORIZATION OF KEROSENE AND COAL OILS.**—According to Wagner the peculiar odor of these oils is removed by treating them with a solution of oxide of lead in caustic soda.

**Rates of Postage on Printed Matter to Europe and Asia.**

The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter. It is a singular fact, unknown probably to most persons who have not occasion to learn it by unpleasant experience, that there was a considerable region in the civilized world where an American traveler might not receive a newspaper directly from home.

Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in the delivery by way of Hamburg and Bremen:

Rates of postage on newspapers and other printed matter (periodicals, etc.) sent from the United States to countries in Europe and Asia, by Bremen or Hamburg mail—prepayment compulsory:

**NEWSPAPERS—MARKED AS FOLLOWS:**

- Bremen, by Bremen mail—2 cents each.
- Hamburg, by Hamburg mail—2 cents each.
- Prussia, Austria and German States, by Bremen and Hamburg mail—3 cents each.
- London, by Bremen mail—3 cents each.
- London, by Hamburg mail—3 cents each and 1 cent per 1/4 ounce.
- Schleswig-Holstein and Denmark, by Bremen or Hamburg mail—3 cents each and 1 cent per 1/4 ounce.
- Sweden, by Bremen or Hamburg—3 cents each, and 1 1/2 cent per 1/4 ounce.
- Norway, by Bremen or Hamburg—3 cents each, and 3/4 cent per 1/4 ounce.
- Holland, by Bremen or Hamburg—3 cents each, and 1 cent per 1/4 ounce.
- Russia, by Bremen or Hamburg—3 cents each, and 1 cent per 1/4 ounce.
- Switzerland, by Bremen or Hamburg—4 cents each.
- Italy, by Bremen or Hamburg—5 cents each.
- Turkey, by Bremen or Hamburg—3 cents each, and 5/8 cent per 1/4 ounce.
- Greece, by Bremen or Hamburg—3 cents each, and 5/8 cent per 1/4 ounce.
- Gibraltar, Spain and Portugal, by Bremen or Hamburg—3 cents each, and 2/4 cent per 1/4 ounce.
- Austria, India and China, by Bremen or Hamburg mail via Marseilles—3 cents each, and 3 cents per 1/4 ounce.
- Austria, India and China, by Bremen and Hamburg mails, via Trieste—3 cents each, and 2 cents per 1/4 ounce.

**PERIODICALS, ETC.**

- Bremen, by Bremen mail—1 cent per ounce.
  - Hamburg, by Hamburg mail—1 cent per ounce.
  - Prussia, Austria and German States, by Bremen or Hamburg mail—1/2 cent per ounce.
  - London, by Bremen mail—1 1/4 cent per ounce.
  - London, by Hamburg mail—1 1/4 cent per ounce, and 1/2 cent per 1/4 ounce.
  - Schleswig-Holstein and Denmark, by Bremen or Hamburg—1 1/2 cent per ounce and 1/2 cent per 1/4 ounce.
  - Sweden, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/4 ounce.
  - Norway, by Bremen or Hamburg—1 1/2 cent per ounce, and 4 cents per 1/4 ounce.
  - Holland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/4 ounce.
  - Russia, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/4 ounce.
  - Switzerland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 cent per 1/4 ounce.
  - Italy, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/4 ounce.
  - Turkey, by Bremen or Hamburg—1 1/2 cent per ounce, and 5/8 cent per 1/4 ounce.
  - Greece, by Bremen or Hamburg—1 1/2 cent per ounce, and 5/8 cent per 1/4 ounce.
  - Gibraltar, Spain and Portugal, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 1/2 cents per 1/4 ounce.
  - Austria, India and China, by Bremen or Hamburg mail, by way of Marseilles—1 1/2 cent per ounce, and 6 cents per 1/4 ounce.
  - Austria, India and China, by Bremen or Hamburg mail, by way of Trieste—1 1/2 cent per ounce, and 2 cents per 1/4 ounce.
- These charges are in each case in full to destination, combining rates between the United States and Bremen or Hamburg, and the rate beyond Bremen and Hamburg to points of delivery.

**CALIFORNIA TOOL AND FILE FACTORY.**

Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
Job Grinding and Polishing done at shortest notice.  
Special premium awarded at the Last State Fair, Sacramento. 4v15-9y

**LINCOLN IRON WORKS,**  
No. 51 Beale st., bet. Market and Mission.  
D. & W. FOURNESS, Prop'rs.

**STEAM ENGINES,**  
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.  
Special attention paid to repairing Reynold's Out-of-5v16p

**Machinists and Foundries.**  
**PALMER, KNOX & CO.,**  
Golden State Iron Works,  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
**STEAM ENGINES AND QUARTZ MILLS**  
DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing,**  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

**WHEELER & RANDALL'S**  
**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in stamping or milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving either gold or silver. 18v10y-tt

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.  
**Steam Engines, Boilers,**  
**SAW AND CRIST MILLS,**  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
18v13-1y One block north of Couch's Wharf.

**UNION IRON WORKS,**  
Sacramento.  
**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,  
**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
Dunbar's Patent Self-Adjusting Steam Piston PACKING, for new and old cylinders, manufactured to order.  
Front Street, between N and O streets, 14v11 SACRAMENTO CITY

**I. H. SMALL,**  
**MACHINE SHOP,**  
BUILDER OF  
**Steam Engines, Sawmills, Mining Machinery,**  
and **Wood Planers.**  
Repairing of all kinds done with promptness and dispatch. Gears of all kinds cut at short notice, corner of Market and Beale st. San Francisco. 8v15-3m

**GLOBE**  
**Foundry and Machine Shop,**  
STOCKTON, CAL.  
**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF  
**Quartz, Saw and Crist Mill Irons, Steam Engines, Horse Powers,**  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, Horse Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

**GEORGE T. PRACY,**  
**MACHINE WORKS,**  
Nos 109 and 111 Mission street, between Mali and Spear,  
SAN FRANCISCO.  
**STEAM ENGINE, FLOUR AND SAW MILL**  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. 8v 4y-3

**SAN FRANCISCO**  
**Foundry and Machine Works,**  
N. E. Cor. Fremont and Mission streets,  
Manufacturers of  
**Marine and Stationery Engines**  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural implements, etc.  
—ALSO—  
**Wine, Cider, Cotton and Tobacco Presses**  
of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
Dunbar's Improved Self-Adjusting Piston Packing, requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.  
**MACHINERY OF ALL DESCRIPTIONS**  
Bought, sold, or exchanged. Bolt Cutting and Castings at the lowest market rates.  
6v11-1y **DEVCOE, DINSMORE & CO**

**LEWIS COFFEY,** J. S. RISON  
**LEWIS COFFEY & RISON,**  
**Steam Boiler & Sheet Iron Works.**  
SOLE exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality. Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna,  
SAN FRANCISCO.  
ALL KINDS OF Brass, Composition, Zinc, and Rabbit Metal Castings, Brass Ship Work of all kinds, Spikes, Sprocketing Nails, Rudder Braces, Hinges, Ship and Steamboat Bells and Gears of superior tone. All kinds of Goggles and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE. 8v 11y  
V. KINGWELL, 18v13-1y J. H. WEED.

**FULTON**  
**Foundry and Iron Works.**  
**HINCKLEY & CO.,**  
MANUFACTURERS OF  
**STEAM ENGINES,**  
**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.**  
N. E. corner of Tehama and Fremont streets, above How ard street, San Francisco. 3-4y

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont streets,  
SAN FRANCISCO.

**MARINE**  
**Locomotive,**  
And all kinds of  
**HIGH PRESSURE**  
**Steam Boilers**  
MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
Old Boilers Repaired  
**D. CAMERON.**

**JOHN LOCHHEAD'S**  
**Steam Engine Works,**  
Beale street, near Mission, San Francisco.  
**STEAM ENGINES OF EVERY DESCRIPTION BUILT**  
to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES.**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the

**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 2v12-3m

**SOUTH BEACH IRON WORKS,**  
Near corner of King and Third streets, San Francisco.  
**MARINE ENGINES,**  
AND ALL KINDS OF  
**MACHINERY FORGING.**  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done guaranteed. 18v14-1y  
ELECTROTYPE CUTS, ENGRAVINGS, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, or name-plates, and other embellishments to suit the various branches of industry in this State.



**THE NEW YORK ELEVATED RAILWAY.**—The first mile of the elevated railway in Greenwich street, New York, will be completed in about a fortnight. The road runs upon a series of columns, eighteen feet above the sidewalk; and is by this means removed from all interference with the ordinary traffic of the streets. The columns are of wrought iron, and placed at distances varying from twenty-five to thirty feet apart. The motive force is an endless wire rope between the rails, moved by a stationary engine. Certain catches are placed along the rope at intervals of about 200 feet, to which cars may be attached.

**National Mineral Land Law, Instructions, Blanks, Etc.**

Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the "United States Registers and Receivers and Surveyors General," from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & Co., office Mining and Scientific Press, San Francisco.

**MINING AND SCIENTIFIC PRESS.**

**Terms of Advertising and Subscription.**

<b>Miscellaneous Advertisements.</b>	
One week, per square.....	\$1 50
One month, per square.....	3 00
One quarter of month, per square.....	7 50
Advertisements of great length, or of special character, inserted by contract on the most favorable terms.	
*The space of ten lines of solid capital advertising type constitutes a square.	
<b>Mining Advertisements.</b>	
Notices of Meetings, per square, three weeks.....	\$3 50
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Delinquent Sales, per square, two weeks.....	2 50
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Advertising law blanks, circulars and advice.....	Free

**Terms of Subscription.**

One copy, one year, by mail, in advance.....	\$5 00
One copy, six months, by mail, in advance.....	3 00
One copy, one year, by express.....	6 50
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By city carriers, per month.....	60
Single copies.....	15
Monthly Series (or parts) one year, by mail.....	5 50
Monthly Series, per monthly copy.....	65

The Circulation of the Press, already extensive, is rapidly increasing, and substantial tradesmen who can profit by widely disseminating information of their business amongst the most influential, influential and industrial classes of the Pacific States and Territories will find no more effective or economical medium for advertising.

DEWEY & CO., Proprietors, Patent Agency and Job Printing Office, 505 Clay street, San Francisco. July 1, 1866.

**FRIEDLANDER'S NORTH POINT GRAIN WAREHOUSES,**

Sausome and Chestnut streets, San Francisco.

These magnificent BRICK WAREHOUSES—the largest in the State—are now completed and ready for the reception of storage. The facilities for receiving and discharging are unsurpassed, there being a water front of six hundred feet. Insurance and advances effected at lowest rates.

For storage, apply at the Warehouses, to THOMAS H. DOUGLAS, Storekeeper and Wharfinger, Or to I. FRIEDLANDER, 112 California street. 19v15-4w

**BLASTING POWDER.**

PRICE, \$3.00 PER KEG.

—ALSO—

**PORTING, CANNON AND MUSKET POWDER,**

Of superior quality

**FUSE AND SHOT,**

Always on hand and for sale at the office of the

**CALIFORNIA POWDER WORKS,**

No. 318 California Street.

JOHN F. LOHSE, Secretary.

25v14qr



**THE PACIFIC IRON WORKS,**

First & Fremont Sts., between Mission & Howard, San Francisco.

The proprietors of the above Works invite the attention of all parties interested to their greatly improved and unequalled facilities for manufacturing Steam Engines and Boilers, both Marine and Stationary, of any required size and pattern, Quartz Mills, Amalgamating, Pumping and Hoisting Machinery of the most approved construction. Flour, Saw, and Sugar Mills, Water Wheels, &c., &c. Our pattern list is most complete and extensive, embracing the late improvements in all classes of machinery adapted to use on this coast. We would call special attention to the fact that we have secured the exclusive right of manufacture for the Pacific Coast of the celebrated Greene Engine, conceded to be the most economical and perfect working Engine now in use. We are also exclusive manufacturers of the celebrated

Bryan Battery, Varney's Amalgamators and Separators, Ryerson's Superheated Steam Amalgamators and Rotary Crushers, Stone Breakers, &c. Orders respectfully Solicited.

GODDARD & COMPANY.



**Office Pacific Business College and Telegraphic Institute.**

Mechanics' Institute Building, Post Street. [Exterior View.]

A. de LEO de LAGUNA. [7v19-8m] JAMES VINSONHALER.

**PACIFIC POWDER MILL**

COMPANY'S

**BLASTING POWDER!**

MANUFACTURED

IN MARIN COUNTY,

CALIFORNIA.

FOR SALE BY

HAYWARD & COLEMAN,

AGENTS,

414 Front Street, San Francisco. 8v14-1m

**WESTERN HOTEL,**

Nos. 43 and 45 K street, between Second and Third streets, SACRAMENTO.

Board, per week.....\$4

Meals.....25 Cents.

12v15qr N. D. THAYER, Proprietor.



STOCK CERTIFICATES, STOCK TRANSFER JOURNALS, STOCK LEDGERS, ASSESSMENT RECEIPTS,

And all other Blanks, Blank Books, etc., required by Mining and other Corporations, kept on hand or printed to order on short notice, at moderate prices, at the office of the Mining and Scientific Press. 7v13-1y

**Machinists and Foundries.**

**Miners' Foundry**

**MACHINE WORKS**

Nos. 245 to 255 First Street, San Francisco.

HOWLAND, ANGELL & KING, PROPRIETORS,

**Manufacturers of Machinery for**

QUARTZ MILLS, FLOUR MILLS, SAW MILLS, SUGAR MILLS, POWDER MILLS, PAPER MILLS

**Steam Engines of all Kinds, Amalgamators of all Kinds.**

MINING PUMPS, HOISTING WORKS, OIL WELL TOOLS, ROCK BREAKERS,

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russian Iron Screens, of any degree of fineness. We are the only manufacturers on this coast of the "Kick's Engine," the most compact, simple in construction, and durable, of any Engine in use.

W. H. HOWLAND E. T. KING, H. E. ANGELL, CYRUS PALMER, 18v14-qr



**JAMES MACKEN, COPPER SMITH,**

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 18v11

**FIRST**

**Paint Manufactory IN CALIFORNIA.**

**EPES & E. H. R. ELLERY**

Have the Patent Right for the Pacific Coast to manufacture, sell and use

**Ellery's Patent India Rubber Cement & Paint.**

It is for all exposed surfaces; impervious to wet; will not rot, peel, blister or crack, in any climate. A superior Paint for brick, wood, cloth, metals, etc., successfully used in the Eastern States. The old tin roof of that large building, the New York Rice Mills, was in such bad condition it was about to be taken off long since. Instead, they put on the INDIA RUBBER CEMENT AND PAINT, making a roof tight. A coat of India Rubber Paint every two years since keeps it in good condition. We can refer to many others. The Atlantic Lead Works use our Paint only.

NEW CLOTH ROOFS put on; copings and all seams cemented and saturated, then coated with the India Rubber Cement and Paint—the same as on the St. Nicholas Hotel at New York City, the City Buildings and many others, the roofs of all the horse and steam cars, decks of steamboats, etc., around New York—or eight dollars per one hundred square feet. A FEW OLD TIR ROOFS repaired and painted with the India Rubber Cement and Paint guaranteed, at from one cent to two and a half cents per square foot, according to size and condition of roof. Good men and the best materials used.

We have just completed and painted old tin roofs of Dr. H. D. Cogswell, Tubbs & Co., D. J. Oliver, etc., and the wood work of Sheriff Davis' building, 88 feet front, on Folsom street, between Third and Fourth streets—only one coat. The work will speak for itself. Now painting the cornice and iron work of Dr. H. D. Cogswell's building, corner of Front and Clark streets—one coat. See the above and further references at our office.

ELLERY'S PATENT INDIA RUBBER CEMENT AND PAINT is composed of India rubber and other gums, dissolved in linseed oil, mixed with the various coloring matters and ground in any color. When applied to roofs or other purposes, it is mixed with pure linseed oil to the required thickness and put on as other paints are, with a paint brush—retaining sufficient elasticity to give and take with the heat and cold. Pile up your tin vessels at Cape Ann use the India Rubber Paint, finding it superior to all others.

EPES & E. H. R. ELLERY are now prepared to make good roofs, and cement and paint new or old roofs, and do all kinds of outside painting with Ellery's Patent India Rubber Paint. No asphaltum or coal tar used. Office, No. 226 Jackson street, corner Battery, San Francisco, Cal. 6v15

**International Hotel, JACKSON STREET,**

BETWEEN MONTGOMERY AND KEARNY STS.,

**SAN FRANCISCO, CAL.**

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1 50 to \$2 per day for Board and Room. FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.

Teams belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents. 21v12 F. E. WEGANT, Proprietor.

**SACRAMENTO SEMINARY.**

Boarding School for Young Ladies, I street, between Tenth and Eleventh streets, Sacramento. The present Session commenced July 23th, and will close December 20th. A full course of instruction is given. Six Teachers are employed. For further particulars, Address HERMON PERRY, Sacramento, Cal. 11v15-1m

**Just Published.**

THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS of the Nervous System and Reproductive Organs, to be had by addressing and inclosing twenty-five cents, postage stamps, to Secretary PAGE'S MUSEUM OF ANATOMY, Montgomery street San Francisco. 7v13-1y



Business Cards.

NATHANIEL GRAY. H. M. GRAY. N. GRAY & CO., UNDERTAKERS, 641 Sacramento St., cor. Wobb, San Francisco.

T. B. RODGERS, CUTLER, 108 Leidesdorff Street, Corner California, adjoining the Pacific Insurance Office, 9v153m\*

JONES & Wooll, Looking-Glass and Picture DEALERS, 613 Market street, near Montgomery. Factory, Market street, between Seventh and Eighth streets. 1v151f

Shot Guns and Rifles Selling at Five Dollars Each! THE AMERICAN ARMS COMPANY, are closing out their large stock of Heavy and Light Single Barrel Guns, suitable for Geese, Duck, Pigeon or Quail shooting. Heavy and Light Rifles at \$5 each. Enclose stamp and send for Catalogues. AMERICAN ARMS CO., 9v153m 639 1/2 Market street, San Francisco.

Schmiedell & Shotwell, Stock and Money Brokers and dealers in Government Bonds, State, City and County Securities, Gas, Water and Insurance Stocks, etc., southwest corner of California and Sansome streets, opposite Bank of California. 1v156m

REMOVAL.

The well known establishment of LUCY & HYMES, MANUFACTURERS OF Genuine Pale and Chemical OLIVE SOAPS,

Has been removed from Beale street, between Mission and Howard, to BRANNAN STREET, between Eighth and Ninth, and greatly enlarged. The capacity of this establishment is now the largest on the Pacific Coast. It is now in full operation, and prepared to supply the demand of the trade. Office—319 California St., San Francisco. 1v154r

MEUSSDORFFER,

Nos. 635 and 637 Commercial Street, WILL INTRODUCE On Saturday, February 9, 1867, An Entirely New Style of

Cloth Cashmere Hat "YACHT HENRIETTA," Which are the most dressy Hat ever introduced on the Pacific Coast. 8v14

ASPHALTUM

For sale in any quantity to suit, by the Pacific Asphaltum Company, No. 533 Kearny street, corner Sacramento, San Francisco.

This Asphaltum is the purest to be found in the market, being free from rock and clay, or other impurities. Sidewalks laid and Roofing done at shortest notice. 15v15qr NEUVAL & CO.

T. R. CHURCH,

FASHIONABLE CLOTHING EMPORIUM No. 223 Montgomery st., Russ Block.

WHOLESALE AND RETAIL DEALER IN FINE CUSTOM-MADE CLOTHING, AND GENTS' FURNISHING GOODS, TRUNKS, VALISES, CARPET-BAGS, Etc. at the Lowest Prices. 15v15qr

Generous Compliments.

The following is a sample of the generous acknowledgments which we frequently receive. We can only return thanks for such gentlemanly obligations, and assure our friends of our best endeavors to merit their respect and kindness: GEORGETOWN, January 22, '67. Messrs. DEWEY & Co.—Sirs: I have the honor to acknowledge receipt of your letter of the 21st instant, transmitting to me "Letters Patent" on my application through you for an "Improved Machine for Washing Ores." It came to hand safely, and I am pleased to tender you my grateful acknowledgments for your success on my behalf. Very truly yours, M. A. WOODSIDE.

By Mail.—The Mining and Scientific Press will be sent by mail to any part of the civilized world. In case of removal subscribers have only to inform us of the post office address of their old and new location, and the paper will be sent accordingly.

Trades and Manufactures.

WM. BARTLING. HENRY KIMBALL. BARTLING & KIMBALL, BOOKBINDERS, Paper Rulers and Blank Book Manufacturers, 505 Clay street, (southwest cor. Sansome), 15v12-3m SAN FRANCISCO.

JOHN DANIEL, (SUCCESSOR TO O. GORR) MARBLE WORKS, No. 421 Pine st. bet. Montgomery and Kearny, San Francisco Mantels, Monuments, Tombs, Plumbers' Slabs Etc., On hand and Manufactured to order. Goods shipped to all parts of the State. Orders received promptly filled. 15v15-3m

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The following Steamships will be dispatched on dates as given below: November 9th—CONSTITUTION, Capt. J. M. Cavarly Connecting with HENRY CHAUNCEY, Capt. Gray November 18th—MONTANA, Capt. E. S. Furnsworth Connecting with the GREAT SIA, Capt. Conner. November 30th—GOLDEN CITY, Capt. W. F. Lapidge Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.

Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas. If desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship GREAT REPUBLIC, Capt. S. Doano, will be dispatched December 4th, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONG-KONG, connecting at Yokohama with the steamer GOSTA RICA for SHANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

OLIVER ELDRIDGE, Agent. ESTABLISHED [MAY, 1860.]

VOLUME FIFTEEN OF THE Mining and Scientific Press, COMMENCING JULY, 1867.

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Life Insurance--The Money Drift.

EDITORS ALTA--I send in your issue of the 11th, a very important statistical paper, compiled by you from the Federal revenue returns, which proves the astounding fact that the distant Life Insurance Companies plying in California through "Agents," draw away nearly one million dollars per annum.

The drain under this head, as you state it, amounts to-- Year ending 1st August, 1885, \$2,293,261 Year ending 1st August, 1887, \$7,261,261

And as we write the drain increases and must be now near a million a year--to be a million and a half next year, and so on.

And you naturally ask with surprise why this matter has not been taken in hand by some of our enterprising insurance men, so as to arrest the flight of a moiety at least of this enormous drain.

I think, sirs, your question is well put, and though my hands are full, I am yet willing to stop forward and assume some of the responsibility and bear some of the preliminary expenses of forming such a Company.

When you reflect, sirs, that this million dollars a year is carried over land and sea, thousands upon thousands of miles, to places where it is lent out by distant Managers and Directors to their manufacturing and commercial friends around them, at five per cent, per annum, while our merchants and manufacturers, who are to compete with these, have to pay after per cent, per annum for money (we supply them with the golden weapons to beat us) you will then conceive the magnitude of the injuries effected by the sapping and mining operations of those distant Insurance Companies.

The money which must drain away, day by day, steamer after steamer, from our people, will not stop, impoverish this country quite as much as if it were conquered by a foreign power and held in perpetual tribute. A million a year, by compound interest, will be ten millions in five years, twenty millions in ten years, forty millions in fifteen years, eighty millions in twenty years, one hundred and sixty millions in twenty-five years, three hundred and twenty millions in thirty years! I will admit that the ordinary percentage of deaths on a business of thirty years will effect a drawback of one-third of the income, which in thirty years we will put at one hundred millions. Notwithstanding this, if we go on at our present scale of draining, we shall in thirty years lose by the insurance operation two hundred millions of dollars! But our drain, if we don't stop it, will not stand at one million a year; it will increase year after year from one million a year to two millions a year, which, by my foregoing computation, would in thirty years foot up to four hundred millions! What it would amount to in sixty years I leave to other calculators. In round numbers, I should guess it would come to the full number of dollars equaling the national debt of the United States!

Now, sirs, I care not what may be said of me by critics or jealous opponents, some of whom cannot see farther than their own noses. I announce myself as ready to make an effort to stop this drain, and I hold every man who co-operates with me a benefactor of his adopted country.

Let the capital of a Local Life and Health Insurance Company be one hundred thousand dollars to begin, in shares of one hundred dollars each. I shall cheerfully take the names of co-operators in a book opened this day, in the office of the California Building and Savings Bank, California street, for that purpose.

I remain, your obedient servant,

THOMAS MOONEY, Building and Savings Bank, California street, November 12th, 1887. 20v15-4v

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA. Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, Full Statistics of Mining and all other Industrial Resources. COMPILED BY EDWIN F. BEAN. Price, \$5--For sale at the office of the Mining and Sel. office Press, San Francisco. 15v15it

SULPHURETS; What they are; How Assayed; How Concentrated; And How Worked; With a Chapter on the BLOW-PIPE ASSAY OF MINERALS. By WM. BARSTOW, M. D. Published by A. Roman & Co., San Francisco. For sale at this Office--Price, One Dollar. With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v15f

Administrator's Sale. NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE of the order of the Probate Court of the City and County of San Francisco, in the State of California, made on the twenty-first day of November, A. D. 1887, in the matter of the estate of HENRY GAWAHL, deceased, the undersigned, Administrator of said estate, will sell at public auction, to the highest bidder, for cash in hand, in one parcel, and subject to confirmation by said Probate Court, on MONDAY, the sixteenth day of December, A. D. 1887, at twelve o'clock M., at the auction rooms of Maurice Dore & Co., No. 327 Montgomery street, in said City and County, all the right, title, interest and estate of said intestate at the time of his death, and to all that lot, piece or parcel of land, situate, lying and being in the said City and County, and bounded and described as follows, viz: Commencing on the southerly line of Bush street, distant 137 feet 6 inches westerly from the southwesterly corner of Bush and Hyde streets; thence running westerly on said southerly line of Bush street 137 feet 6 inches; thence at right angles southerly 137 feet 6 inches; thence at right angles northerly 137 feet 6 inches, to the southerly line of Bush street, the point of commencement, being 50-vara Lot No. 1367.

Adela Gold Mining Company, Rock Creek, Sierra County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1887, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 429 Pacific street, San Francisco.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1887, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 429 Pacific street, San Francisco.

New Mining Advertisements.

Cordillera Gold and Silver Mining Company, Chihuahua, Mexico. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Withers, J.J., Wheeler, Jesse, Mumford, J.W., Brown, J., Heiden, F.C., Reiden, F.C., etc.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Tuesday, the sixteenth day of December, 1887, at the hour of 1 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. no30

Chilpancingo Mining Company--District of Ores, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1887, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1888, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twentieth day of January, 1888, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco. no30

Lady Bell Copper Mining Company, Low Divide Mining District, Det Norte County, California. Notice--There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1887, the several amounts set opposite the names of the respective shareholders as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like G.W. Fellows, G.W. Fellows, P. Curades, Gavin Halston.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the store room of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1887, at the hour of 12 o'clock, M., of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary. Office, 648 Market street, San Francisco, Cal. no30

Lyon Mill and Mining Company, Keley District, El Dorado County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1887, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 5 Government House, corner Washington and Sansome streets, San Francisco, California. no30

Nevada and Corcoran Silver Mining Company, Storey County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of November, 1887, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 429 Pacific street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eleventh day of January, 1888, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. no30

Mining Notices--Continued. Adela Gold Mining Company, Rock Creek, Sierra County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the second day of November, 1887, an assessment of one dollar (\$1) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 429 Pacific street, San Francisco.

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada. Notice--There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Oliver Ames, Cyrus LeBaron, Jerome W Tyler, Jos C Tyler, John Blalsdell, John S Keyes, J.H. Goodrich, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1887, at the hour of 12 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets. no33

Ethun Allen Gold and Silver Mining Company. Location of Works: Austin, Lander County, Nevada. Notice--There are delinquent upon the following described stock, on account of assessment levied on the thirtieth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like M.L. McDonald, E.D. Sawyer, Nathan Porter, Thomas B. Bishop, etc.

And in accordance with law, and an order of the Board of Trustees, made on the thirtieth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Olney & Co., auctioneers, at No. 418 Montgomery street, San Francisco, Cal., on Monday, the second day of December, 1887, at the hour of 12 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

H. B. CONGDON, Secretary. Office, No. 620 Washington street, (Room 5) San Francisco, Cal. no9

Hanson Copper Mining Company, Location: Low Divide District, Det Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of November, 1887, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on and after November sixth, 1887, in United States gold and silver coin, to the Secretary, at his office, 609 Market street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fourth day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

S. S. SWEET, Secretary. Office, 609 Market street, San Francisco. no9

Hanson Copper Mining Company, Low Divide District, Det Norte County, California. Notice--The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 609 Market street, San Francisco, California, on SATURDAY, the twenty-first day of December, 1887, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

S. S. SWEET, Secretary. San Francisco, November 15, 1887. no6

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California. Assessment No. 3. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1887, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 323 Kearny street, San Francisco, or to O. Tanner, Treasurer of the Company, at Silver Mountain, Alpine County.

Any stock upon which said assessment shall remain unpaid on the sixteenth (16th) day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. THOMPSON, Secretary. Office, No. 623 Kearny street, San Francisco, Cal. no6

Mount Tenabo Silver Mining Company, Cortez District, Lander County, Nevada. Notice is hereby given, that the Annual Meeting of the Stockholders of the above named Company will be held on THURSDAY, the twenty-eighth day of November, 1887, at 11 o'clock A. M., at the office of the Company, No. 331 Montgomery street, San Francisco, for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary. Office, No. 331 Montgomery street, San Francisco. San Francisco, November 31st, 1887. nov9

Mount Tenabo Silver Mining Company, Location of Works: Cortez District, Lander County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 426 Montgomery streets, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twelfth day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirty-first day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. N. VAN BRUNT, Secretary. Office, 426 Montgomery street, San Francisco.

N. B.--Two per cent. will be allowed on all payments made on the above prior to the 23d inst. no8

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada. Notice--There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1887, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Oliver Ames, Cyrus LeBaron, Jerome W Tyler, Jos C Tyler, John Blalsdell, John S Keyes, J.H. Goodrich, etc.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1887, at the hour of 12 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets. no33

Trustees, made on the nineteenth day of September, 1887, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 423 Front street, San Francisco, California, on Saturday, the seventh day of December, 1887, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. no23

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1887, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the first day of January, 1888, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

OEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. no23

Nuestra Senora de Guadalupe Silver Mining Company, Location of Works: Tayollita, San Dimas District, Durango, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of October, 1887, an assessment (No. 2) of one dollar (\$1) per share was levied upon the assessable capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, E. J. Armstrong, at his office, No. 210 Post street, or to the Treasurer, A. H. Armstrong, at his office, No. 637 Washington street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirtieth day of November, 1887, shall be deemed delinquent and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

E. J. PEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. no25

Santon Mining Company, Location of Works: Drytown Mining District, Amador County, State of California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1887, an assessment of one hundred and fifty dollars per share was levied upon the capital stock of said Company, payable on the twentieth day of December, 1887, in United States gold coin, to the Secretary, at the office of the Company, No. 60 Exchange Building, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eighteenth day of January, 1888, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets, San Francisco, Cal. no23

Sophia Consolidated Gold and Silver Mining Company, Toloume County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventh day of November, 1887, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 641 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the sixteenth (16th) day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPHI, Secretary. Office, 641 Washington street, San Francisco. no9

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs district, Lyon County, Nevada. Notice is hereby given, that the following named shares in the capital stock of the Whitman Gold and Silver Mining Company, designated by the number of Certificate of each parcel of said stock, were sold, as by law provided, at public auction, on the twenty-eighth day of October, 1887, for delinquent assessments thereon, and will not be transferred by said Company:

Table with columns: No. Cert., No. shs., No. Cert., No. shs., No. Cert., No. shs. Includes numbers like 141, 142, 143, etc.

T. W. COLBURN, Secretary. San Francisco, Oct. 31, 1887. Whitman G. & S. M. Co. no3-3v

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1887, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 402 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of December, 1887, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1887, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. no2

Postponement--The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the first day of January, 1888, and the sale thereof until the twenty-second day of January, 1888. By order of the Board of Trustees.

T. W. COLBURN, Secretary. San Francisco, Nov. 27, 1887. no9



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

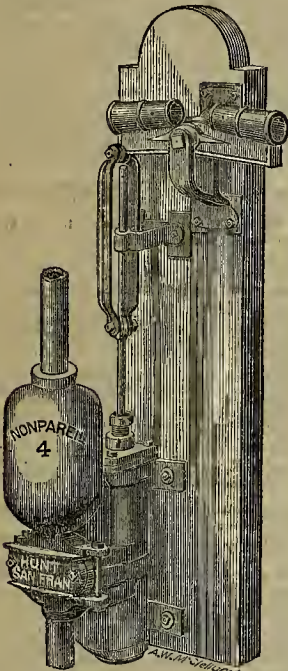
This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second Street, and 108 Jessie Street. 14155ft E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boilers, Castings,

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant St., San Francisco. HAS FOR SALE

- One Engine, 5-Horse Power, \$100
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One 30-Horse Roller, 300

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS.

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12155ft

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 2512 3m

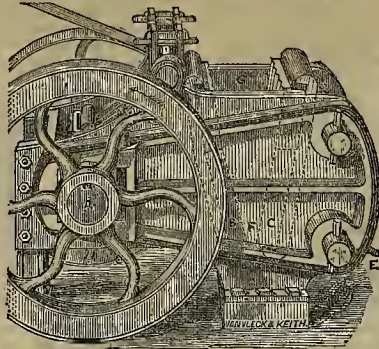
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hardy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7145-97 THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and Durability. In consequence of these advantages, the advertiser is enabled to offer these machines to the public at the following low terms: No. 1-Or 4-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut-price, \$300

No. 2-Or 15 inch Crusher, capable of similarly putting through five to six tons per hour, price, \$500 No. 3-Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour, price, \$1,200

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the link or radius bar. C represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, B, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, R. White Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada, and in other parts of the country, in operation at the Fulton Foundry, First street, San Francisco. The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in the "Sierra Nevada" Country: RAWHIDE RANCH, Tuolumne Co., Sept. 20, 1866. JAMES BRODIE, Esq., San Francisco-My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly processing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL. This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the Improved German Barrel, for a longer term than twelve months. All persons desirous of compromising, without having recourse to legal proceedings, for partnerships, or divisions of interest, or for Licenses for the limited period named, are requested to address below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING. This Dry Crusher has been recently invented, and is a most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

For a full and complete description of this machine, will be found in the Mining and Scientific Press of Sept. 22d, 1866. JAMES BRODIE, Esq., Fulton Foundry, San Francisco. CHARLES RADCLIFF, Express Building, 402 Montgomery Street, San Francisco.

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as to turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, and when the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds, and will never be blown through-out the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 28 Second St., and 108 and 110 Jessie St. San Francisco. 12155ft

DR. BEERS' PATENT

WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Precious Minerals, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest freeness can be saved without loss, requiring little attention, the machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11165 6m

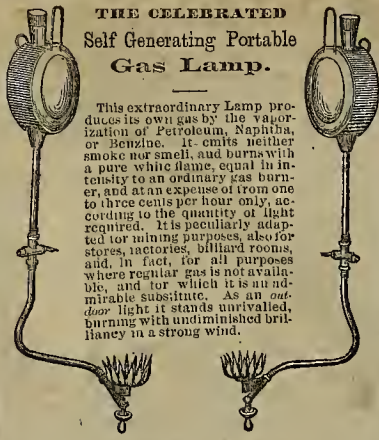
NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files,

Etc., Shear, Spring, Ocrman, Plov, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco. 10149ft



THE CELEBRATED Self Generating Portable Gas Lamp.

This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour, only, as required. It is peculiarly adapted for mining purposes, also for stores, factories, billiard rooms, and in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

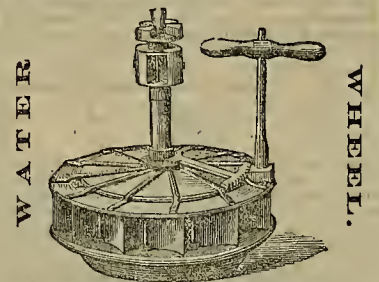
Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap, and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed.

A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light-by turning the top off, it will gradually go out.

When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt-cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe-the ends cut short off; the burner again screwed on with a little white lead, and the lamp is ready for use.

Manufactured solely by JOHN J. HUCKS, original proprietor, Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 1814-3m-8

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALLED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.-E. Stockton, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morzan Coville, Lexington; Santa Clara County; J. V. McMillan, Lexington; Santa Clara County. Send for Circular to KNAPP & GRANT, Agents for California. 2613-15q 310 Washington street, San Francisco.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO.,

Pacific Iron Works, 915ft, San Francisco, Aug. 29, 1867.

NOTICE TO MERCHANTS

AND MANUFACTURERS.

Moore's Patent Friction Hoist.

Now in successful operation in the principal stores in San Francisco, possesses many advantages over the common Hoist-viz: Greater strength; less danger in working, as goods require no slinging or handling, consequently make fewer breakages; requires one man less to operate it; stops with the load at any point, without any fastening or attention from the operator.

The undersigned take this opportunity to notify all whom it may concern that they have secured, by letters patent, the application of a friction pawl, or stop, to hoisting machines, and that they will prosecute any party making or using any machine infringing upon the same. VULCAN IRON WORKS CO. By JOSEPH MOORE, President. JOSEPH MOORE. 21165 ft

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3113ft SAN FRANCISCO.

Engraved to Order.-Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices. HEWLEY & CO., Patent Agents, Publishers and Job Printers, 505 Clay st.

Manufacture of Black Lead Crucibles.

The manufacture of black lead crucibles, and their extensive use in California by the United States Mint and by assayers, for melting gold into bars, and the demand for the larger size for forming our silver bricks in Washoe and other silver districts, is an important item. Such crucibles are also largely used by brass foundries. Many veins of black lead have been discovered in California, and samples have been sent East; but this article has never yet been produced here of the right quality for the manufacture of crucibles. Their manufacture has never been attempted here, except as an experiment. There are but one or two even of our Eastern manufacturers who have arrived at that degree of perfection in this art that enables them to turn out a crucible that will stand the great heat to which they are necessarily subjected, and particularly to endure a number of successive melts, as is expected of a good article.

The crucibles made by Joseph Dixon & Co., of Jersey City, have the best reputation in California. Indeed, their reputation is world-wide; they are even found superior to the English and French, and are exported to Europe and employed, in many places, in preference to those made there. It requires much care and experience to select the right quality of black lead for this manufacture, and to get the right proportion of mixture with other materials to form an article to stand the greatest amount of heat.

Messrs. Dixon & Co. claim a great degree of skill in their manufacture, and more or less secrecy in their mixtures. This firm also manufacture a very superior article of stove polish.

Messrs. John Taylor & Co., of this city, have imported large quantities of these crucibles and stove polish, and supplied the greater portion of the demand for those articles on the Pacific Coast since 1852. We clip the following description of the works of the Messrs. Dixon & Co. from the New York Evening Mail:

Perhaps, away from the immediate vicinity of New York, Jersey City is best known as the place from which come the famous black lead, or plumbago crucibles which are now so extensively used the world over. There are two manufactories of these, and as one of them is the originator of all such establishments in the country, it is but just that it should be reviewed and described first. We refer to the well known Crucible and Stove Blacking Works of Messrs. Dixon & Co., located on Railroad avenue, something more than a mile from the ferry. In the year 1827, Mr. Joseph Dixon, the originator of the firm and of the business, began the making of plumbago crucibles at Salem, Mass. It is a remarkable fact, that previous to that time plumbago from Ceylon had long been looked upon in the light of a very beautiful mineralogical specimen and of no practical use, as it was too coarse for use as lead pencils. But Mr. Dixon conceived the plan of making crucibles of it for the smelting of metals, and the first lot of plumbago, only a few tons, was brought to Salem in 1827 by Captain Joseph Rogers, a prominent Indian agent of that city, which, it may not be remembered, at one time had the monopoly of the American India trade.

It required twenty years to drive the foreign crucibles out of even the American foundries, as many of the workmen then employed were foreigners. In 1847, the business was begun in Jersey City, where it has grown to its present proportions. The plumbago is brought from the mountains of Ceylon, and is mixed with clay brought from Bavaria, and then is made into crucibles upon wheels, precisely as pottery or stone ware is turned out, and is baked in a kiln in the same manner. Messrs. Dixon & Co. have sent out something over two millions of these crucibles since the works were started. This year the number will probably be two hundred and fifty thousand. They are made of all sizes, from those to contain one pound of brass up to six hundred pounds. They have been used in our Mint for twenty years, and for fourteen in the French and English. Years ago certificates were received from both these mints attesting the great durability and excellence of these crucibles. The director of the Fye-wood Works at Rotterdam says he has



melted nearly 3,000 pounds of pieces of cannon and copper in one of these crucibles, while to melt the same amount of metal would have required at least seven or eight German pots.

AN INTERESTING RELIC.—The original log book of the Fulton, which made the first steam voyage across the Atlantic, is in the possession of Capt. Charles H. Townsend of the Havro steamship Fulton.

THE Mexican Mountain of San José is one vast silver mine. There are no veins. From any part of it rock can be taken producing from \$40 to \$100 per ton.

DEEP.—A cavern and subterranean lake, whose depths cannot be fathomed, have been found in Wyandot county, Ohio.

FRUIT is the antidote of fevers, and both come in the same season. The best remedy for the bite of a rattlesnake is lobelia, which grows around its den.

LESS skill is required to make whisky than vinegar. In Germany, they have a vinegar school where the student graduates in four months.

THE Nova Scotia gold mines are now yielding more abundantly than at any previous time, and the work of developing them is being prosecuted with great vigor.

GOLD mining is about to be commenced at Bluffton and Huntington, Ind. At the latter place a quartz mill is being erected at a cost of \$10,000.

Pacific Chemical Works, Laboratory, Sixteenth street, near Folsom. Office, 623 Montgomery street, San Francisco. FALKENAU & HANKS, MANUFACTURING AND CONSULTING CHEMISTS.

SANTA CLARA COLLEGE, S. J. SANTA CLARA, CAL. Conducted by the Fathers of the Society of Jesus.

THE SEVENTEENTH ANNUAL SESSION of this College will commence on August 28, 1867. TERMS—Tuition in the Classical and Scientific Department, Boarding and Lodging, Washing and Mending of Articles Washed, School Stationery, Medical Attendance and Medicines, Fuel, Light, Baths, etc., per session of ten months, \$350.

Pratt's Abolition Oil.

FARMERS' AND MECHANICS' BANK OF SAVINGS. 235 Sansome street, near California. Incorporated under the Act of the Legislature of California, approved April 11th, 1862.

Assayer and Chemist.

A GENTLEMAN WELL VERSO IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine.

Quartz Mill Construction and Superintendence

THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendent in the construction or operation of a quartz mill.

Economy in Advertising.—THE MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city.

N. P. LANGLAND, STAIR BUILDER. No. 49 Beal street, Between Market and Mission, SAN FRANCISCO. 1874-ly

NEW YORK PRICES. WATCH REPAIRING AT NEW YORK PRICES. C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY.

WE ARE NOW OFFERING OUR IMMENSE STOCK OF Fine Custom Made Clothing. Gents' Furnishing Goods. AT PRICES THAT DEFY COMPETITION.

Notice to Miners, Well-Borers and Water Companies. M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner.

FARMERS' AND MECHANICS' BANK OF SAVINGS. 235 Sansome street, near California.

Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS. Illuminating, Lubricating, AND PAINT OILS! CONSISTING OF KEROSENE, LARGO, SPEARM, ELEPHANT, POLAR, TANNERS', NEATFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

Golden City Chemical Works. LABORATORY, Corner of Seventh and Townsend Streets. OFFICE, Corner of Montgomery and Bush Streets.

BLAKE'S PATENT QUARTZ CRUSHER. CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

THE CENTRAL PARK OF THE PACIFIC. Woodward's Gardens, ART GALLERY, MUSEUM, GYMNASIUM, AND ZOOLOGICAL GARDENS.

Pacific Powder Mills. SUPERIOR BLASTING AND SPORTING GUNPOWDER. Black Diamond, in 1 lb canisters. do do in 2 lb canisters.

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge.

PACIFIC Insurance Company, SAN FRANCISCO, CAL., Office, No. 422 California Street. CASH ASSETS, JULY 1, 1867, \$1,238,054 91.

San Francisco: W. C. Halston, A. L. Tuttle, Wm Alvord, Jonathan Hunt, A. B. Forbes, A. G. Silles, A. Seligman, L. B. Benschley, Wm Sherman, L. Sachs, James O'Freemery, J. G. Bray, David Stern, D. O. Mills, J. Friedlander, Moses Heller, H. M. Sewall, U. T. Lawton, Edward Martin, Chas. Mayne, E. L. Goldstein, J. O. Earl, Lloyd Tevis, Thos H Selby, Adam Grant, Alpheus Bull, S. M. Wilson, O. J. Gilver, W. Scholle, Morton Cheesman, A. Hansmann, D. W. C. Mico.

California Steam Navigation COMPANY. Steamer CAPITAL.....CAPT. E. A. POOLE CHRYSOPILOS.....CAPT. A. FOSTER. " YOSEMITE..... " CORNELIA.....CAPT. W. BROMLEY " JULIA.....CAPT. E. CONKLIN.

It is a Fact, That BOWMAN'S AMERICAN WASHING COMPOUND is the best article for Wash and Cleaning yet discovered. It is acknowledged to be a saving both in money and labor.

Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS—SULPHATE OF IRON—for sale in lots to suit. BENJ. BRADY, 103 California street.



**THE NEW CRUSHING PROCESSES AT MARIPOSA.**—We understand that Prof. Silliman, one of the principal proprietors and managers of the Quail Hill Mining Co., a few weeks since, sent two tons of the ore from that mine to the mill at Mariposa, to be treated by the process now in operation there—dry crushing with stamps, and final pulverization by the ball and barrel process. The ore, such as sent, when worked at the mine by the ordinary stamp mill process, yields about \$5 to the ton. The yield at Mariposa, we are informed, was \$15 to the ton. It was put through the barrels in three charges of about 1,300 pounds each. The yield of the separate charges was very nearly equal. This experiment is considered a very fair test of the relative value of the two processes. The yield was increased from \$5 to \$15 per ton. Of the relative cost we have no knowledge; but from the statements of the owners of the Mariposa process, it can bear no manner of proportion to the reported increase of yield. The character of the ore, however, is extremely favorable for exhibiting a marked contrast between the two modes of working—it being a highly decomposed sulphuret, containing extremely fine gold, a large portion of which must unavoidably be washed away by the large quantity of water necessarily employed in the wet process of stamping.

We give the above from hearsay. If it is half true, we shall soon hear of the Mariposa process being adopted at Quail Hill. If no change is made in the works there, we may reasonably infer that we have been misinformed with regard to the main facts in the case.

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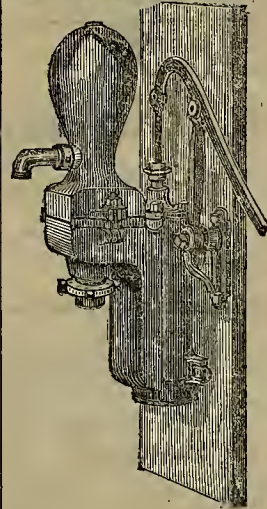
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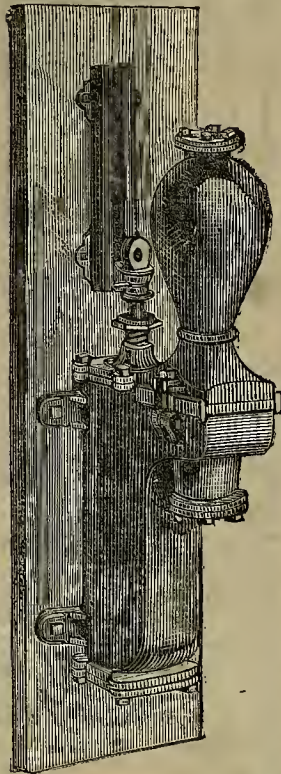
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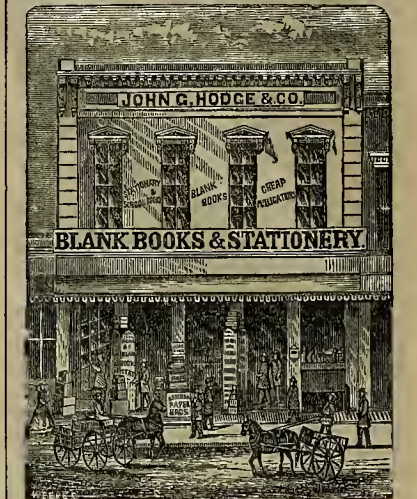
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SAN FRANCISCO, SATURDAY, DECEMBER 7, 1867.

VOLUME XV.  
Number 23.

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The Late Explosion at the General Tunnel. American Iron. MISCELLANEOUS.—Conveying Steam through Long Pipes; Broken Gas Wheels; Steel Cranks. MININGSUMMARY—Comprising late intelligence from the various counties and districts in California, Arizona, British Columbia, Colorado, Idaho, Nevada, Oregon and Utah. New Patents and Inventions. New Incorporations—List of Officers. Notices to Correspondents. San Francisco Metal Market. San Francisco Market Rates. Stock Prices—Bid and Asked. San Francisco Weekly Stock Circular. Mining Shareholders' Directory.

## Carvalho's Improved Steam Super-Heater.

Every engineer is fully aware of the great superiority of dry over wet steam, and numerous contrivances have been from time to time devised to more perfectly and economically attain this end. Different forms of boiler construction, such as steam drums, pipes on the interior of the up-takes of furnaces, etc., are the most common means employed; but, despite the most carefully constructed furnace and boiler, a large amount of water will find its way into the engine cylinder and greatly interfere with its proper work, causing it to labor and thump. This is not at all to be wondered at when we consider that nearly all the steam generated in boilers, of whatever make, must necessarily pass through a greater or less depth of water before reaching the steam place or chamber, and so become mechanically charged with moisture. A large proportion of this moisture unavoidably finds its way to the engine, when no super-heating apparatus intervenes. That such may be the case, even when all parts of the machinery are brought to a proper degree of temperature, is often apparent in a most aggravating manner, when, for some cause or other, foaming of the water (priming) is induced. In addition to these troubles, the evil is generally seriously increased by the rapid condensation of steam when so conditioned. Moreover, the water so carried over with the steam, has been highly heated at the cost of much fuel, which, instead of being converted into power, is actually made to operate as a detriment thereto.

Of late years, various plans have been devised for passing the steam, on its way from the boiler to the engine cylinder, through the fire-box, for the purpose of converting the wet or saturated vapor into dry steam. This process is usually termed "super-heating," and by it not only the vapory matter, commingling with the steam, is converted into pure steam; but a much greater degree of elasticity is also given to the entire amount of steam generated, while its temperature is so materially increased as to preserve it from condensation in the steam pipe and cylinder, which always takes place, to a greater or less extent, in working saturated steam. An engine always works easier and with less steam, when dry steam only is allowed to pass into the cylinder.

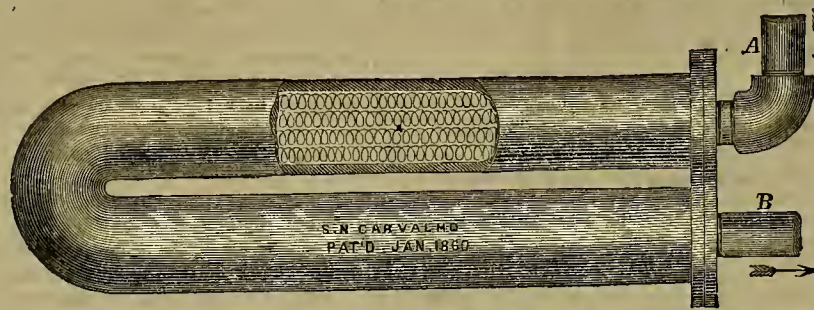
The illustrations which we give herewith

represent what is probably the best, simplest and cheapest device for super-heating steam which has yet been devised. It is known as "Carvalho's Patent Steam Super-Heater." Fig. 1 represents the super-heater with a portion of the shell taken away, so as to show the manner in which it is prepared inside—being filled with coiled wire. By this arrangement, every portion of the steam is compelled to come in contact with a dry,

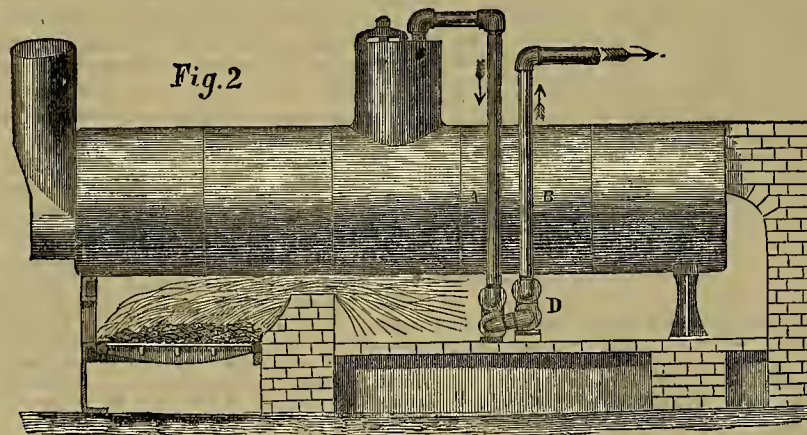
beater, so increased in temperature as to fulfill the conditions already described as so essential to the proper working of an engine. A represents the connection with the boiler, while B connects with the engine cylinder. These connections are fully seen in Fig. 2, which presents a side view of the boiler. The super-heater, as will be seen, is placed about midway between the fire-bridge and the rear of the boiler, so as to take up waste

CATALOGUE OF THE MECHANICS' INSTITUTE LIBRARY.—The Mechanics' Institute, for the first time in its history, has just issued a full and carefully prepared catalogue of its library. It appears from the statement of the Librarian, J. B. Pierce, that the subject of preparing a catalogue has been considered at various times for the past seven years; but for one cause or another has been deferred until the present time. The present catalogue was mainly arranged and prepared about a year ago by Mr. R. R. Lloyd, the late additions having been made by Mr. Pierce, and errors corrected as far as discovered. The opening pages contain a list of the officers of the Institute, a copy of the constitution and by-laws, rules and regulations of the library, reading room, chess room, etc.

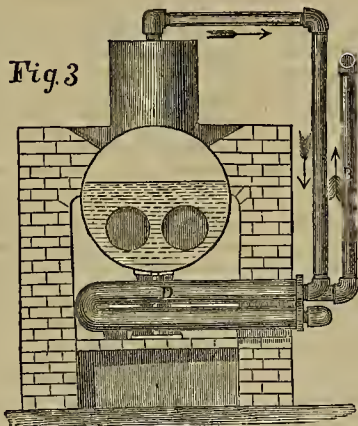
The catalogue is divided into two parts—the first being an alphabetical list of authors, each name followed by an alphabetical list of works by that author. The second part contains an analytical list of books, arranged by titles, with names of authors appended, so far as known. This portion of the catalogue is divided into 21 classes, with a supplemental list of books received since the manuscript was put into the hands of the printer. The classification of the works has evidently been made with much care and most excellent judgment. By the aid of this catalogue, any person at all conversant with books may most readily find any work in the library, upon any subject which he may have in mind. Every member of the Institute should provide himself with a catalogue of the library. It will be found a great convenience in the selection of read-



CARVALHO'S IMPROVED STEAM SUPER-HEATER.—Fig. 1.



SECTIONAL SIDE VIEW.



SECTIONAL END VIEW.

beating surface. Without this metallic filling the steam would rush through in an undisturbed column, in such a manner that the outside of the column only would be brought in contact with a heating surface. By this contrivance, every particle of the vapor contained in the steam is first converted into true steam, which steam is, in its subsequent travel through the super-

heater in position. The boiler and engine connections will be readily seen in both figures.

In addition to the advantages enumerated above, they also effect an important saving of fuel, admit of the employment of steam at a lower pressure, and thereby diminish the strain upon the boilers and lessen the danger of explosion. They have been very extensively introduced into use at the East, where they are giving great satisfaction, as is shown by the high character of the testimonials exhibited by the agent here, some of which will be spread before the readers of the Press, through its advertising columns, in a few weeks.

Mr. Robert L. Harris is the agent for the manufacture and sale of these super-heaters for the Pacific Coast. He may be found at the Aetna Iron Works, in this city, where they are manufactured and sold, and where one of them may be seen in use. They can be readily attached to any boilers, new or old, at a small cost.

GOOD PAY.—The present proprietors of the *Atlantic Monthly* have made \$200,000 out of it since they took hold of it.

ing matter, and by its assistance much work may be leisurely done at home, which must otherwise be done at great inconvenience and loss of time, at the library. The cost of printing is to be reimbursed to the Institute by the sale of the catalogues at 50 cents each.

TAKEN DOWN A LITTLE.—By reference to the reported proceedings of the Academy of Sciences, on Monday evening last, it will be perceived that our Sacramento friends will have to come down a little in their hitherto claimed altitude over the Bay City. According to the remarks of Mr. R. L. Harris, there has heretofore existed an error of no less than *thirty-five feet* in the supposed elevation of the State Capital above the tide level. The Pacific Railroad, too, will observe that they have not taken a locomotive quite as high as heretofore reported; yet, they can afford to come down a little as long as they can still claim to have run the iron horse to a higher elevation than it has ever before reached in any part of the world. Some important facts and considerations with reference to the tule lands will also be found in our report of the Academy's proceedings.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[By our Special Correspondent.]

## General View of the Paris Exposition of 1867.

By W. P. BLAKE, Commissioner from the State of California

(Continued from page 337.)

## TOOLS FOR BORING SHAFTS.

It is unnecessary to describe the various forms of augurs and drills for boring artesian wells, displayed in the French section. They are not superior to those now in use, with us for sinking oil wells. But there is another class of boring tools used for opening shafts in soft ground or in stratified formations that can be easily perforated, and where quantities of water are encountered. These tools are enormous reamers or drills, from six to twelve feet across the face, so that they will open circular shafts of the same dimensions. They are made of wrought iron and weigh many tons. A massive cross-head is armed with stout steel cutters, like teeth, set in rows at the outer ends and projecting downwards. A small guide hole being first bored into the earth, these larger tools are made to follow and enlarge it. At the same time the shaft is lined by a water-tight curbing or cylinder of wrought iron, made in short sections, one bolted upon another by means of flanges, which descend as the shaft progresses. The lower section is made double, and the space is so filled in with moss or tow that it makes a water-tight joint, and excludes all water from the shaft except that which enters at the bottom. This is the method or invention of Messrs. Kind & Chaudron, and has been tried with success at the coal mines of St. Avold and d'Hopital. It has received a grand prize.

## MACHINES FOR EXTRACTION.

Hoisting engines and apparatus are found only in the French and Belgian sections. In the former, the most conspicuous is a machine with double vertical engines, and the winding reels or bobbins high in the air above them. This is from the establishment of Quillac, at Auzin, which has turned out a large number of powerful engines of similar construction, for the French coal mines. They claim to have supplied 67 machines, of the aggregate horse power of 7,012, since 1856. One of 500-horse power was for pumping. The cylinders of the engine in the Exhibition are about three feet diameter, and six feet stroke. They are connected directly with the bobbin shaft above, without gearing. This shaft carries two bobbins, 22 feet in diameter, intended for flat wire or hemp cables. The wooden arms of these bobbins are united at their extremities by segments of iron. The engineer stands on an elevated platform and looks under and between the bobbins towards the mouth of the shaft. The movement is controlled by link motion, and the brakes are operated by steam. The poppet heads, pulleys and frame work, to be placed over the mouth of the shaft, together with the cages, guides and wagons are shown, in connection with the engines, and the whole forms the most complete and attractive-looking hoisting apparatus exhibited, but it is questionable if this vertical arrangement is so desirable as the horizontal. Another hoisting apparatus in the Belgian section, has the bobbins placed below the cylinders, the shaft being on the level of the floor, and the cylinders inverted above it. The engineer of the machine stands above the whole, and has an unobstructed view of the shaft and the pulleys above it.

There are also two or three beautifully finished horizontal hoisting engines, all of them double and direct-acting upon the bobbin shaft. Some of the bobbins are provided with light wrought iron segments to connect the spokes. Most of the machines have friction hands suspended around a central or outer wheel, made specially for the purpose. Those hands are operated by steam. Other machines have brakes instead of metal bands. These are merely segments of wood set in iron frames and drawn forcibly against the opposite sides of a friction

wheel, on the main shaft, by means of levers also operated by steam. The power varies from 80 to 150 horses.

Much care is bestowed upon the construction of indicators to show the engineer the exact position of the cages in the shaft. Geared wheels connecting with the bobbin shaft give motion to a long horizontal screw, which moves indices back and forth directly under the eye of the engineer, and rings bells as the cages near the top or the bottom of the shaft.

The machines which I have noticed all have a very light, airy appearance, and are somewhat in contrast with another machine shown in the Park, in the building devoted to the productions of the great establishment of Creuzot. This is made for the coal mines of Blanzay, to perform very heavy work, and is made very strong and solid. It is horizontal, double engines and direct-acting. The cylinders are very long, and are placed some 20 feet apart. Bobbins for flat cable and 20 feet diameter; the spokes of which are not connected by metal rims.

## CABLES.

Some very heavy and well made flat wire cables are shown in the French and Belgian sections. In the Belgian, some are made of ordinary round wire cables, one inch in diameter, and united side by side, and are long enough for mines 2,800 feet deep. It is claimed that this is an improvement over the usual mode of laying the flat cables, and that it permits more rapid winding. I did not see, however, any better samples of light wire rope work than those shown in the United States section by A. S. Hallidie & Co., of San Francisco.

## CAGES AND WAGONS.

The system of using cages of several stories, so as to take wagons one above another, is being abandoned, as much as possible, for the broad cage, to receive the wagons upon the same level. This of course necessitates a larger shaft, but the saving of time, trouble and wear, is very great over the other method.

Nicholas Libotte, of Belgium, exhibits some very well made cages, made wholly of wrought iron, intended for the mines of a coal company near Liege, Belgium. They are made to take two tiers of wagons, three on each, or six wagons in all. The cage weighs 1,268 kilo., about 2,536 pounds, and the parachute attachment, 328 pounds. Another cage is constructed to take six wagons, one above another—total weight, including parachute, 3,124 pounds. The wagons intended for this cage are about six feet long and two feet six inches wide. The guides in the shafts are intended to be made of wood, and the slides or bearings on the cage are made of steel. All the cages shown are provided with safety parachutes, not differing particularly from those already often described.

## CRUSHING AND DRESSING MACHINES.

The only ore crushers shown are Blake's rock breaker, and the well known Cornish rollers, the former being exhibited by the assignees of the patent in France, in the French section, and received a gold medal. The same parties show self-acting and discharging jigs, modifications of the Cornish machine, with the grates fixed and the water forced up through them and the ore by a plunger. These are made entirely of cast iron, and were operating very well upon lead ore. A table for dressing fine ore is made of an endless belt of canvas, which moves in a direction opposite to the flow of the ore, and at the same time receives a shock or percussion. With the exception of the percussion, the arrangement is very similar to one tried by Mr. Williams, at the Benton mill, some years ago, and abandoned as unsatisfactory.

Paris, Sept. 25th, 1867.

In France Government raises all kinds of improved stock for sale, and prohibits farmers from doing so. No agricultural societies are allowed, for Government does all this business, and there cannot be a meeting of more than 20 persons for any object whatever, without consent of the Government.

A POWERFUL EXPLOSIVE.—Ehrhardt's safety powder, the Prussian invention, is used with great success in blasting away the rocks obstructing Boston harbor. Eight pounds of it in six days removed 150 tons of rock, while 520 pounds of ordinary powder and 39 days' labor disturbed only 20 tons.

A PECULIAR carriage, with wheels ten feet in diameter and sails, has been constructed in St. Louis, for use on the plains. It can be used as a boat in crossing.

[Written for the Mining and Scientific Press.]

## The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER FOUR.

## GENERAL RESUME OF THE PROCESSES DESCRIBED.

Seven different modes of reducing silver from its ores have been described, which, including the Washoe pan method, would comprise five which are associated with the employment of mercury as the chief and final reducing agent, and three of modern introduction, depending for their results upon chemical treatment of varied character. Owing to the circumstance that mercury combines with almost equal celerity to form an amalgam with either gold or silver, it fortunately happens that when quicksilver is used the last named metal rapidly combines the two first, either present alone or together, into an amalgam, provided they are made to come into contact with the mercury in certain conditions. This is a circumstance never to be lost sight of in weighing the merits or disadvantages of amalgamation in comparison with the chemical methods of late introduction. Of the three chemical modes alluded to, two are totally unfitted for the extraction of gold at the same time that the silver is obtained by the different solvents; for gold is equally insoluble in hyposulphite of soda as hot water, and whatever may occur under very particular associations and conditions, this is quite certain, viz: that with ores containing gold, which have been desulphurized by means of heat, that valuable metal invariably exists in the metallic condition. The facts just stated will very much tend to prejudice the introduction of either method on this coast, particularly where the two precious metals are found in the same ore. Augustin's method, by leaching the artificially produced chloride of silver by means of a hot solution of common salt, possibly may in one respect possess some superiority over the hyposulphite of soda and hot water methods.

It has been proposed to obtain gold and silver at the same operation when employing Augustin's mode, by impregnating the hot salt solution with chlorine, which, it has been asserted, would have the effect of dissolving the gold present also. I have no knowledge how far any practical results have followed from the above suggestion. That this method would succeed to some extent I am satisfied, but its economic advantage is problematical, and is doubtful in the extreme if the gold should exist in a coarse condition, other objectionable features may also occur.

## AN EPISODE.

[The preceding, as well as the following unbracketed portions of the present paper, were written prior to the appearance of an article relating to Augustin's process which appeared in the MINING AND SCIENTIFIC PRESS on the 23d ultimo, being an extract in advance of the forthcoming work of G. Kustel. It was my intention at the time of writing the immediately preceding remarks, to have again returned to the subject when closing a summary of the adaptation and economy associated with the various modes for obtaining gold and silver from their ores. I then abstained from doing so, as I did not conceive myself to be sufficiently well informed as to whether or not the application of a joint saturated solution of chlorine and common salt, would effectively and at one operation leach out both the gold and silver present in the ore. With the exception of a case which will shortly be alluded to, I had not received any information prior to the appearance of the above notice by Mr. Kustel, that chlorine, in association with a solution of common salt, had ever been employed on a working scale for separating gold and silver from their ores at one and the same time. About three or four years ago, this mode was publicly proposed and underwent the usual round of the press, but I never heard that it had been acted upon on any considerable scale, though I suspected that something of the kind might have been done at St. Helens, Lancashire, England, about sixteen years ago. My suspicions are based upon the following

circumstances. As near as I can ascertain, sometime in the year 1859, Mr. J. A. Phillips delivered a lecture at the rooms of the Society of Arts, London, "On the Metallurgy of Lead." In consonance with the ordinary practice on such occasions at this institution, a discussion took place at the conclusion of the lecture. In the course of the closing remarks of the chairman of the meeting, (Robert Hume, Esq.) that gentleman observed, in common with other observations connected with the subject, that "The material formerly thrown away from that manufacture, (sulphuric acid) was now disposed of to another house, and being roasted with common salt, copper was obtained as a muriate, and precipitated with iron; chloride of silver was likewise obtained, which, being dissolved out by a strong brine, was subsequently precipitated. The silver cake was sent to the metropolis, where in place of only obtaining the usual price of 5s. (\$1½) it brought from 8s. to 10s. (\$2 to \$2½) per oz., on account of the gold it contained." Although not mentioned in the preceding paragraph, as incident to the process, that chlorine was employed in combination with brine, I am pretty well satisfied that such was the case, for the following reasons:

In my earliest communications in this State on the subject of gold and silver reduction, I mentioned the fact that, as early as February, 1849, I had patented in England, among other matters, some improvements for more economically obtaining gold and silver from certain refractory, or, as they are called in Washoe parlance, rebellious ores; which, at the same time, were described as consisting of a variety, locally called blue stone, containing about 40 per cent. zinc, in the form of blende, 8 to 10 per cent. iron as pyrites, 10 to 20 per cent. lead as galeua, 2 per cent. copper as sulphide, 8 to 12 ozs. of silver, and from \$2 to \$3 worth of gold to the ton; the balance, consisting chiefly of sulphur, with varying amounts of earthy matter, consisting of from 8 to 15 per cent. The motive that has induced me to give the above figures will soon appear.

The "material" alluded to above by the chairman of the Society of Arts, as having been thrown away prior to being treated for the extraction of copper, gold and silver, was the refuse of pyrites burned for the purpose of making sulphurous acid. At the time, or nearly up to the period under notice, the pyrites employed at St. Helens and the surrounding district was procured almost solely from Wicklow, Ireland. In this locality there are several pyrites mines, one only, however, containing gold, and that the solitary one which would continuously assay from 2 to 2½ per cent. of copper, but almost devoid of silver; the last not being present in more than from one to two pennyweights per ton. Before making any further remarks on the preceding figures, it will be as well to explain why they are inserted. I have, on former occasions, stated that my improved mode of obtaining gold and silver from ores was carried on at the Flint Lead Works, now occupied by the well known firm of Muspratt & Co. as a chemical manufactory. Being compelled to leave Flint when that firm purchased the above named works and removed their establishment from Newton Heath to that place, I resumed my professional business in London, and my partner (now deceased) established himself, by the aid of some friends, at St. Helens, with the object of utilizing the ore from Anglesea, as previously alluded to, and also the refuse pyrites above described. The same facilities for final reduction by means of lead, did not exist at St. Helens, which were easily procurable at Flint, and possibly caused my former partner to abandon that mode as unsuitable to his new position. Prior, however, to the rupture named, we had made some very extensive trials of various modes of concentrating, in the most economical manner, the various ores used, and also how far humid processes could be made profitably available, one of which was found highly effective, but could only be advantageously used where muriatic acid was an extensive waste product, as was the case with us at Flint.

From these considerations, I am induced to believe that either brine, impregnated with chlorine or containing some compound which would evolve that gas was employed in the process at St. Helens, and render it quite probable that it is from that establishment that this method first emanated. I have been led to this opinion since Mr. Kustel has stated that Von Paterna and Roeszner have adopted this method. As the statement made at the Society of Arts was evidently incorrect, so far as the omission of details are concerned, and as the

\* Respecting this ore more will be said on another occasion.



results obtainable by this mode ought to have differed very much from the value per ounce of the bullion reduced, if the above ores had been acted upon separately, I was led to believe that the chairman of the Society of Arts had been in some manner misled as to the *modus operandi* adopted at St. Helens. At all events, the information so derived did not, until corroborative proof was obtained, justify me in deeming that salt water and chlorine had ever been practised to any extent for the reduction of gold and silver ores, nor does it yet appear to me that such is the best manner of proceeding in the bulk of cases, though it may be the best in some instances.]

Of the eight methods which have been previously alluded to, no less than six involve the application of artificial heat for the purpose of expediting the process, which exceptions are those of Medina and Leca. These, when combined with the Freiberg barrel process, require also the assistance of furnace work, in order to facilitate the chlorination of the silver present in the ore, and thus expedite the reduction of that metal, as compared with the lengthened period required by the Patio process. It is not intended to dwell upon Barba's method at present, as it is not likely in futuro to be adopted at places where modern science has made any progress. I shall, however, again allude to it.

Dismissing from consideration for the present the earlier modes of amalgamation, and commencing a review, thus abbreviated, with the Freiberg barrel and terminating with the system introduced by Ziervogel, one incident will be found essential to each mode, viz: the absolute necessity that exists for the employment of a furnace.

It is the more requisite that this important circumstance should become well impressed upon the minds of all who feel interested in this matter, because science points out no other means so speedy and economical of setting gold and silver free from their accompanying gangues and sulphur as by the aid of furnaces; which, to be effective, require special construction and careful management of the temperature employed. It cannot, in fact, be too often iterated that future economical improvements will most probably, chiefly, if not wholly, depend upon a better mode of construction, and management of these preliminary appliances for the reduction of gold and silver ores. In connection with the preceding, it may also be briefly mentioned, that, with the exception of the mode introduced by Ziervogel, all the furnaces now employed in silver extraction are required to be erected for chlorinating purposes, which, unless specially constructed, and managed so as to avoid the loss by volatilization formerly alluded to, a very large proportion of the advantages derivable from an improved mode of amalgamation will become neutralized, probably constitute all the difference between a possible gain being converted into a certain loss.

**MINING IN THE STATE OF MAINE.**—The *Springfield Republican* states that a tunnel of 100 feet has been made in the new-discovered silver mine on the Bennett farm at Guilford, Maine, and ore has already been obtained that yields ninety-five ounces of pure silver to the ton; also copper and gold. It is believed by the miners that seventy-five feet more will bring them to the covered vein. More than thirty varieties of minerals are found in the Mount Mica mines at Paris, Oxford county; valuable beryls and one tourmaline, valued at \$1,100, were recently taken from them.

**LONG ISLAND LANDS.**—E. F. Peck, of Brooklyn, N. Y., says that the Long Island Plains, which are said to be the only prairies west of the Rocky Mountains, are quite valuable for all kinds of crops, and particularly suitable for fruit-growing. They seem worthy of a fair examination, but there seems two obstacles—the railroad is not much inclined to carry freight, nor do the proprietors of the land care about selling.

**VINEGAR.**—S. J. Woodman, of Chicago, Ill., says that a barrel or a cask of new sweet cider, buried so as to be well covered with fresh earth, will turn to sharp, clear, delicious vinegar in three or four weeks, as good as ever sought affinity with cabbage, pickles, or table sauce, and better than is possible to make by any other process.

A BERLIN paper states that the staff of workmen engaged at present in demolishing the fortifications of Luxemburg consists of three men and a boy. This is a new way of evading compliance with treaty stipulations.

## Scientific Miscellany.

### Preserving Meat and Fruit.

A new meat preserver has recently been presented to the French Academy by M. Pasteur. It is composed of alum, benzine and water—proportions not given. It is said to cover the animal substance to be preserved, with a sort of filtering substance, which excludes the decomposing animalcules, while it admits pure air and allows free evaporation. According to Pasteur the air, under such circumstances, has no tendency to produce decay of the animal fiber. This fact is in accordance with practical experience, though not with common impression. The butcher best keeps his meat by hanging it in a *current* of pure air, where it will keep much longer than in a still atmosphere. Most California miners, and most others, well know that if they hang their meat upon the limb of a tree, forty or fifty feet from the ground, in the pure, dry atmosphere of our California summer, it will keep perfectly sweet until it is actually cured by drying; while meat hung up in the shade of the same tree and near the ground, soon becomes tainted and decomposed.

It has long been known that fruit, carefully dipped in melted wax or paraffine, will keep for a great length of time. The thin film with which the fruit is thus covered acts precisely as the substance above described—it keeps out the organic agencies of decomposition, while the pure and uncontaminated air is allowed to pass gradually through the covering, inward, and at the same time the excess of moisture passes outward, as is seen by the eventual shriveling and drying up of the fruit.

Mr. W. R. Frink, late of this city, is now giving this principle a thorough test, to determine its practical value. He recently prepared a quantity of apples, peaches, pears and grapes in this way, and took them by sailing vessel to the Sandwich Islands. We have received word that they arrived in perfect condition. A portion of them will be kept for a considerable time, or until decomposition takes place. They can probably be kept, even in that tropical climate, the greater portion, if not through the entire season. We are anxious to note the result. We have here, also, abundant evidence that pure air has no tendency to promote decay.

Putting these last mentioned facts in connection with Pasteur's discovery, there is much probability that a practical plan for the preservation of fresh meats and fruits, will soon be developed, which will prove of inestimable importance to commerce. Either of the substances used may readily be removed, by merely dipping the articles into warm water. In the case of the latter (which is probably the best and cheapest agent, for the reason that it can be readily recovered and used again, for other purposes) there will be no taste whatever to the article preserved, even though a small portion should not be removed. Paraffine is both innocuous and tasteless.

HEAT developed by the electric current in wire is partly due to molecular action. This proposition has been, to some extent, demonstrated by M. E. Edlund, who finds the elongation of a wire traversed by a current is greater than its temperature, deduced from its electrical resistance, would develop. He therefore concludes that a molecular change of some sort has occurred by which the additional increment of heat has been produced.

THE power and persistency of the Bunsen battery, it is said, may be augmented by an arrangement devised by M. Zaliwski, which consists in employing two concentric porous vessels in place of one, filling the space between with sulphuric acid, putting nitric acid in the central one, and a solution of sal-ammoniac in the outer vessel containing the zinc.

PARIS OMNIBUSES are about to give way to the street car, or rails. These cars are to be both spacious and elegant. They are being built to carry fifty passengers each.

ANOTHER SOUND WONDER.—Prof. Tyndall is both ingenious and original in his researches into the phenomena of sound. The latest item which we have seen from him is one affording a most remarkable and pleasing illustration of the properties of sound in the extinguishing of a lighted candle by pure noise. The Professor places a lighted candle on a table at the end of a tube, supported on bracket holders, resting on the table. The end of the tube near the candle is small and pointed. The other end is large and open. By clapping two books together at the large end, Prof. Tyndall extinguishes the candle at the small end. "Pooh!" says an over-intelligent reader, "that is nothing. It is simply blowing out a candle through a pipe." No such thing, super-sagacious critic, as Prof. Tyndall proceeds to prove. He burns a piece of brown paper in the tube, filling it with smoke. Now, if the candle be put out by a puff, smoke will issue from the pointed end of the tube. Again Prof. Tyndall claps the books. Again the candle goes out; but no smoke comes out of the pointed end of the tube. Whatever has put out the candle has passed through the air and smoke in the tube. The light is extinguished by a pulse, not by a puff. The candle is put out by sound—noise.

THE COLORS OF SOAP BUBBLES.—A. C. Pope communicates to the *Scientific American* the results of some experiments recently made by him confirmatory of Sir David Brewster's new theory with regard to the origin of the colors of soap bubbles, which theory was given in full in our issue of the 16th ult. Mr. P. writes as follows: "My experiments demonstrate to all appearance, this theory. A preparation of oleate of soda, carefully prepared, was put into solution, in pure water and a given percentage of pure glycerine added. Bubbles blown from this solution were very brilliant, and the colors seemed to flow over the film from the part attached to the pipe, towards the lower part of the hubble, in irregular belts and streams, beginning with the most brilliant hues and tints and shadows, and gradually fading away as the menstruum ceased flowing, into deep blue, ending with the bursting of the bubble. The belts or streamers rippled like tiny waves on the surface of a pond, and from these ripples seemed to flash out the broken rays of light, changing constantly. The thicker the medium, the more brilliant the display."

THE bronzed appearance sometimes given to cast iron, is produced by dipping the castings into a solution of sulphate of copper. The copper is thus precipitated upon the surface of the iron, as in the experiment often made by miners, in testing a mineral for copper. Pulverize the mineral finely, and subject it to a bath of sulphuric acid; if copper be present, it will be taken up in solution, and if a piece of iron, as the bright blade of a knife, be inserted in the liquid, the copper will be deposited on the part submerged, literally *plating* it with copper.

PURE STEAM, in the condition in which it enters the cylinder of an engine, is as invisible as atmospheric air. It is also said that pure steam, or steam at a high temperature, will not burn or scald, until mixed with the atmosphere. *Query:* When the bulb of a thermometer is plunged into steam of a high pressure—or pure steam—the mercury indicates a high degree of heat, proportioned to the pressure of steam; Why will not such steam scald or "burn the hand?" Will it not?

PYROTECHNICS FOR THE SAVAGES.—The Magnesium Metal Company, of London, have received an order for the manufacture of 50 pounds weight of magnesium to be used for signaling purposes in the Abyssinian expedition. The metal will be burnt as a powder and mixed with resin and lycopodium, the light being produced at will by blowing, by means of a pair of bellows, a portion of the compound through a flame.

It has been discovered that if glue or gelatine be mixed with about one-quarter of its weight of glycerine, it loses its brittleness, and becomes useful for many purposes for which it is otherwise unfit, such as dressing leather, giving elasticity to porcelain, parchment, or enameled paper, and for book-binding.

## Mechanical.

### Conveying Steam Through Long Pipes.

In conveying steam to great distances from the boiler, the chief care to be taken is to have the conveying pipe just large enough to convey a sufficient quantity of steam to do the work required. In such a case the steam passes rapidly through the pipe, and does not have the opportunity to lose much of its heat by radiation. If, however, a pipe is used much larger than is necessary, the steam moves slowly along, exposed to a much larger surface, and loses so much of its elasticity, by super-saturation from the condensation which takes place, that when it reaches the engine cylinder, it scarcely retains 75 per cent. of the power with which it left the boiler. Regulating the size of the conducting pipe is of more consequence than protecting it with non-conducting substances. Of course, felling or otherwise protecting the pipe should not be neglected.

There is often much lack of judgment in arriving at the proper dimensions of a pipe for conveying steam to a given size of cylinder with given speed of piston. What may appear to most engineers as an extreme case of diminishing the size of the conveying pipe, is given by a correspondent of the *Scientific American* as follows:

We have a steam pump working in a mine slope 1,540 feet from the boilers. The steam cylinder is 14 inches diameter, three feet stroke, and we are carrying steam the whole distance in a 2-inch wrought pipe. We had some little trouble before the pipes were covered, but now experience difficulty in working the pump up to its full speed. We also have two steam pumps in mine slopes 800 feet from the boilers; the steam cylinders being twenty-five inches diameter and four feet stroke. The steam pipe for each pump is of cast iron, 3½ inches internal diameter. These pumps are working with perfect satisfaction, without any protection whatever to the pipes.

The same correspondent illustrates the advantages of employing small pipes as follows:

Suppose we take the pump with a 14-inch cylinder, at a piston speed of 100 feet per minute; if we should use a 14-inch pipe to carry the steam it would be over fifteen minutes from the time the steam left the boiler until it arrived at the cylinder, and there would be over 6,000 square feet of surface exposed to condense the steam. Now compare the above with a 2-inch pipe. In using a 2-inch pipe the steam would remain in the pipe about twenty seconds, and there would be but a little over 900 square feet of surface exposed to condensation.

The above is a pretty good demonstration of the utility of small pipes, and the question is one which is especially worth the attention of all who desire to use steam economically, whether at a greater or less distance from the boiler where it is generated.

BROKEN CAR WHEELS.—It is estimated that about 10,000 wheels are taken from under the cars and engines, on American railroads, every year. It is singular that with such a great wear and destruction of wheels no more accidents occur from that cause. Casualties are prevented by the custom followed of ringing every wheel with a hammer, as often as once a day, while running. Such examination generally detects the most of the fractures before they become dangerous. Only four accidents from this cause were reported last year. Nearly all the wheels break in the tread, where they are chilled. Most of the American car wheels are cast iron and chilled in the tread. It is held by most English engineers that such wheels are more liable to break than wrought iron—that, in fact, the very process of chilling often involves cracking or such a high degree of tension that cracking ensues at the first severe jar. American engineers, on the other hand, claim that on our roads, at least, cast iron wheels are more reliable than wrought, on account of the rapid wear of the latter.

STEEL CRANKS.—Ramshotom says his steel cranks out of plain flat slab.



## California Academy of Natural Sciences.

REGULAR MEETING.

MONDAY EVENING, Dec. 2, 1867.

President Whitney in the chair.

Forty-three members present.

Messrs. S. W. Holliday, Henry K. Goddard, Henry K. Moore and Ferdinand Lohr, were elected resident members.

Messrs. D. C. Humphry, P. B. Cornwall and Horace D. Dunn, of this city, and Prof. W. B. Rising, of Oakland, were proposed for membership.

Prof. Silliman read a very interesting paper on the new localities of Tellurium minerals in California, and on some mineralogical features of the Mother Vein. The paper was referred to the publication committee. We shall give an abstract of it in a future issue.

R. E. C. Stearns submitted a paper upon the shells collected by the Alaska expedition, under George Davidson Esq., of which Mr. Harford was naturalist.

Mr. Bolander submitted a paper from Prof. Lesquereux, on the California ferns, found up to the present time. Referred to committee of publication, without being read.

Prof. Whitney presented a paper on the condition and progress of the geological survey of California, an abstract of which we shall give next week.

**DISEASED PORK.**—Dr. Henry Gibbons exhibited a slice of pork, which had been sent him from Mariposa, and which was supposed to contain *trichina*. The Doctor said the animalcules were not *trichinae*, but *sticerus*; Dr. Barker thought they were *distoma*. In either case, they were not positively hurtful to the human system, especially where the meat was thoroughly cooked. Large numbers of these minute animals could be seen, (many of them by the naked eye) three or four upon every superficial inch of the muscle. They resemble small, light yellow bunches (soft) about the size of, and much resembling a small pea, rendered soft by being soaked in water. The pigs, from one of which this piece of pork was taken, were raised chiefly on distillery slops.

**IMPORTANT ERROR CORRECTED.**—Mr. Robert L. Harris had recently been engaged in running a level, for railroad purposes, from the bay to Sacramento. In the performance of this work, he was surprised to learn that the elevation of Sacramento above the high-tide level of the sea had been greatly overstated. The Pacific Railroad Company, in starting their survey, had based their initial point upon the reported level of the present levee, as being 56 feet above tide water, when it is in fact, only 21 feet, as proven by the survey by Mr. Harris. The low tule grounds, just below Sacramento, which have been heretofore considered 36 or 37 feet above the sea, have, in reality, an elevation of only one foot and a half! This fact, now established by Mr. Harris, is very important, and especially valuable to the State geological survey, and the various railroads throughout the State, all of which have heretofore accepted the commonly received reports of the elevation of Sacramento as substantially correct. This error has undoubtedly arisen from the imperfection of the instruments employed in determining the elevation of that initial point. It was mentioned, in this connection, that the level of Mount Davidson has been recently reported by taking the figures of the Central Pacific Railroad, near that locality, for a starting point, the result of which was given as the only correct report of the elevation of that mountain ever published, and showing, as was thought, that the California State Geological Survey had made a considerable error in their figures. This discrepancy is now accounted for, and the accuracy of the measurement of the geological survey fully established.

**BAD POLICY IN BURNING THE TULE.**—Dr. Gibbons remarked upon the bad policy of annually burning over the tules. He said that when burnt off, the deposit of ash was scarcely perceptible, nearly the entire substance being dissipated; but when this vegetation was snuffed to fall into natural decay, the annual increase in depth of soil would be very important, say one-fourth of an inch a year. At this figure, about two feet in a century would be gained. Such a yearly increase would soon effectually redeem all the tule land in the State, and render it highly valuable for cultivation. The Doctor thought if the burning could not be stopped in any other manner, legislative action should be invoked.

**OUR NORTHWESTERN PURCHASE.**—Mr. Goodale, who has recently returned from a visit to Alaska, exhibited to the Academy some very interesting Indian curiosities which he had collected there, consisting of

horn spoons and ladles, ornamented carving, caps, pouches, etc., all the work of the natives of that region. The Doctor thought but few people were aware of the magnitude and importance of our new acquisition. It consisted of an extent of country 600 by 540 miles, with two huge arms extending, the one southwesterly along the Pacific Coast 400 miles, to British Columbia; the other extending westerly into the Pacific Ocean about the same distance, and known as the Peninsula of Alaska. The number of islands included in this purchase, exceeds 400, which will measure from 100 acres of surface, upward. Of this number, thirteen are each as large or larger than the State of Rhode Island, and seven as large as Delaware.

Previous to this purchase, the difference of time between our most eastern and western boundaries was only three hours and forty-eight minutes, now the sun rose just eight hours and eight minutes sooner to the inhabitant of Calais, in Maine, than it did to the inhabitant of our most western island possession, in the Aleutian group, so that our possessions actually extend across more than one-third of the earth's diameter. Previous to this purchase we were not the possessors of a single active volcano. We now number nineteen, mostly on the islands above mentioned. We have also added glaciers to our other curiosities—a most extensive and magnificent one being located a short distance north of Sitka. The aborigines of our new possessions are of a far higher type, both physically and mentally, than any others on the continent. Their superiority consists in their greater foresight in the construction of better dwellings and furniture for the same, superiority of skill in carving, in the manufacture of implements, etc. Perhaps the most marked evidence of their superiority consists in the better treatment of their women, who are not compelled to do servile work, as is the case in nearly every or quite all the aborigines of this continent. They make no stone implements, probably from the fact that they have no use for them. Their food consists mainly of fish, which are generally made into a kind of soup, which is eaten from large horn spoons, made by themselves, from the horns of the mountain sheep, which are softened, straightened and worked into very convenient shapes, and often elaborately carved. These horns are sometimes three feet long. Spoons made from them were exhibited which would hold two quarts of liquid. Their soup is now made in iron and copper kettles, obtained from the Russian traders. It was formerly made in baskets, similar to those used by the California Indians, and boiled by throwing into the same heated stones.

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**CALIFORNIA REAL ESTATE ASSOCIATION.**—San Francisco. Nov. 29th. Capital stock, \$1,000,000; 50,000 shares of \$20 each. Trustees: M. O'Neil, T. J. Broderick, Wm. Monahan, E. B. Eaton, J. T. Galvin, James Brereton, A. J. Schrader, Robert Dixon and David Landers.

**CALIFORNIA TRUST CO.**—San Francisco. Dec. 5th. Capital stock, \$1,000,000; 10,000 shares of \$100 each. Trustees: H. H. Haight, John Curry, Wm. Blanding, Henry L. Davis, John H. Baird, Wm. H. Sharp, Henry Barroilhet, Jacob C. Johnson, Walter N. Hawley, Henry J. Booth, Donald McLennan, Charles J. Deering, Samuel Crim, Hiram Rosekrans, Chas. T. McDermott, Chas. M. Plum, Andrew J. Coghill, Frederick J. Castle, De Witt C. Thompson, Thos. B. Ludlum, Moses Rosenbaum.

**WILLOWS LAND ASSOCIATION.**—San Francisco. Dec. 5th. Capital stock, \$430,000; 860 shares of \$500 each. Trustees: H. L. Davis, Edward Bosqui, J. W. Brumagin, C. H. Harrison and Henry A. Cobb.

**ELECTION OF OFFICERS.**—CALIFORNIA AGRICULTURAL AND MANUFACTURING ASSOCIATION.—San Francisco. Dec. 4th. President, Hiram Rosekrans; Vice President, E. W. O'Neil; Treasurer, Henry F. Williams; Secretary, A. S. Gould.

**CALIFORNIA REAL ESTATE ASSOCIATION.**—San Francisco. Dec. 4th. President, Robert Dixon; Vice President, M. O'Neil; Secretary, William Monahan; Treasurer, James Brereton; Directors: A. J. Schrader, Dr. E. B. Eaton, T. J. Broderick, D. Landers and J. G. Golvin.

**LOCAL POLICE PROTECTIVE AND BENEVOLENT ASSOCIATION.**—San Francisco. Dec. 4th. President, Joseph Bogle; Vice President, James McQuirk; Secretary, Armand Barbier; Treasurer, James E. Wigmore; Relief Committee, George Birdsall, A. Cook, C. F. Callundan.

## New Patents and Inventions.

Under this heading we shall mention, from week to week on occasion may demand New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## RECENT INVENTIONS.

**IMPORTANT INVENTION.**—A strong pair of boots or shoes is something that every one wishes to get when he buys them, and many of the inventions for the manufacture of these articles are calculated only to make them hold together until the wearer has proven them by a few days' wear to be utterly worthless. As long as the leather itself is worthless, the manufacturer of boots and shoes cannot be held accountable for their early dissolution, but when the weather is good there is no excuse for a poorly made boot or shoe—one that will cast its sole at the first trip or turn of the ankle. Since the advent of the French screwed boots and shoes, we have found them to stand the wear and tear of our incontinent kicks and stumblings far better than the old pegged or sewed article. Mr. Nicholas Lumsden, of this city, has invented a machine for making the French screwed boot, which is simple, performs its work readily, and, better still, can be manufactured at a comparatively low price. Heretofore the price of the machines used for that purpose have sold at such high figures that none but a well-to-do shoemaker was able to purchase them, putting them entirely out of the reach of the journeyman; but Mr. Lumsden's machine overcomes this objection, and can be manufactured at such a figure as to enable every shoemaker, journeyman or cobbler to purchase one. We predict for Mr. Lumsden's invention a success, as it is an article greatly needed, and one that will recommend itself. A patent has been applied for through the agency of the MINING AND SCIENTIFIC PRESS.

Mr. Lumsden is also the inventor of a very ingenious machine for lasting and crimping boots, which entirely obviates the slow and laborious process as commonly practiced, and prevents the leather tearing at the corners when crimping on the board. One of these machines is in daily use by the inventor, and not only crimps, but lasts boots across the joints of the foot and at the shank. We should think it was an indispensable article in a bootmaker's establishment, especially where fine work on patent leather is much used, as it operates easily, by the simple turn of the screw, and performs that part of the mechanic's labor effectually, which, it not unfrequently occurs, requires all the strength and ingenuity a man can command to accomplish. A patent has been applied for through this office.

**USEFUL MINING INVENTION.**—The Nevada Gazette says: We examined yesterday at the hydraulic diggings of Marselus & Maltman, a very useful mining appliance, the invention of J. M. Allenwood, of Smartsville. It is called a "gooseneck," and is attached to the end of the pipe and used in place of the flexible hose. It is made of heavy sheet iron, having a cast iron swivel near the neck, so that it can be turned around, and near the end is a stout hose of eighteen inches in length, to raise or lower the stream at any desired elevation. This is all the hose used, the rest of the hydraulic appliances being iron pipe. They have three of these "goosenecks" in operation at the Manzanita diggings, and intend to get two or three more. Mr. Marselus informs us that it is not only more convenient, but more economical than the hose ordinarily used. The hose costs from \$20 to \$30, and has to be often replaced; the "gooseneck" costs \$50, and will never wear out. Miners who are about rigging up hydraulic works, as well as those replacing worn out hose, would do well to examine this new appliance. We understand it is used altogether in the hydraulic claims about Smartsville, but has not been introduced into this county to any extent.

A PATENT has been granted to a Maine mechanic for an invention for running shafting at right angles, or at any angle, without the use of gearing or helting. The idea is entirely novel, and works to a charm. A slide-bar is placed in the angle, and motion transferred by the action of a double crank on each shaft.

**STEAM PLOW.**—A young California machinist, a resident of Martinez, has invented a steam plow which will not only plow forty acres daily, but at the same time plant and harrow the field. The peculiarity of the machine is such that instead of plowing in furrows the soil is pulverized. If, as he is confident it will, the plow should perform

such wonderful work it will enhance in a remarkable degree the production of agricultural crops in this State. The inventor has applied for a patent for the same through the MINING AND SCIENTIFIC PRESS.

## PATENTS RECENTLY ISSUED.

70,603.—IMPROVED ORE-SEPARATOR AND CONCENTRATOR.—Thos. N. Paine and Samuel Stephens, Grass Valley, Cal.:

We claim, 1st, A pan, constructed with the copper-lined recess, p, at its top, to save the gold or amalgam, substantially as described.

2. The adjustable distributing-spouts, constructed with the posts d, e and f, and having the adjusting-screw g, the whole operating substantially as and for the purposes described.

3. The round arms E, with the separated brushes r, r, r, for agitating the surface of the pulp, operating substantially as described.

4. The ring rising automatically, and the rod b, together with the endless screw L, and the cone-pulleys K and K, when used for raising the ring H, substantially as described.

5. The movable feed-trough G, and the reservoir M, supported by the rollers k, k, and the plate l, operating as and for the purpose described.

6. The revolving belt n, with its brushes and the perforated plate, p, when used in the feed-trough G, as described.

7. The two-part shaft, constructed with a hollow, stationary slot shaft, C, and the hollow, movable slotted shaft D, when constructed with the bells and the grooves in their ends to prevent friction, operating substantially as and for the purpose herein described.

The object of this invention is to provide an improved separator and concentrator for saving the sulphurets contained in ores or minerals, by depriving them of the sand and debris, and placing them in a form sufficiently concentrated for treatment by the usual methods employed for extracting the bullion which they may contain. This machine was fully described in our issue of June 1st, 1867, to which we would refer.

70,670.—IMPROVEMENT IN WHEEL-HUB BOXES.—Elbridge G. Woodside, San Francisco, Cal.:

I claim, 1st, Surrounding the box A with an elastic packing B, substantially as described and for the purpose set forth.

2. I also claim, in combination with the packing B, the end packings, c and d, substantially as described and for the purposes set forth.

The object of this invention is to provide a wheel-hub and box, so constructed that when passing over rough places, the wheel will become relieved from sudden strain and jar by reason of the elasticity imparted to it by means of the elastic or rubber packing, which surrounds the box and ends of the hub.

**NEW YORK METAL MARKET.**—We gather the following from *Winterhoff's New York Metal Circular*, under date Nov. 4th, 1867:

**TIN**—is entirely nominal, without large transactions. Straits, 25c.; Banca, 26½c.; English, 23c., gold.

**COPPER**—with small demands for manufactures, had declined rapidly during the month under pressure to sell. Transactions mostly kept private. Baltimore, reported, 21¼@22c.; Detroit, 22¼@23c.; Portage Lake, 22¼@22½c. On day of date, the market had improved, increased demand at the above prices, without sellers. For December delivery, 1c. more added. Last sale of Minnesota was made at 25c.; fifty tons had been shipped to Hamburg. London market dull. Little changed in position from last summer. If market does not soon advance both in New York and London, the fact will be attributed to general depression of business.

**LEAD**—is quoted at 6½c., gold, for ordinary foreign; stock, 2,700 tons, against 2,000 in March, 1866.

**SPELTER**—nominally, 6½@6½c., gold, for Silesian.

**SPLendid SALOONS.**—Dr. J. C. Jessup, the eminent dentist, has taken a suit of rooms in Tucker's new building, northwest corner of Montgomery and Sutter streets. They will be fitted up without regard to cost, and will surely be the most elegantly furnished saloons in the city. Dr. J. C. Jessup is well known as one of our most skillful dentists on this coast.—*Helena Observer.*



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, December 7, 1887.

City Stocks.

City shares command a little more attention, and the sales for the past week have been very considerable. California Steam Navigation Co. shows an advance, selling at \$67 1/2 per share.

The certificate of incorporation of the California Trust Company was filed in the County Clerk's office during the past week. Amount of capital stock \$1,000,000, in 10,000 shares of \$100 each.

IMPERIAL—has been quite active, advancing from \$170 to \$180, receding to \$150, and closing at \$167 1/2. The shipment of bullion in November amounted to \$63,363; in October to \$68,874.

From the City and County Treasurer's report, for the month of November, we condense the following statement:

Table with 2 columns: Item and Amount. Includes Cash on hand October 31, 1887, Receipts in November, Paid to the State Treasurer, etc.

The cash items are embraced in the following recapitulation:

Table with 2 columns: Fund Name and Amount. Lists various funds such as General Fund, School Fund, Police Fund, etc.

It will be seen from the foregoing, that a very large amount of gold is lying wholly idle in our city treasury. Box upon box of gold coin resting for want of use, when it might be employed to the advantage of the city's interest.

The following is a carefully compiled record of the daily aggregate sales in the open and regular sessions of the San Francisco Stock and Exchange Board during the month of November:

Table with 3 columns: Date, Regular Session, Open Session. Shows daily trading volumes for November.

Making a total of \$5,351,733. These figures compare as follows with the transactions of the same months in the three preceding years, viz: 1814, \$1,681,152; 1865, \$3,018,966; 1866, \$2,653,478.

Mining Share Market.

The mining share market has been characterized by a considerable degree of activity during the period under review, and the transactions embraced a more extended list.

SAVAGE—continues in the market to a large extent, receding from \$107 seller to \$103, improving to \$109, and closing at \$109 50.

Table with 2 columns: Date and Value per Ton. Shows price fluctuations for mining shares from November 30th to October 19th.

During the week ending November 30th, the north mine,

on the seventh station, yielded 379 tons of ore, and the north mine on the third station, 798 tons; in the previous week 888 tons were taken from the last named locality of this mine.

CROWN POINT—was moderately dealt in, gradually declining from \$60 to \$610, and closing yesterday at \$625. During the week ending November 30th, the north drift on the 700-foot level, 173 feet from the switch, has been carried south some six feet, and the breast, now seven feet wide, is said to open out well.

IMPERIAL—has been quite active, advancing from \$170 to \$180, receding to \$150, and closing at \$167 1/2. The shipment of bullion in November amounted to \$63,363; in October to \$68,874.

KENTUCK—has been well maintained during the period under review, selling at \$160 1/2, then at \$161, and closing at \$168. The bullion returns for November amount, so far as advised, foot up \$49,751.56.

CHOLLAR-PODSI—opened at \$131 1/2 to \$132 1/2, declined to \$121, then sold at \$124 50, and closed at \$128. The old mine yielded 1,800 tons of ore during the week ending November 29th, against 1,700 tons extracted the previous week.

GOLD HILL QUARTZ—shows a decline, sales of a few shares being reported at \$100 per share; at the close \$120 per share is asked. The bullion product of November amounted to \$122,250; in October, \$109,984.

AMADOR—commands \$210 per share. The bullion product for November reaches \$37,300; in October the yield amounted to \$38,555. The Superintendent reports that the north stopes now show a ledge twenty-five feet wide—nearly constituting the main and sixteen feet the boulder ledge—and the south stopes an average of twelve feet.

GOULD & CURRY—sold within a range of \$327 50 to \$310, closing at \$310. The annual meeting of the stockholders of this company will be held on Monday, the 18th inst.

HALE & NORCROSS—has been in moderate request, declining from \$840 to \$810, then selling at \$815, and closing at \$830. The total liabilities of this company on the 1st instant amounted to \$38,000, and not \$130,000, as stated by a "bear" correspondent of a leading newspaper of this city.

YELLOW JACKET—declined from \$24 to \$45, and closed at \$40. The Frey says that the station timbers at the 730-foot level have been placed, and two drifts started—one east, the other south, now in from eight to seventeen feet, in clay and porphyry. The winze near the Keutuck line continues in ore, but all hoisted of late will not more than pay for working.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,015,638. The sales in the open sessions amounted to \$257,031, showing a combined aggregate to date during the past week of \$1,272,669.

AMERICAN IRON.—The advantage of the American Rodman gun, over all others, is said to be owing to the superiority of the iron from which it is manufactured. It is said that the British Admiralty has procured a quantity of the Pennsylvania iron, from which the Rodman guns are made, for the purpose of experimenting with it at their own foundries.

A WISCONSIN wine-maker was overtaken last fall by cold weather, and some 5,000 lbs. of his grapes frozen up in boxes. Wine made from these grapes was "one hundred per cent, better than that made from the same quality of grapes in the fall." Important if true.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.]

Compiling the Names of Companies, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Table with columns: NAME, LOCATION, AMOUNT, and DAY. Lists various mining companies and their details.

\*Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

S. F. STOCK AND EXCHANGE BOARD.

Table with columns: Stock Name, Bid, Ask. Lists various stocks and their current market prices.

GAS COMPANIES.

Table with 2 columns: Company Name and Price. Lists gas companies and their rates.

RAILROADS.

Table with 2 columns: Railroad Name and Price. Lists various railroads and their stock prices.

BANKING INSTITUTIONS.

Table with 2 columns: Bank Name and Price. Lists various banks and their stock prices.

INSURANCE COMPANIES.

Table with 2 columns: Insurance Company Name and Price. Lists various insurance companies and their stock prices.

MINING STOCKS—WASHER DISTRICT.

Table with 2 columns: Mining Stock Name and Price. Lists mining stocks from the washer district.

San Francisco Market Rates.

Wholesale Prices. FRIDAY, DEC. 5, 1887.

Table with 2 columns: Commodity Name and Price. Lists various commodities and their market rates.

Table with 2 columns: Commodity Name and Price. Lists various goods and their prices.

Table with 2 columns: Commodity Name and Price. Lists various goods and their prices.

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table with 2 columns: Metal Name and Price. Lists various metals and their market prices.

ESTABLISHED [MAY, 1860.]

VOLUME SIXTEEN

—OF THE—

Mining and Scientific Press,

COMMENCING JANUARY, 1888.

DEWEY & CO., Publishers.

Issued every SATURDAY, at my Book and Job Printing Office, 505 CLAY STREET, CORNER OF SANSOME, SAN FRANCISCO. Terms in Advance—One Year, \$5; Six Months, \$3; Three Months, \$2; Single Copies, 15 cents.

DEWEY & CO., Proprietors.

Mining and Scientific Press Patent Agency, Newspaper, Book and Job Printing Office, 505 Clay street, San Francisco.

MINING AND SCIENTIFIC PRESS.

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Terms of Subscription.

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The Circulation of the Press, already extensive, is rapidly increasing, and substantial advertisers can profit by widely disseminating information of their business amongst the most intelligent, influential and industrial classes of the Pacific States and Territories.

DEWEY & CO., Proprietors.

Patent Agency and Job Printing Office, 505 Clay street, San Francisco. [Jan 1, 1866.]

Important to Californians.

Many inventors have lately had their claims for Patents seriously (and in some cases fatally) delayed by the unqualification of agents who have not complied with the Government license and revenue laws, as well as other new and imperative regulations. These discrepancies, although arising from the inexperience of honest agents, are none the less dangerous to applicants for patents, whose safest course is to trust their business with none but active and experienced solicitors.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Nov. 23d: From the nature of the material to be penetrated, it is thought that the shaft on the Morning Star ledge may be sunk from three to five feet per week.

Wm. Suebbert, M. E., a graduate of the Freiberg School of Mines, has been made superintendent of the Merrimac mine.

The work of hauling ore to the Silver Creek mill has been resumed.

The Pittsburg Co. are pushing their main tunnel ahead as fast as possible, and at the same time sinking upon one or more of their lodes to determine their value.

The Tarshish mine of the Schenectady Co. is now turning out ore finely. The mine is not being worked for the ore, but to prospect and open it up; yet in the north drift, in the main tunnel, in the up shaft and in the down shaft, the workmen are taking out rock which is taken to the assorting floor, and fine pocket ore is continually encountered.

## Amador County.

*Ledger*, Nov. 30th: At the Coney & Bigelow mine, just now, all is hurry. All of the machinery for the new hoisting works is on the ground, the building up, and the mechanics are putting everything in its proper place. The shaft has been newly timbered from top to bottom, so that when they "start up" again everything will go along systematically. At the mill, a new boiler, with 47 flues, is being set, and eight additional stamps added.

Last Sunday, the Oneida Co. made their semi-monthly clean-up, and the return was, as usual, good. The amalgam was melted and run into a brick by Mr. Reichling, of this place, and when cleaned was worth \$11,800.

## Calaveras County.

*Chronicle*, Nov. 30th: Staples & Co., who have purchased the first extension of the "Old Rich Gulch" lead, are actively engaged in putting up machinery on their claim for a new mill. They expect to commence crushing by the first of January.

Alexander, Seavers & Co., who have been crushing rock taken from their claim on the same ledge for the past six months, are still receiving handsome dividends.

On Sunday last, we saw the bullion extracted from 42 tons of rock taken from the "Petticoat" lead at Railroad Flat. At \$16 per oz. it was worth \$2,537.

Quartz mining at West Point and Railroad Flat is daily becoming more successful. Barnes & Casner's last run of 105 tons averaged \$51.32 per ton. Austrian John ground 13½ tons that paid \$61 per ton. The Petticoat lead at Railroad Flat is improving, the last crushing of 40 tons paid \$60 per ton.

Thomason, Scott & Co. are at work on the first north extension of the Petticoat, and are taking out very fine rock; they will have a crushing of 100 tons out soon.

Gamble & Co. are drifting. Their dump is rapidly filling up with excellent ore. Quiddell & Co. are working a strong force at their mine on Austrian ridge. They have about 70 tons now at the mine, which experts pronounce good for \$30 or \$40 per ton.

San Andreas Register, Nov. 30th: C. V. McNair brought down from Washington Dist. some of the richest gold-bearing quartz we have ever seen. It is hard, blue quartz, and the gold is fine as flour, with occasional fine threads of gold. McNair says that the miners are opening some of the finest quartz veins in the State, and are beginning to take up water privileges for arastras.

## Inyo County.

Virginia Enterprise, Nov. 30th: Dr. Jas. Delevan, in Cerro Gordo, Inyo Co., Cal., writes as follows: I have been examining the mines since my arrival and find them more extensive and richer than I had anticipated. They consist of silver and lead mines, and the ores generally are of a character that require smelting, and the lead is just what is needed in smelting out the bullion. There is also a large amount of milling ore in some of the ledges. This is one of the richest mineral countries that I have ever seen, and is destined to give employment to a large population. There are a number of smelting furnaces here, put up and run by Mexicans, who are producing considerable bullion. I am in charge of the Cerro Gordo Co's affairs here. They have many good mines. I am about to erect a furnace for smelting ores, and a basso for refining the bullion. This company have ore that will produce an immense amount of bullion. I cannot say what the ore will produce per ton in these mines, but the

estimate of others who have been longer here is from \$150 to \$600 per ton.

## Kern County.

Havilah Courier, Nov. 23d: The New York and Clear Creek Co. are now crushing richer rock than ever before. The old firm of Marsh & Kennedy, whose business has been suspended for some weeks, will resume work on Monday.

Nov. 30th: The property of the Mammoth Co. was sold on the 18th inst. at sheriff's sale to Geo. D. Roberts. Work on the mine will be resumed.

We have seen some rock of unusual richness taken from three different claims in Sageland Dist.: the St. John, Dockweiler & Co's and Hurd's. Some of the rock yields as high as \$500 to the ton. There is an abundance of rich rock in this district, and the prospects generally are encouraging.

The Delphi mine, in the upper end of this town, is turning out better rock than ever before found.

The New York and Clear Creek Co. have recently struck a large new vein of surpassing richness.

Rand's mine is also doing better, and will commence crushing again.

## Mariposa County.

Gazette, Nov. 30th: Parties have leased the ditch conveying water from Stockton Creek to the small ravines emptying into the Mariposa Creek, and are making arrangements for sluicing the hillside below the Mariposa Co's vein.

Mail, Nov. 30th: Adam Volk, proprietor of the hotel at Colorado, while working in his claim, recently, picked a nugget weighing 29½ oz.

## Mono County.

Esmeralda Union, Nov. 23d: Castle Peak, in Mono Co., Cal., has been attracting considerable attention of late, and several parties interested there have sold parts of their interests for very fair figures. The main ledge is being well prospected. Ore from this ledge has been worked by mill process both here and in Virginia, giving to the owners satisfactory returns. Interested parties have told us that these mines will be worked vigorously while the weather is favorable.

## Nevada County.

Gazette, Nov. 28th: Marselus & Maltman, owners of the Menzanita diggings, commenced the work of hydraulicizing a week or two ago, having everything prepared as soon as they could procure water. At present, they take water of the ditch company, and are using about 450 inches; but they have a ditch of their own which will supply nearly all they require when the ground becomes thoroughly saturated.

Nov. 30th: We were shown yesterday, by S. N. Strahan, superintendent of the Chalk Bluff Blue Gravel Co., some fine gold specimens taken from the company's claims near the Cascades. One nugget, picked up on the bed-rock, near the rim of the basin, weighs about 2½ ozs. Several other lumps, which were also picked up on the bed-rock, or washed out in pans, weighing from a quarter to half an ounce.

Dec. 3d: The New York Hill Co. took out of their mine, during the month of November, 540 loads of quartz. This has been crushed at the Massachusetts Hill mill, but not yet cleaned-up. The yield of the mine for the month of October was 500 loads of quartz, producing some \$20,000. The rock crushed in November, it is believed, will yield at about the same rate as that worked in October. The company have lately purchased the mill of the Cambridge Co. on Howard Hill, and let a contract to Seth Mansav to remove it to New York Hill, and put it in running order.

Grass Valley National, Nov. 26th: A massive 9-flue boiler, 21 ft. in length and 5 in diameter, passed through town this morning on its way to the North Star mine, French Lead.

Nov. 30th: Work will be commenced on the gravel claims recently discovered by Messrs. Hamilton and Harrison as soon as water can be brought in. Their gravel prospects well.

Work has been resumed upon the Inkerman ledge by Ambrose Powning & Co. This ledge is situated on Weimar Hill, near French Lead. It is being worked on shares at present, and the company working are down 65 ft. on the ledge, and the prospect at that depth is flattering.

Quite a number of specimens are being taken from all parts of the Dromedary mine. The company have out 100 loads, which will average \$50 to the ton.

The Gold Hill mill is engaged in crushing float quartz. A lot from Woodpecker Ravine has been crushed, and is now being cleaned-up, and the mill is now at work on another lot from some other section.

Dec. 2d: A large amount of gold is expected to be taken out of Gold Run this season. The ditches are at present affording

a large supply of water, and the miners are pitching in merrily.

Transcript, Nov. 27th: A quartz ledge, which shows fine croppings, was discovered a few days since near the Starr mine in Eureka township, by Michels & Co. The parties are now engaged in opening the ledge for the purpose of testing its value.

Nov. 28th: A contract has been given to parties to take out a large quantity of rock from the upper level of the Union mine, owned by the New York Co.

The Birchville mine at Eureka is a paying institution. It has been opened from the surface and worked continuously for several months, every ton of rock yielding good pay. A fine mill has been erected upon the claim, and all this has been accomplished without a dollar of assessments.

Nov. 30th: A new 30-horse engine is being built at the Nevada Foundry for the Star Spangled Banner mine, which is to be used entirely for hoisting. The fine 30-horse engine now used for pumping and hoisting will be used only to raise water from the mine. The Banner is now worked constantly and keeps two mills running day and night, paying its owners good returns.

Dec. 1st: The sulphurets from the McLellan mine assay \$1,400 per ton.

Grass Valley Union, Nov. 26th: Some time since the company working on Jones Bar, South Yuba River, struck a bed of cement exceedingly rich in gold. They took out about eight tons of the cement before the rise in the river drove them out. There is supposed to be a larger quantity left in the claim, and probably running out of the river into the hill. The cement is very hard, and, to use our informant's expressive words, "is lousy with heavy river gold."

EXCELSIOR. — Virginia Enterprise, Nov. 28th: The Enterprise Co., Meadow Lake, during the summer have built a new mill, 40 by 80 ft., and now have 5 stamps in operation, with room to add 15 more as soon as the emergencies require it. They have also put up a new shaft-house, 30 by 40 ft., over their new shaft, which is now 100 ft. deep and shows excellent ore all the way down. The ledge is 20 ft. thick, and shows free gold in almost every part. The company have erected a furnace 30 ft. in height, and capable of roasting 30 tons of ore at one time.

## Placer County.

Dutch Flat Enquirer, Nov. 30th: The Iowa Hill correspondent says: The miners are all busily engaged. The Morning Star Co. are running their mill day and night, and are also running a new tunnel lower than the old one. They expect to strike through during the winter, in which event they will put up a new mill in the spring. The Lebanon Co., on Prospect Hill, started their mill on Saturday last, and will run it day and night as long as the water holds out, and as soon as it fails they intend to procure an engine and run with steam. The old North Star has commenced operation by running a sluice-tunnel. Belthe & Brother have opened a new hydraulic claim on Prospect Hill which promises remunerative returns. Hornem & Co., on Wisconsin Hill, are washing with two pipes day and night. Wm. Miller of the Jamison claim at this place is at work and will make the old diggings "talk" shortly.

Auburn Stars and Stripes, Nov. 28th: The recent ratifol rains have filled the water ditches and made the hearts of the waiting miners glad.

At Gold Run, the Yuba and Bradley ditches are furnishing fine supplies.

H. Robards, who it was reported had struck a fissure that yielded 813 ozs. in 36 hours, writes to the Stars and Stripes, stating that he only got 428 ozs. He thinks his luck was good enough without stretching it.

## Plumas County.

Quincy National, Nov. 23d: The mines at Cariboo are still paying well. Messrs. Vanderpool, Reed & Co. have commenced two drifts on the pay streak in their claim, and large returns may be looked for. Joseph Hickman's claim, which has paid well during the season, still meets with the approbation of its owner. Thos. P. W. Orton's claim is paying good wages.

The claims of Barker, McNulty & Co. on Mill Creek are paying good wages, yielding from \$5 to \$11 per day to the hand.

The Bamboo river claim is still paying well.

On Saturday last Messrs. Hallsted & Sparks, cleaned up their mill in Granite Basin, after crushing 100 tons of quartz, and took out \$2,000—an average of about \$20 per ton.

Oroville Record, Nov. 30th: Owing to the fact that Messrs. Halstead & Sparks' ledge is not yet prepared for mining, they have leased their mill to the owners of the Jenny ledge for the winter. The latter company will immediately set the mill at

work on their ledge. A new shaft is to be sunk on the Helstead and Sparks ledge.

Since the recent rains, the hydraulic claims of Cowley & Gavel, Gard and Orr, and William McClelland, at La Porte, have resumed piling.

Good quartz rock has been struck on the Pennsylvania ledge, in Indian Valley, Plumas county, and it is being hauled to the mill to be crushed.

## Sierra County.

Downville Messenger, Nov. 30th: The owners of the Chips quartz ledge are busily at work putting up an 8-stamp mill, which they intend to have in running order in a few weeks. Their rock pays remarkably well.

The result of the recent run of the Phoenix mill, above Sierra City, was \$600 per ton from the upper or smaller ledge, and \$25 per ton from the lower. The company has placed everything in order for the winter, and will do no more work until spring.

## Siidyoun County.

Yreka Union, Nov. 23d: A company is engaged in running a tunnel into one of the banks of Rancheria Creek near Cottonwood. The bed of the gulch above the point where the tunnel is being run has been very rich, and it is the opinion of the gentlemen interested in the tunnel that the lead has left the present bed of the gulch and is to be found back in the bank or hill. At the edge of the bank there is high bedrock, but it is thought there is a channel further back, which was the original bed of the stream. The tunnel is being run with the expectation of finding this channel, which if found, it is supposed, will be rich in gold, as the bed of the stream above that point has been.

## Tuolumne County.

Stockton Gazette, Nov. 30th: A gravel cement mill at Jeffersonville, Tuolumne county, crushes 35 tons of ordinary gravel in 12 hours, and 80 tons in 24 hours, if the gravel is not very hard.

## ARIZONA.

Miner, Nov. 16th: Mr. McCrackin, who has just arrived from Lynx Creek, says that before he left the creek, he and others cleaned up the proceeds of 20 tons of rock from the Deadwood, Pointer, Tie-Tie and other lodes, and that all of the rock crushed averaged \$50 to the ton.

Work upon the recently discovered Chance silver lode is progressing finely. It contains plenty of free gold and native silver. It is the intention of the owners of the mine to work their rock in arastras as soon as water comes. The silver amalgamates as freely as the purest gold, and they look for no difficulty in seeing it according to the old Mexican style.

A party of Coloradans who have prospected a portion of Lynx Creek, and found pay dirt, intend to work the claims and give them a fair trial.

The parties at work on the Dividend continue to find excellent pay rock as they progress with the shaft which they are sinking upon the lode.

The Wickenburg correspondent says that everything about the Vulture mine and mill is as usual prosperous.

## BRITISH COLUMBIA.

Cariboo Sentinel, Oct. 14th: A company of Chinamen who have been engaged for some time past in working over old ground on the Grier and Point claims, below Richfield, struck a small crevice, week before last, from which they obtained \$10,000.

A recent assay of silver ore from the Harrison Lake lode, gave a return of seven ozs. of silver and a few pennyweights of gold to the ton.

Oct. 21st: The frost during the past week was so severe that it put a complete stop to all open air mining.

The Draper and Sharp Co. on Cunningham Creek, who own the Kentucky claim, have commenced cleaning their ground sluice, and are making from \$60 to \$70 per day to the hand.

Oct. 28th: The mining season is about closed. A few companies are still at work cleaning up, although the frosty weather is a great drawback to their operations. The publication of the Sentinel will be suspended until next spring.

## COLORADO.

Times, Nov. 12th: Oil has been found on Cherry Creek. A large number of claims have been staked off and recorded.

The Live Yankee furnace seems to have proven a failure. There were furnished to them two tons of ore from the celebrated Young America lode, assaying \$133 per ton. It was hauled in such a wretched way that the bullion obtained was only .230 fine. One bar, weighing 131¼ ozs. troy, was refined by cupellation, and yielded 26 ozs. of fine silver. A little more than 50 per cent. of the silver was obtained. Next a lot of rich ore from the White lode was tried. It



was manipulated in the same way as the Young America ore. It was found desirable to melt the bullion down, together with a small bar, obtained by Garrott, Martine & Co., from another lot of White ore; said bar marked 23, weighed 103.75 ozs., coin value, \$112, fineness .835; yet even this desirable increase and the expenditure of a large amount of horn and niter would not produce silver of a greater fineness than .600. A gold retort obtained at the same establishment was reported to have contained 2 1/2 per cent. of gold.

Assays made by Mr. Johnson of ore from the Gen. Marion lode shows an average yield of \$154.35 per ton.

A mass of silver weighing 130 lbs. and valued at \$2,300 coin, was sent East on Thursday by the proprietors of the Equator lode. This was obtained from a portion of six tons of ore now being treated at the Georgetown Smelting Works, and is the largest button that has been sent out of this country.

Garrott, Martine & Co. are now engaged in reducing 12 tons of Equator.

The exports for the two weeks ending Nov. 12th are as follows: G. T. Clark & Co., \$20,000; Warren Hnssey & Co., \$11,000; Rocky Mountain National Bank, \$20,000.

Georgetown *Miner*, Nov. 14th: Some very large, beautiful ores from the celebrated Baker lode, West Argentine, are on exhibition in front of the Brown Co's office.

The Wm. Penn lode, on Democrat mountain, is showing up finely, under the active development now being pushed forward by its owners.

A solid vein of the richest argentiferous galena in the known world, has been struck in the Terrible lode, recently, at the depth of 46 ft. The crevice is 61 in. in width, between solid, smooth walls. The ore vein consists of five in. of argentiferous galena, fine cubes, somewhat of a fractured steel appearance, that assays \$3,195.75 per ton; even in. of galena and zinc blende, that assays over \$200 per ton. The balance of the crevice is gangue, filled with seams of zinc blende and galena.

Prof. Burlingame made an assay of ore from the Rainbow lode, Brown Mountain, last week. The yield was \$530 silver per ton.

An assay of ore from the Flora McLain lode on Brown Mountain, made by Mr. Foster, gave \$1,777.75 silver per ton.

More recent assays of ore from the Terrible lode, gave \$3,572.72 per ton.

Central City *Register*, Nov. 19th: An assay of ore, taken from the bottom of the shaft gave \$3,185.75 per ton.

Six tons of ore from the Equator lode, worked at the Georgetown Smelting Works, assayed after crushing, \$800 per ton.

Five hundred lbs. of ore has been taken from the Anglo-Saxon lode at a cost of \$55, contains silver at the rate of \$3,000 per ton. One hundred tons assorted, yielded 167 ozs. per ton.

The following is the result of assays lately made at Georgetown: Ore from the Baxter yielded \$437.77 per ton, from the Edwena, \$396.98 per ton, and from the Lilly \$754.26 per ton.

A hutton of silver worth \$2,300 was yesterday taken from Equator ore by the Georgetown Smelting Works.

**IDAHO.**

Boise *World*, Nov. 16th: The clean up at Classen's 25-stamp Pioneer mill last Saturday, gave a product of 2,300 ozs. of amalgam. The mill is now at work again, working every stamp, and gangs of men are incessantly employed, day and night, both in the tunnel and the mill. The ore is developing richer and richer as the ledge is penetrated.

The Granite Creek correspondent writes: There is not much mining going on here now, but a few of the creek and bar claims are still being worked with generally very profitable results. John Noon & Co, cleaned up 400 ozs. of amalgam from their bar claim, after a run of three weeks.

Owyhee *Avalanche*, Nov. 23d: The ledge in the Golden Chariot mine has been struck. We were shown some ore, with coarse particles of gold diffused throughout, that was taken from the ledge in the tunnel. It is not known how wide the ledge is, as the workmen have not got through it yet.

The Iowa mill has worked several tons of ore from the Rising Star mine which paid from \$80 to \$100 per ton. The Iowa and Idaho Co. have now a sufficient quantity of ore on the dump of the Rising Star to turn out \$100,000.

**NEVADA.**

Esmeralda. The once familiar face of the Esmeralda Union, greeted us this week after an absence of some five months. From it we learn that a great change has taken place in mining operations, and it adds, from every

camp in the country we hear the most cheering news.

The same paper says: Thirty-three men are employed on the Silver Circle ledge. Three shafts have been sunk; one 125 ft., one 90 ft., and one 60 ft., from all of which good ore has been taken. As high as \$60 per ton has been taken from the mine by mill process.

The Salt Basin & Silver Peak Co. at Silver Peak, are driving ahead as though they meant business. They are making ready to erect a fine mill.

At Pine Grove there is one mill in operation and another in course of construction, besides several arastras. The ore they are working is paying well. At Washington one mill has been completed, and the machinery for another is on the way. Ore from this camp has been worked at Dall's mill and yielded well.

Dr. Dozier has made several successful tests of ore at Hot Springs. He is now completing some large furnaces, which are all efficient will leave the precious metals.

**Humboldt.**

Unionville *Register*, Nov. 23d: The excitement over the developments in Fall & Co's mine is unbounded. The tunnel in the mine is now in about 70 ft. The ledge is considerably decomposed, and is well charged from wall to wall with ore that will pay from \$100 to \$1,000 per ton, mill process. These figures are not conjectural and founded on fact, but are the result of actual workings in the mill, which is kept constantly running day and night on this ore. The company intend to erect a 20-stamp mill at an early day.

Preparations are being made to resume work on the mine of the Rochester Co. at an early day.

Mr. Negus passed through town, a few days ago, with several hundred pounds of silver bullion from the Goleonda mine, the result of his first run. This mine has proved to be better in every respect than the most sanguine expected. The supply of ore is apparently inexhaustible, yielding upon an average \$60 to the ton. The entire cost of mining and milling does not exceed \$10 per ton.

Several cords of silver bricks are corded up at the Oreana furnaces, and still the superintendent is satisfied with the capacity of his works, is making extensive additions thereto, among which are four new calcining furnaces.

Immense quantities of exceedingly rich gold ore are now on the dump at the Monroe mine, and still it comes from the lower level by the tons. Arrangements have been made to supply Holt's mill with ore. Mr. Holt has a faculty of turning out from \$300 to \$500 per ton from this ore.

Fall & Co. shipped this week 1,200 ozs. fine bullion.

Negotiations are being made to supply the French mill at Winnemucca, with ore from the Cumberland mine.

**Pahranaagat.**

Silver Bend *Reporter*, Nov. 23d: The Hiko correspondent writes: There is considerable excitement here about gold mines discovered within one mile of town. I saw some of the quartz; had free gold pointed out to me; saw room enough for it, but not having my microscopic glasses at hand, couldn't see the gold. However, a meeting of miners is called to form a new district. The Indiana ledge is looking better than ever, and owners of silver mines here are feeling gay. Ostram's mill is progressing slowly.

The editor adds: Since the above was written we have seen a gentleman from there and learn that several ledges of quartz, showing gold, have been found 2 1/2 miles east of Hiko, and that considerable excitement prevailed. Our informant panned out a little dirt—debris from these lodes—amounting to several handfuls only, and obtained about a dozen flakes of gold.

**Reese River.**

Reveille, Nov. 26th: Very fine ore is now produced by the Chase mine, and that a lot of it will be shortly sent to mill for reduction. Pieces were picked from the ore dump which showed both ruby and metallic silver, the latter occurring in threads and flakes. The present developments of the mine are represented to be very encouraging.

Nov. 25th: Persons who have arrived here within the last few days from the Newark Dist., speak in flattering terms of its prospects. The fine 20-stamp mill of the Centenary Co., with its complement of roasting furnaces, was opened on the 18th inst., with every indication of complete success. There was a plentiful supply of good ore waiting reduction. The Chihuahua ledge—the principal mine of the company in the district—is among the most promising in Lander county. In the deepest excavations the vein is broad, compact, and carry-

ing a large proportion of valuable ore; and our informant believes it can be soon put in a condition to furnish a full supply of ore for the mill.

Nov. 27th: We were shown yesterday by Capt. Monroe samples from the outcropping of two ledges in the district of Hot Creek, both handsome and rich looking, and their fine indications entitle them to development. One of the ledges is named the New Cumberland, and the other, of the width of four ft., is named the Vinton.

There may be seen at the First National Bank a fine sample of ore from Leon & Co's claim on the El Dorado ledge, Silver Bend Dist. It was selected from a lot of ore thrown out by a blast. The handsome ore might readily be taken for a specimen from the Highbridge or Transylvania, even by a person familiar with the appearance and quality of their mineral.

On Monday 2,200 lbs. of ore from the Garrison claim, a new discovery in the Cortez Dist., were carried to the California mill for reduction, where it gave a yield of \$812 per ton.

Nov. 29th: Yesterday 3,000 ozs. of crude bullion were brought into the city from Coover's mill at Bunker Hill Dist.

Silver Bend *Reporter*, Nov. 23d: The Murphy mine, in Ophir Cañon, belonging to the Twin River Co., will this month produce bullion of the value of \$75,000 coin.

Two hundred and forty-seven pounds of crude bullion were brought here last Monday from the O'd Dominion Co's mill, and forwarded to Austin.

The incline in the El Dorado South is progressing finely and the ledge constantly increasing in richness. Selected specimens of the ore assay up into the thousands—one giving the handsome sum of \$2,863.32 to the ton. Upon the locations made south of this—recent discoveries—work is continued energetically and has been attended with the most encouraging results.

Nine tons of ore were recently taken to Hot Creek for reduction from a newly discovered deposit near the Crescent, in Reville Dist. A ton and a half being selected was crushed and gave a pulp assay of a little over \$900 per ton, while the remaining 7 1/2 tons yielded over \$300 per ton.

The new 20-stamp mill of the Centenary Co. started up on the 18th inst., with a plentiful supply of good ore ready for reduction. Roasting furnaces have been erected and there is nothing now in the way of success.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Virginia *Enterprise*, Nov. 28th: The new hoisting of the Empire and Imperial Cos. will start up next Saturday. The works are among the largest and most complete in the State.

Dec. 1st: Mr. Jones—late candidate for Lieutenant Governor on the Union ticket in California—has been appointed Superintendent of the Kentek mine, in Gold Hill. Also, James Rule, Esq., foreman of the Yellow Jacket north mine, has been appointed Superintendent of the Hale & Norcross mine in Virginia. This company (the Hale & Norcross) is about raising its capital stock from \$400,000, divided into 800 shares of \$500 each, to \$1,200,000, to be divided into 800 shares of \$1,500. Work will be commenced in the north shaft of the Yellow Jacket to-morrow.

Trespass, Nov. 30th: The Bowers mill, in Crown Point Ravine, Gold Hill, under the energetic supervision of L. S. Bowers, Esq., is being thoroughly repaired. The engine, pans, agitators, vats, and other machinery, are being overhauled and put in working shape, and next week the mill will commence crushing ore from the Bowers mine, several hundred tons having accumulated, while more is being mined daily.

**UTAH.**

Salt Lake *Vedette*, Nov. 22d: Messrs. Eddy and Staples who have just returned from the Sweetwater mines near South Pass, state that the weather had been pleasant, new placer claims discovered, and the miners generally well in high spirits. A saw mill has been erected on Mill Creek, and is turning out an abundance of good timber for building and mining purposes.

Reese River *Reveille*, Nov. 29th: Maj. P. A. Gallagher lately arrived from the Sweetwater mines, speaks highly of the ledges, several of which develop finely. He brought a number of specimens of the quartz exhibiting free gold, and one large piece, which may be seen at the office of Wells, Fargo & Co. has its faces well studded with the yellow metal. Maj. Gallagher thinks that 300 men will winter in the district.

**OREGON.**

Alhany *State Journal*, Nov. 16th: An assay of ore from the rich gold bearing ledge

of quartz, recently discovered by Moses and Miller has been made, and paid \$2.13 1/2 per lb. The lodge has been opened in two places, one tunnel run in about 100 ft. below where they first opened, and shows full as rich quartz as at the top. They will commence with an arastra at first, and as the lodge opens they will make such improvements as are necessary. Some of the selected rock assayed as high as \$6,000 per ton.

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Mr. C. T. Roney is our duly authorized agent for Sacramento County. Nov. 23, 1867.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Dec. 7, 1867.

## Notices to Correspondents.

QUID NUNC.—The saying to which you refer, viz: "That he was the wisest amongst the rich, and the richest amongst the wise," was applied to Henry Cavendish, the discoverer of the compound character of water, and the first philosopher "who weighed the world," also the most distinguished of English chemists. Although the grandson of two dukes, viz: Devonshire and Kent, notwithstanding this high descent, being the son of a younger son, his earlier years were passed in what has not inappropriately been termed respectable penury. From this circumstance it is supposed that, combined with settled, studious habits, arose that exercise of personal economy which was his great characteristic, and which, doubtless, was the immediate cause of such a great accumulation of wealth of which he was found to be possessed at the time of his death, amounting, probably, to not less than ten millions of dollars, if his real estates are included in the estimate. With the exception of some comparatively trifling legacies, this large sum was bequeathed to the younger brother of the then duke of Devonshire, who, however, was the father of the present duke. Perhaps no descendant of a feudal aristocracy possesses so thoroughly noble a descent as the marquis of Hartington, the heir of Chatsworth, combining as he does the blood of Boyle, the great promoter of pneumatic science, with that of Cavendish, and by his mother remotely allied to Howard, the inventor of the vacuum pan. Such a genealogy any one may be proud of. It is gratifying to know that the Cavendishes have invariably been found among the foremost advocates for liberal institutions.

MANIPULATOR, Reese River.—Lead readily amalgamates with mercury in the cold, perhaps more readily than silver; this is chiefly due to its porosity. A bar of lead, immersed for ten days in cold mercury, becomes thoroughly penetrated by the latter metal. A bar of lead, bent in the form of a siphon, and dipping into mercury by the shorter end, if formed of unhammered lead, will be found in a short time with drops of mercury at the longer or lower end, and will permit the mercury to flow out until the vessel is emptied. If the bar is made of non-hammered lead, the first drops of mercury will appear in about twenty-four hours; but, if the lead has been hammered, it does not appear until ten days have elapsed. The mercury does not pass along the bar, but through its pores, thus evidencing the porous character of the metal.

BOHEMIAN.—The singular decrepitating salt to which you allude, is obtained from the rock-salt mines of Wieliczka. The phenomena is attributed to the fact, that in this peculiar rock-salt certain gases are retained in a compressed state within the crystals of the salt, which, when in the act of dissolving, the gases are set free, thus occasioning slight reports. By H. Rose these gases are said to be a mixture of hydrogen, carbonic acid and marsh gas.

THE GATTLING GUN.—The Berlin journals state that the Prussian government has determined on trying a certain number of revolver cannons on Gatling's system. Several of these guns have recently been sent to the plains to be used against the Indians. This American invention attracted considerable attention at the Paris Exposition.

## A New Quicksilver Furnace.

While at the Miners' Foundry a few days since, our attention was called to a new furnace for extracting quicksilver from its ores. It is made entirely of boiler iron, and to the casual observer would be taken for a steam boiler, simply. It in fact combines the two. While roasting the ores of mercury, it is at the same time making steam, which may be used either for propelling machinery or for creating its own draught, to which latter purpose the steam produced by the furnace just constructed at the Miners' Foundry, is to be exclusively applied. This furnace is the invention of Mr. J. C. Coult, of this city. The one herein described, is the first one constructed and will be erected upon one of the mines recently opened near the head of Pope's Valley, Napa county, about forty miles northerly from Napa City.

The furnace is divided into five compartments, consisting of two fire chambers, which are on the outside of the furnace, two ore chambers adjoining, and one vapor chamber in the center. The partitions dividing the compartments are all water-lined, having tubes passing through the linings, of sufficient size and number to admit freely the heat of the fire to pass through the cross section of the ore, in the two ore chambers; the heat and vapor of mercury passing together into the center or vapor chamber, and from thence down into a pipe, through which it is carried off into the condensing chambers erected for that purpose. These chambers are all surrounded by water, that is constantly being changed to keep the condensing chamber cool, and have forty feet of cooling or condensing to one of heating or fire surface. The furnace is also provided with large steam room capacity, sufficient to make ample steam to produce the required draught for the furnaces. Mr. Coult has obtained two patents, covering the mechanical principles involved in the construction of his furnace.

FOUNDRY WORK.—In addition to the quicksilver furnace, elsewhere described, as just having been built at the Miners' Foundry, that establishment has just completed two large boilers for the new Oakland ferry boat, now on the ways at the further end of Long Bridge. These boilers are each 28 feet long by 8 feet in diameter of shell. There are four furnaces and twenty-two flues to each boiler; the flues varying from 9 to 13 inches in diameter. These boilers are made of the best charcoal branded iron, five-sixteenths thick, and double riveted on bottom of shell and throughout one-third of circumference. They are constructed to sit side by side, one smoke-stack serving for both. They are now being hauled on trucks to the foot of Fourth street, from whence they will be taken in lighters to where the boat is being constructed.

We also noticed, in course of construction, a large number of sections of a lift-pump, which, we were informed, was intended for the Imperial and Empire united shaft. Four hundred and fifty feet of pipe are being constructed, with which the company intend to lengthen their pumps, several of which are in operation, and pumping water at the present time, from a depth of about 1,000 feet. The irons for a heavy balance bob are also being made for the same parties, at the Miners' foundry.

PROF. E. W. BLAKE, JR., has been invited to fill the chair of Physics in Columbia College, New York, to supply the place of Prof. Rood, who is prevented by illness from discharging his duties, and is at present recruiting in Europe. We understand that after the return of Prof. R., Prof. Blake will permanently occupy a Chair in Cornell University, at Ithaca, New York. He is a native of New Haven. After taking his degree at Yale College, and the Sheffield Scientific School, he completed his studies at Heidelberg, Germany.

## Meeting of the Legislature.

Both branches of the Legislature assembled at the Capitol at 12 M. on Monday last. Every Senator except Knox (deceased) was in his place, and all the newly elected Senators were duly sworn in. Of the House, all but four were present and were sworn in.

The Senate was organized on Tuesday by the election of L. D. Misner as President *pro tem*: John White, Secretary; W. F. Heustis, Assistant Secretary; F. S. Lardner, Sergeant at Arms; C. E. Barnes, Minute Clerk; John E. Dent, Journal Clerk; W. H. Frink, Engrossing Clerk; W. L. Hawkins, Enrolling Clerk; and A. W. Perley and D. S. Marston, Copying Clerks.

The Assembly was organized on Wednesday as follows: C. T. Ryland, Speaker; John A. Eagan, Chief Clerk; J. K. Luttrell, Sergeant-at-Arms; Wm. S. Byrne, Assistant Clerk; N. Benedict, Minute Clerk; D. F. Beveridge, Enrolling Clerk; R. M. Clarken, Engrossing Clerk, and H. G. Sieberts, Journal Clerk.

The inaugural ceremonies took place on Thursday, with more than usual ceremony. Both Houses adjourned over on Friday, to Monday next. The inauguration hall, on Thursday evening, is said to have been a grand affair, and everything was done which could add to the enjoyment of the guests.

We append the names of the members of both Houses, with the districts which they represent:

## SENATE.

BRADY, E. L.—Placer.  
BELDEN, DAVID—Nevada.  
BANNING, PHINEAS—Los Angeles.  
BEACH, HORACE—Yuba and Sutter.  
CONN, WILLIAM A.—San Diego and San Bernardino.  
CURTIS, N. GREENE—Sacramento.  
CONLY, JOHN—Butte, Plumas and Lassen.  
CHAPELLE, J. N.—Shasta and Trinity.  
EWER, S.—Butte, Plumas and Lassen.  
FREEMAN, J. W.—Fresno, Kern and Tulare.  
GREEN, JANSON J.—Contra Costa and Marin.  
HAGER, JOHN S.—San Francisco.  
HUNTER, GEORGE W.—El Dorado.  
HARDY, THOMAS—Calaveras.  
HEACOCK, E. H.—Sacramento.  
JOHNSON, JAMES—El Dorado.  
KINCAID, H.—San Francisco and San Mateo.  
KNOX, W. J. (deceased)—Santa Clara.  
LAWRENCE, J. H.—Mariposa, Merced and Stanislaus.  
LEWIS, E. J.—Colusa and Tehama.  
McDOUGALL, F. A.—Monterey and Santa Cruz.  
MANDEVILLE, J. W.—Tuloume, Mono and Inyo.  
MORRILL, D. L.—Calaveras.  
MURCH, L. H.—Del Norte, Humboldt and Klamath.  
MURPHY, P. W.—San Luis Obispo and Santa Barbara.  
MIZNER, L. B.—Solano and Yolo.  
PERLEY, J. E.—San Joaquin.  
PENDEGAST, WM. W.—Lake, Napa and Mendocino.  
PEARCE, GEORGE—Sonoma.  
PRATT, L. E.—Sierra.  
ROBERTS, E. W.—Nevada.  
ROSE, A. H.—Amador and Alpine.  
ROBINSON, HENRY.—Alameda.  
SAUNDERS, JOHN H.—San Francisco.  
SHAW, W. J.—San Francisco.  
TWEED, CHARLES A.—Placer.  
TUBBS, A. L.—San Francisco.  
TEEGARDEN, E.—Yuba and Sutter.  
WOLCOTT, OLIVER.—Tuloume, Mono and Inyo.  
WADSWORTH, E.—Siskiyou.

## ASSEMBLY.

ANGNEY, W. Z.—Santa Clara.  
ABLES, THOMAS J.—Marin.  
AYER, ISAAC—Calaveras.  
BEAVER, T. S.—Calaveras.  
BROWN, THOMAS A.—Contra Costa.  
BIRD, A. B.—El Dorado.  
BUCKBEE, J. R.—Plumas and Lassen.  
BIGGS, MARION.—Sacramento.  
BATTELE, T. S.—Sierra.  
BRODERSON, B. J.—San Francisco.  
BROWN, J. C.—Tulare and Kern.  
BACHELDER, A. J.—Yuba.  
CHURCH, A. M.—Alameda.  
CRIGLER, JOHN C.—Napa and Lake.  
COCHRANE, R. M.—Butte.  
CURETON, WILLIAM H.—Mendocino.  
COGINS, PASCHAL—Sacramento.  
COMTE, A. Jr.—Sacramento.  
CALDWELL, WILLIAM—Sonoma.  
CANAVAN, MATTHEW—San Francisco.  
CONNELLY, DAVID W.—San Francisco.  
CLARK, L. B.—Yuba.  
DAYS, J. M.—Nevada.  
DORNIN, G. D.—Nevada.  
DOWNER, J. W.—Sierra.  
DYER, PERRY—Shasta.  
DAVIES, W. A.—Tuloume, Mono and Inyo.  
DWINELLE, JOHN W.—Alameda.  
ELLIS, ASA—Los Angeles.  
FRISBIE, JOHN B.—Solano.  
FAIRCHILD, J. A.—Siskiyou.  
FARISH, THOMAS E.—San Francisco.  
GREGORY, J. B.—Amador and Alpine.  
GREEN, W. S.—Colusa and Tehama.

GILDED, CHARLES—El Dorado.  
GILTNER, FRANCIS—Mariposa.  
HAYES, BENJAMIN—San Diego.  
JAMES, JOHN M.—San Bernardino.  
JONES, T. E.—Trinity.  
KELLY, JOHN M.—Yolo.  
LEE, BRUCE B.—Sacramento.  
LUPTON, SAMUEL L.—San Francisco.  
MACE, R. P.—Fresno.  
MENTZELL, OTTO—Calaveras.  
MORROW, L. J.—San Joaquin.  
MATTINGLY, R. L.—San Mateo.  
MOORE, JOHN H.—Santa Clara.  
MARTIN, S. M.—Sonoma.  
MIDDLETON, JOHN—San Francisco.  
MAHON, FRANK—San Francisco.  
McELHANY, W. T.—Santa Barbara, San Luis Obispo.  
MARDIS, B. A.—Tuloume, Mono and Inyo.  
MEAGHER, M.—Tuloume, Mono and Inyo.  
NEWELL, HUGH B.—El Dorado.  
NEWSOM, J. W.—Merced and Stanislaus.  
ORD, W. M.—Butte.  
OLIVER, WARNER—San Joaquin.  
O'MALLEY, J. J.—San Francisco.  
PAYNE, GEORGE M.—Amador and Alpine.  
PARBEE, GEORGE—Santa Cruz.  
PAPY, JASPER J.—San Francisco.  
ROLLINS, H. G.—Nevada.  
RYLAND, C. T.—Santa Clara.  
RECTOR, THOMAS H.—Klamath and Del Norte.  
RUSS, A. G.—San Francisco.  
SPENCER, C. G.—Placer.  
SPILLMAN, B. R.—Sutter.  
STEELE, ELIJAH—Siskiyou.  
SCUDDER, FRANK W.—San Francisco.  
SMITH, J. K.—Yuba.  
TULLY, E. C.—Monterey.  
TUTTLE, C. A.—Placer.  
WESTMORELAND, CHARLES—Humboldt.  
WHITE, JOHN D.—Nevada.  
WATSON, J. A.—Los Angeles.  
WALDRON, M.—Placer.  
WOLLEB, CHARLES—Sacramento.  
WILLET, STEPHEN—El Dorado.  
WARFIELD, J. B.—Sonoma.  
WAND, THOMAS N.—San Francisco.

THE OAKLAND COTTON FACTORY has proved a pecuniary success, as is sufficiently shown by the enlargement of the capital stock, and the erection of new and additional buildings, to accommodate the increase of machinery and business. The company has recently made arrangements to go extensively into the manufacture of grain bags, which they say they can make and sell cheaper than the imported article, on which our farmers have heretofore chiefly depended. It requires about \$100,000 per annum to pay for the sacks required for the California grain crop. The chief part of this purchase has hitherto been made in England. The stoppage of this outgo of coin will prove a most important item to the State.

EVERY'S PATENT PUMP.—This new description of pump, which digs its own wells, and which may be put down to water in an almost incredibly short space of time, and set to work at once, appears to be meeting with universal favor all over the world. It has lately been introduced into England and France, where it was looked upon as a most important and valuable invention. If we are not mistaken, a well can be dug, 50 feet of tubing put down, and the pump furnished and put in working order for \$50. We shall soon give an illustrated description of the manner in which this work is so effectually and so cheaply done. This pump is rapidly coming into use in this city and vicinity. It is adapted to almost any locality, where it is not necessary to penetrate into hard, rocky strata for water. S. P. Roberts is agent for California and Nevada.

THE GOLDEN CITY.—A new paper appeared upon our desk this week, bearing the name of *The Golden City*. The paper is published and edited by Foad, Dismore & Co., and presents a fine appearance. It is designed for a first class family paper, and judging from the first issue, we would pronounce it all that it claims.

MINERALS IN SOUTH AFRICA.—Very important copper discoveries are reported in South Africa, within seven miles of the mouth of a navigable river and nearly on the sea level. A township has been laid off and quite a mining excitement has grown up. Rumors of the discovery of silver and other important minerals are also current.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.



**THE LATE EXPLOSION AT THE HOOSAC TUNNEL.**—Much mystery is attached, according to the papers, to the late explosion in the Hoosac Tunnel; and an Eastern correspondent has sent us a slip from the Springfield Republican, giving a full account of the disaster, and asking an explanation of the mystery. To us there does not appear any mystery at all. From the slip sent, and from other accounts at hand, we learn that the explosion occurred on the 19th of October, at the month of the shaft which is being sunk about midway on the line of the tunnel, for ventilation and also to allow workmen to drift each way from the shaft, in order to hasten the completion of this great work. The shaft is now down about 700 feet, with 350 feet further to go to reach the level of the tunnel. Around the mouth of this shaft a series of buildings has been constructed, for office, machine shops, saw-mill for getting out timber, etc.

Previous to the advent of the present contractors, several iron tanks had been placed in a portion of this structure for the purpose of holding naphtha, from which gas was manufactured for lighting the workmen in the shaft. The gas was abandoned by the present contractors, and kerosene substituted. The day before the explosion took place, however, the tanks had again been filled and the gas once more introduced. One account before us says that at the time of the explosion a lighted candle was burning about 20 feet distant from the tanks. Other accounts make no mention of that or any similar fact.

According to the report in the Springfield Republican, just prior to the explosion, R. Peet, the clerk, who has been at the shaft for three years, formerly in the employ of the State and latterly retained by the contractors, and who is thoroughly conversant with the gas and its working, went with another man to examine the meter. When the door of the casing was opened, the gasoline, for some unknown reason, flashed into an explosion, and the two men barely had time to escape.

We are not advised whether the tanks were perfectly closed or not. Whatever might have been the intent, however, there is no doubt but there was an escape of vapor from somewhere, and that vapor was drifted in a current of air into contact with the flame of the candle above referred to, or some other flame; hence the explosion. Such explosions have been quite frequent in this city, proceeding both from common illuminating gas and from the gases thrown off from coal oil on storage.

Naphtha, or the vapor of naphtha, in a close vessel, and apart from the heat requisite for its inflammation, will never explode spontaneously. Woolen, cotton, or any other equally inflammable substance, when saturated with animal or vegetable oils, will often absorb oxygen with sufficient rapidity to produce spontaneous combustion; but such substances, saturated with coal oil or its products, will not explode spontaneously; from the fact that the latter oil is a preservative of such substances, utterly precluding their absorption of oxygen. The oils and gases themselves will unite rapidly with oxygen, and burn violently when they are raised to a proper degree of heat—yet they will never generate sufficient heat to produce combustion.

**THE IRREPRESSIBLE CONFLICT** is the name of a toy recently invented by a young lady of San Francisco, and is a very amusing representation of a "rough and tumble" fight, between a Caucasian and genuine African. Messrs. Jellinck & Hardenburgh, scroll sawyers, California Street, have the contract for making them. Traver Bros., 32 Merchants' Exchange, are the agents for their sale. Several toys have made fortunes for the inventors. As this is in every respect a home production, and a favorite among the young folks, it will doubtless be well patronized. A patent has been applied for through this office.

**ELLERY'S PATENT INDIA-RUBBER PAINT.**—We would call attention to the advertisement of the paint sold by Eppes & E. H. R. Ellery, under the above title. This paint is coming into very general use on this coast as a marine paint and for public buildings, dwellings, etc. It is said to be both cheaper and better than the ordinary lead paint. Abundant reference of its use is given in the advertisement above referred to.

"You may talk to me of Baltimore and Philadelphia and New York, and their railroads and the trade of the Atlantic—let me tell you that the Pacific Coast is already beginning to revolutionize the world."—Speech of Hon. Wm. H. Secard to the people of Annapolis, Maryland, June, 1861.

**ADDRESS**

To the Permanent Citizens of the Pacific States and Territories.

**Citizens.**—We enjoy the finest country that the sun shines on, the most varied and fertile soil, the most extensive seaboard, and the greatest breadth of land having the richest metallic deposits possessed by any one nation of the earth, a land affording all the most varied material for manufactures, wool, hides, cotton, silk, metals, coal, fiber, gums, wool, and, above all, abundance of every kind of food.

We are only a million of people, and yet have more land and sea than Russia with sixty millions—more land than France and Germany, with their hundred millions of people. In the face of these vast resources, there are towns crumbling to decay, men seeking without finding employment. Something wrong here, or this would not be happening. Let us consider.

The instructed mind of the population is mostly devoted to political office-seeking. Their ambition is misdirected. The rising youth is trained to idleness. This mode of thinking and training must be reversed if we would hold this magnificent country against the incoming barbarian.

We must teach our youth the glories of manufactures, of commerce, of industry. We must nourish every effort, however rude, at manufacturing what we require. By devoting some of our capital and our young people to manufactures and general industries we shall soon become busy, get rich, bring more and more people into the country, create new wants, build up new factories and new villages around them; cultivate more land, build more ships, generate more commerce, and thereby create profitable employment for all who want work.

Now, fellow citizens, some money capital is required to help on this industrial movement. Where shall we get it? There is a considerable fund which we may divert from its present bed and channel, viz: the Insurance Fund.

Consider. The people of the Pacific States pay two hundred thousand dollars a month to the Insurance Companies for assuring them against losses from fire and shipwreck.

There are some fifteen of these Insurance offices in this city, each fishing for its share of this large fund. Each office pays a heavy rent, a half dozen officers and clerks, besides printing and advertising; the lowest cost is a thousand dollars a month on each office, and with some it is double that. There are too many persons employed in the business; too much dozing over newspapers; too much red tape and circumlocution; too high salaries and too little work. Think of two hundred thousand dollars a month! two millions and a half a year!! paid to those sleepy gentlemen for what little they do. This must be reformed. Three or four Insurance offices are quite enough for the million of scattered inhabitants of the Pacific States. A dozen of them may be abolished with great benefit to the community; some one or two have already withdrawn. This change would liberate some fifty men of education, whose business capacity would be of much greater service to the community in other branches of industry, such as manufactures, agriculture, commerce, the fisheries, the forests and the mines. This change would also divert a million or two of dollars to other and more useful industries, whereby a thousand fold more of national capital and employment would be generated than by the present drowsy system.

The managers of the Builders' Insurance propose, with the co-operation of the people, that this vast monthly stream of wealth shall be arrested and diverted to the aid of home manufactures, to effect a great reform and remove from the people's shoulders the expense of supporting a small army of insurance clerks and agents. The Builders' Insurance Company has passed through its first year (the most trying) with singular success. It has gathered a hundred thousand dollars, paid promptly all its losses, and established a business income of fully twenty thousand dollars a month! This has been done while we were yet but an experiment, and enjoying the confidence of only a portion of the public. We now appeal to the entire people. We ask them to send their insurance business to us on the following conditions, and soon we shall have an income of ONE HUNDRED THOUSAND DOLLARS A MONTH, and here is what we shall do with the money.

First, we calculate, from our past experience, that we shall lose by fire and marine disasters half our monthly income (on our first year's experience our losses were but one-third of our income).

Suppose, then, that our income shall be worked up to one hundred thousand dollars a month, and suppose that we shall pay out losses to the extent of fifty thousand dollars a month, we shall still have fifty thousand dollars a month to bank up, (or half a million a year.) We propose to make two parts of this sum—one part (a quarter of a million a year) to be invested in City Bonds, to protect the assured, and one part (about a quarter of a million a year) we propose to convert into a

**MANUFACTURERS' LOAN FUND,**

Which shall be lent exclusively to manufacturers on mortgage of their premises and machinery, at as low rate of interest and on as long time as is generally current on real estate.

By the aid of this fund the budding industries of the Pacific States may be nourished into active life; more and varied employments can be originated for the people; immigration may be welcomed and not feared; the farmer will have got a market at his own door for the produce of his land; the manufacturer will find a lively home demand from the farmer for the products of his machines.

All this, good people, can be achieved, by your own votes at your own freights, without the aid of Congress or the Legis-

lature—it is simply to vote that your insurance shall go to the Builders, by which vote you shall enable us to plant factories all over the country. You shall fill the rivers and harbors with busy ships; you shall send out upon the distant waves fishing expeditions that will bring back wealth to your cities; you shall form a nursery of seamen around your own shores—the ova of a future commerce and a protective navy; you will create the hum of busy workmen in every desirable locality on the Pacific Coast; you will bring from neglected fields produce of the utmost value; all of which will most certainly multiply a thousand fold the wealth of the country in which your lot is cast, making a worthy home for yourself and a future country for your offspring.

People of the Pacific States and Territories! We pledge ourselves to you to effect, with your co-operation, some of those things. We have kept all our pledges so far, and have uttered nothing that was not true. Already have we helped to move the shuttle and the loom, which others, with more means, have passed by and neglected. Already have we helped to build and rig ships in our own dock-yards, and sent them over the wide waves in search of riches for the city. Already have we given many liberal bounties and donations to the deserving institutions of the city. Give your vote to the Builders, and we shall share its profits with every useful charity and every honest industry, and help along every enterprise that promises benefit to the people.

We call for the yeas and nays.

THOMAS MOONEY, President.

EDWARD MACCANN,

WM. B. COOKE,

W. O. WEIR,

J. D. CONNELL,

J. W. MCCORMICK,

C. A. JENKE,

HERMAN SCHWARZE,

J. W. MCKENZIE,

H. V. HERBERT, Secretary.

13v15-1am4t

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**JACOB SHAW, Pioneer Photographer,** 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14t

**SECRETARYSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has many unexceptionable references. Address "SECRETARY," at this office. 6v15t

**CO-OPERATIVE UNION STORE.**—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions twenty per cent. cheaper than ever before, and the very best articles in market. The store is located at 115 Sutter street, Lick House Block. 2v15t

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Pine and Kearny streets, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with PURE GOLD—thus restoring them to their original usefulness and beauty.

Call and examine the work. Finest quality of artificial work also manufactured. 16v14-4f

**NORTH AMERICA**

**Life Insurance Company.**

Usual Restrictions on Occupation and Travel

**ABOLISHED!**

Policies of this Company are guaranteed by the State of New York, which is true of no other Company on this Coast.

The most Responsible and Liberal Company in the World!

**J. A. EATON & CO.,**

Managers Pacific Branch, 302 Montgomery st. 20v14n9p SAN FRANCISCO.

**PACIFIC**

**BARREL AND KEG COMPANY.**

Having now in operation extensive and Improved Machinery for the manufacture of

**BARRELS AND KEGS,**

Are prepared to contract

**AT LOW RATES**

For supplies of such stock as may be required. Will also contract for

**Stave Timber,**

Of different kinds, delivered here, or at any shipping point in the interior, or upon the Coast.

Orders and communications to be addressed to

**FLINT, PEABODY & CO.,**

Agents Pacific Barrel and Keg Co., 23v15-3m 408 California street.

**Builders' Insurance Company**—OFFICE IN THE BUILDING OF THE CALIFORNIA SAVINGS BANK, California street, one door from Sansome street. FIRE AND MARINE INSURANCE. 10v14n9pqr

**Perry Davis' Vegetable Pain Killer.**

The Pain Killer, so justly celebrated, was introduced to the public many years ago, and now enjoys a popularity unequalled by any other medicine. For the cure of diphtheria, dysentery, cholera morbus, rheumatism, coughs and colds, scalds, burns, etc., it is without an equal. Sold by all the principal druggists.—Cleveland (Ohio) Platibdealer.

**PERRY DAVIS' VEGETABLE PAIN KILLER** possesses virtues which not alone removes pain instantly, but regulates the stomach, gives strength, tone and vigor to the system. It is one of those medicines which is worth more than gold.

Prices, 25 cents, 50 cents, and \$1 per bottle. Sold by all Druggists, Grocers and Medicine Dealers everywhere. novim

**TO SOLICITORS OF PATENTS.**

**HASELTINE, LAKE & CO.,**

—OF THE— "International Patent Office," No. 8 Southampton Buildings, London, Transact European and Colonial business for Patent Agents on favorable terms. 23v15t

**Foundry for Sale.**

A One-half Interest in the **UNION IRON WORKS,** SACRAMENTO, Owned by William R. Williams, is offered for sale on the most favorable terms.

**A Good Bargain**

May be bad, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 85 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets. Inquire at the office of the Foundry, or address **WILLIAM R. WILLIAMS,** Sacramento, Cal. 26v13t9-16

**Oakland College School.**

The PATRONS of this Institution have the choice of several distinct Departments. The SENIOR CLASSICAL is designed as preparatory to the College of California.

The SENIOR ENGLISH affords a complete course of instruction in the English branches, in Theoretical and Practical Business, Science and Art.

The JUNIOR is especially qualified to meet the wants of young boys, for whom separate apartments and Teachers are provided.

Throughout all the various departments, great attention is given to the study of the Modern Languages.

For further information, or Catalogues, address, **I. H. BRAYTON, Principal.** OAKLAND, California. 5v15n9p.

**ROOT'S**

**Patent Force Blast Blower.**

Adapted for Smelting, Foundry, Mining and Steamships.

Requires 50 per cent less power than any Blower now in use. For further particulars, address **KEEP, BLAKE & CO.,** Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15t13p

**PACIFIC**

**Rolling Mill and Forge Co.,**

SAN FRANCISCO, CAL.

Established for the Manufacture of

**RAILROAD AND OTHER IRON**

**Every Variety of Shafting**

Embracing ALL SIZES of Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames.

**HAMMERED IRON**

Of every description and size.

Orders addressed to **PACIFIC ROLLING MILL AND FORGE CO.,** Post Office, San Francisco, Cal., will receive prompt attention. The highest price paid for Scrap Iron. 9v13m3p

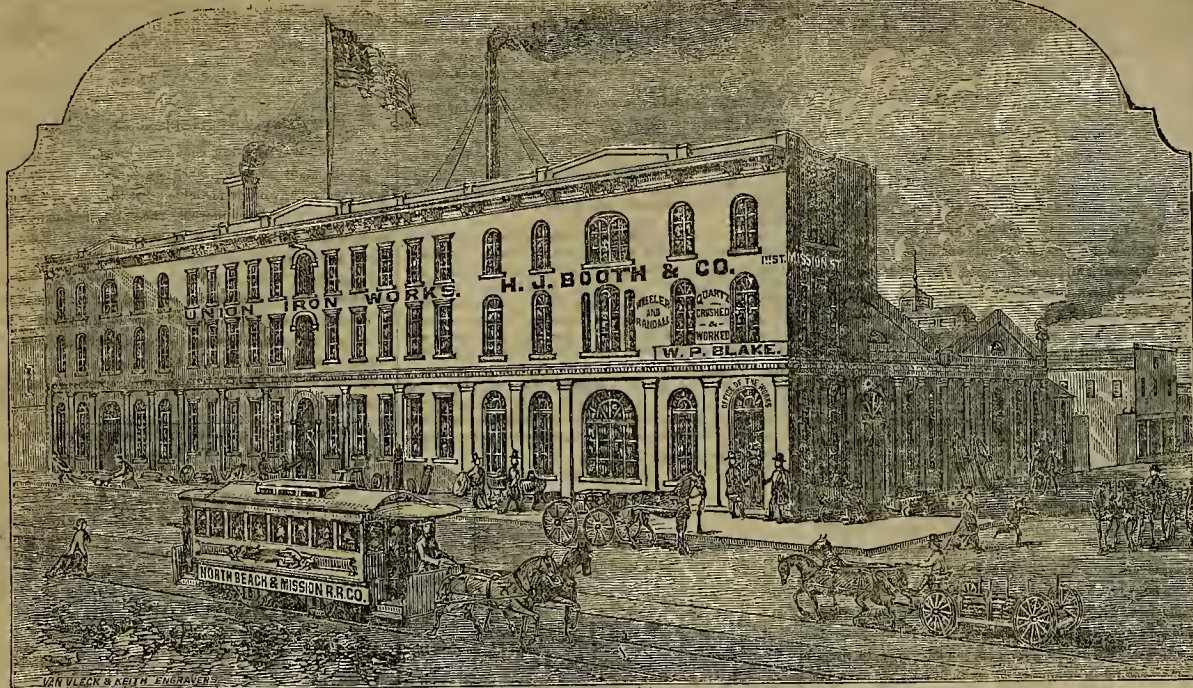
**DR. FONDA'S San Francisco Eye Infirmary.**

Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. F. W. FONDA, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite Weil, Fargo & Co's. 4v15-13p

**AGENTS WANTED.**

ENERGETIC MEN OR WOMEN CAN MAKE MONEY in canvassing for our NEW BOOKS and ENGRAVINGS. One Agent reports thirty-three orders for one Book in three days. Address, **PACIFIC PUBLISHING COMPANY,** 4v15n9p 303 Montgomery street, San Francisco, Cal.





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HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Bag, Sowing and Drop Presses, Coining Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's Improved Tractory Curve Pan, Zeus Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Prater's concentrators, Waklee's pans, Boers' pan, German Barrels, Arnstra Gearing, Chile Mills, Settlers of all descriptions, Retorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight, Estories, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Gams, Pans and Tubs. BLAKE'S PATENT QUARTZ CRUSHERS, of all sizes.

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**PALMER, KNOX & CO.,**  
**Golden State Iron Works,**  
Nos. 19, 21, 23 and 25 First Street,  
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MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
**STEAM ENGINES AND QUARTZ MILLS**  
DUNBAR'S IMPROVED  
**Self-Adjusting Piston Packing,**  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

**WHEELER & RANDALL'S**  
**NEW GRINDER AND AMALGAMATOR**  
HEPBURN & PETERSON'S  
**AMALGAMATOR AND SEPARATOR,**  
**Knox's Amalgamators,**  
WITH PALMER'S PATENT STEAM CHEST,

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.

**Steam Engines, Boilers,**  
**SAW AND CRIST MILLS,**  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.

**UNION IRON WORKS,**  
Sacramento.

**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF

**CROSS' PATENT BOILER FEEDER,**  
**STEAM ENGINES, BOILERS,**  
And all kinds of Mining Machinery.

**Dunbar's Patent Self-Adjusting Steam Piston**  
PACKING, for new and old Cylinders, manufactured to order.

**I. H. SMALL,**  
**MACHINE SHOP,**  
ROULDER OF

**Steam Engines, Sawmills, Mining Machinery,**  
and **Wood Planers,**  
Repairing of all kinds done with promptness and dispatch.

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**Foundry and Machine Shop,**  
STOCKTON, CAL.  
**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF  
**Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,**  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited 13v13-ly and promptly executed.

**GEORGE T. PRACY,**  
**MACHINE WORKS,**  
Nos 109 and 111 Mission street, between Main and Spear, SAN FRANCISCO.  
**STEAM ENGINE, FLOUR AND SAW MILL**  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.

**SAN FRANCISCO**  
**Foundry and Machine Works,**  
N. E. Cor. Fremont and Mission streets, Manufacturers of  
**Marine and Stationary Engines**  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

**STEAM ENGINES AND BOILERS,**  
Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
**Dunbar's Improved Self-Adjusting Piston-Packing,** requires no springs or screws; is always steam-tight; without excessive friction, and never gets slack or leaky.

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**Steam Boiler & Sheet Iron Works.**

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No. 125 First street, opposite Minna, SAN FRANCISCO.

**V. KINGWELL,** 19v13-ly J. H. WOOD.

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**Quartz, Flour and Saw Mills,**  
**Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.**

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And all kinds of **HIGH PRESSURE Steam Boilers** MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Shafts, Wrought Iron Worms, etc., etc. Manufactured to Order.  
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**STEAM ENGINES OF EVERY DESCRIPTION BUILT** to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,** PORTABLE ENGINES, OF ALL SIZES,  
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The attention of the parties engaged in shipping or inland navigation is called to the

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of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED and SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular 25v12-3m

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**MARINE ENGINES,**  
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**Rates of Postage on Printed Matter to Europe and Asia.**

The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter. It is a singular fact, unknown probably to most persons who have not occasion to learn it by unpleasant experience, that there was a considerable region in the civilized world where an American traveler might not receive a newspaper directly from home.

Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in the delivery by way of Hamburg and Bremen:

- NEWSPAPERS—MARKED AS FOLLOWS:**  
Bremen, by Bremen mail—2 cents each.  
Hamburg, by Hamburg mail—2 cents each.  
Prussia, Austria and German States, by Bremen and Hamburg mail—3 cents each.  
Lunenburg, by Bremen mail—3 cents each.  
Lunenburg, by Hamburg mail—3 cents each and 1 cent per 1/2 ounce.  
Schleswig-Holstein and Denmark, by Bremen or Hamburg mail—3 cents each and 1 cent per 1/2 ounce.  
Sweden, by Bremen or Hamburg—3 cents each, and 1/2 cent per 1/2 ounce.  
Norway, by Bremen or Hamburg—3 cents each, and 3/4 cent per 1/2 ounce.  
Holland, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce.  
Russia, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce.  
Switzerland, by Bremen or Hamburg—4 cents each.  
Italy, by Bremen or Hamburg—5 cents each.  
Turkey, by Bremen or Hamburg—3 cents each, and 5/8 cent per 1/2 ounce.  
Greece, by Bremen or Hamburg—3 cents each, and 5/8 cent per 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—3 cents each, and 2/3 cent per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail via Marseilles—3 cents each, and 9 cents per 1/2 ounce.  
Austria, India and China, by Bremen and Hamburg mails, via Trieste—3 cents each, and 2 cents per 1/2 ounce.

- PERIODICALS, ETC.**  
Bremen, by Bremen mail—1 cent per ounce.  
Hamburg, by Hamburg mail—1 cent per ounce.  
Prussia, Austria and German States, by Bremen or Hamburg—1/2 cent per ounce.  
Lunenburg, by Bremen mail—1/2 cent per ounce.  
Lunenburg, by Hamburg mail—1/2 cent per ounce, and 1/2 cent per 1/2 ounce.  
Schleswig-Holstein and Denmark, by Bremen or Hamburg—1/2 cent per ounce and 1/2 cent per 1/2 ounce.  
Sweden, by Bremen or Hamburg—1/2 cent per ounce, and 2 cents per 1/2 ounce.  
Norway, by Bremen or Hamburg—1/2 cent per ounce, and 4 cents per 1/2 ounce.  
Holland, by Bremen or Hamburg—1/2 cent per ounce, and 1/2 cent per 1/2 ounce.  
Russia, by Bremen or Hamburg—1/2 cent per ounce, and 1/2 cent per 1/2 ounce.  
Switzerland, by Bremen or Hamburg—1/2 cent per ounce, and 1 cent per 1/2 ounce.  
Italy, by Bremen or Hamburg—1/2 cent per ounce, and 2 cents per 1/2 ounce.  
Turkey, by Bremen or Hamburg—1/2 cent per ounce, and 5/8 cent per 1/2 ounce.  
Greece, by Bremen or Hamburg—1/2 cent per ounce, and 5/8 cent per 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—1/2 cent per ounce, and 2/3 cent per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Marseilles—1/2 cent per ounce, and 9 cents per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Trieste—1/2 cent per ounce, and 2 cents per 1/2 ounce.

**To REMOVE STUMPS.**—Mr. John Barnes, of Baltimore, removed a troublesome stump from near his house in the following manner: Last fall, with an inch augur, he bored a hole in the center of a stump, ten inches deep, and into it put about half a pound of the oil of vitriol, and corked the hole up tight. This spring the whole stump and roots, extending all through its ramifications, were so rotten they were easily eradicated. If true, the above would be a cheap method of removing stumps. The sulphuric acid could be bought for about five cents a pound.

**THE NORWAY RAT,** which has so effectively exterminated the native rats and mice in this State, has done the same thing in New Zealand. The English housefly is also extirpating the native blue-bottle fly of that island. The latter, being found much more troublesome than the former, is carried to distant localities, carefully caged in boxes, to destroy the native fly.

**HORSE STEAKS.**—It is said that two new shops have been recently opened in Paris for the sale of horse meat. These establishments in the "Emporium of Fashion" are now said to number eighteen.

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All About Sending Money by Mail.

RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20.....10 cents.  
Over \$20 and not exceeding \$50.....25 cents.  
No fractions of cents to be introduced in an Order. United States Treasury Notes, or National Bank Notes only received or paid.  
To send over \$50, additional Orders must be obtained.  
Post offices where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out:  
No. .... Amount .... Date, 189 .....

MONEY ORDER.

Required for the sum of \$.... Payable at ....., State of ....., Payable to ....., Residing at ....., State of ....., sent by ....., Resulting at ....., State of .....

ENTRUSTED TO REGISTER: ....., Postmaster.  
The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given name of married women must be stated, and not those of their husbands. For example: Mrs. Mary Brown must not be described as Mrs. William Brown.  
Names of parties and places, and the sums, to be written in the plainest possible manner.  
As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

CALIFORNIA.			
Office.	County.	Office.	County.
Auburn	Placer	Napa City	Napa
Benicia	Solano	Nevada City	Nevada
Campbellville	Yuba	Oakland	Alameda
Chico	Butte	Oroville	Butte
Columbia	Fresno	Petaluma	Sonoma
Colusa	Sutter	Placerville	El Dorado
Jonestown	Sierra	Red Bluff	Tehama
Intero Flat	Placer	Sacramento	Sacramento
Kearney	Humboldt	San Rafael	Marin
Folsom City	Sacramento	San Francisco	San Francisco
Forest Hill	Placer	Santa Cruz	Santa Cruz
Georgetown	El Dorado	San Jose	Santa Clara
Gibsonville	Sierra	Santa Rosa	Sonoma
Gilroy	Santa Clara	Shasta	Shasta
Grass Valley	Nevada	Shasta	Shasta
Headshurg	Sonoma	Stockton	San Joaquin
Iron Valley	Amador	Suisun City	Solano
Jackson	Amador	Sussexville	Lassen
La Porte	Plumas	Vacaville	Solano
Los Angeles	Los Angeles	Vallejo	Solano
Mariposa	Mariposa	Visalia	Tulare
Mercedville	Alpine	Watsonville	Santa Cruz
Marysville	Yuba	Weaverville	Trinity
Martinez	Contra Costa	Wilmington	Los Angeles
Mokelumne Hill	Calaveras	Yreka	Siskiyou
Monterey	Monterey		

NEVADA.			
Office.	County.	Office.	County.
Virginia City	Storey	Austin	Lander
Carson	Ormsby	Aurora	Esmeralda

OREGON.			
Office.	County.	Office.	County.
Albany	Union	La Grande	Union
Canyon City	Grant	Oregon City	Clackamas
Cervallis	Benton	Portland	Multnomah
Hallas	Polk	Roseburg	Douglas
Kagene City	Lane	Salem	Marion
Jacksonville	Jackson	The Dalles	Wasco
Lafayette	Yam Hill	Umatilla	Umatilla

IDAHO TERRITORY.			
Office.	County.	Office.	County.
Boise City	Ada	Ruby City	Owyhee
Idaho City	Boise	Lewiston	Ney Perce

MONTANA TERRITORY.			
Office.	County.	Office.	County.
Helena	Edgerton	Virginia City	Madison

WASHINGTON TERRITORY.			
Office.	County.	Office.	County.
Olympia	Thurston	Vancouver	Clark
Stellacooma City	Pierce	Walla-Walla	Walla-Walla

The North Devon Herald (Eng.) states that a poor man was sent to jail from near Barnstable for 21 days because he allowed two of his children to go on the parish. On inquiry, it was stated that his wages were only four shillings, or \$1 a week, and out of this he was paying 70 cents for keeping one child. He was doing the best he could.

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25v14qr

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NEW YORK, JAPAN AND CHINA. LEAVE WHARF, CORNER OF FIRST AND BRANNAN streets, at 11 o'clock A. M. of the following dates, for PANAMA, connecting via Panama Railroad, with one of the Company's splendid steamers from ASPENWALL for NEW YORK. On the 10th, 18th and 30th of each month that has 30 days. On the 10th, 19th and 30th of each month that has 31 days. When the 10th, 19th and 30th fall on Sunday, they will leave on Saturday preceding; when the 18th falls on Sunday, they will leave on Monday following. Steamer leaving San Francisco on the 10th touches at Manzanillo. All touch at Acapulco. Departures of 18th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America. Departure of 10th is expected to connect with English steamer for Southampton and South America, and Australia, and P. & O.'s steamer for Central America. Through tickets can be obtained. The following Steamships will be dispatched on dates as given below: December 10th—SACRAMENTO, Capt. Wm. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Gray. December 19th—CONSTITUTION, Capt. J. M. Cavarly, Connecting with the RISINO STAR, Capt. Connor. December 30th—MONTANA, Capt. E. S. Farnsworth, Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of \$10 to \$20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Mercantile and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship CHINA, Capt. E. W. Smith, will be dispatched January 13th, at noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SIANGHAI. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.

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This is a new publication, and in style and treatment of this important subject, is original, simple, plain and comprehensive. The author, Prof. LAYRES (a meritorious Teacher of good standing in California, and a sound thinker and reasoner), in his preface says: "The method pursued by the Author in developing the subject of Composition, is both the synthetical and analytical. The former is necessary to teach the theory, the latter the practice of the art; and as these are both indispensable to the scholar, so are also the two methods, as the sequel will show."

The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Stead.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Pelton.

After as careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and variety of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hill.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangements as to be readily understood by the advanced pupil.—E. W. Hatch.

It is admirably arranged to develop the correct idea of the analysis in the choice of language, and the application of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Denman.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

I regard the book about to be published as far superior to any work extant upon that subject.—Wm. S. Hunt, A. M.

I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—I. H. Brayton.

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The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. \* \* \* Exactly calculated to interest. \* \* \* It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boies.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of originality. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Bulletin.

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times

Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken), holds it up before you; tears it to pieces before your eyes—if rather, we should say, neatly and skilfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such experiments, increasing in complexity so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

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The most eminent educators in California give it their hearty approval, and we concur.—Marysville Appeal.

Not only one of the best of its kind, but what is still better, one of the briefest. It contains 166 pages.—Virginia Enterprise.

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National Mineral Land Law, Instructions, Blanks, Etc.

Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the "United States Registers and Receivers and Surveyors General," from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office. Also a full set of blanks for making applications, advertising, etc. Address DEWEY & CO., office Mining and Scientific Press, San Francisco.

New Mining Advertisements.

Achela Gold Mining Company, Rock Creek, Sierra County, California. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the second (2d) day of November, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes Wm. Ireland, Wm. Ireland, L. O. Brown.

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 12 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco, Cal. de7

Nuestra Senora de Guadalupe Silver Mining Company. Location of Works: Tayollita, San Dimas District, Durango, Mexico. Notice.—There are delinquent upon the following described stock, on account of assessment (No. 29) levied on the twenty-first day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes Cosmes Damin, Val. Gassner, Joseph G. Myself, Fr. Muller, C. Steubring, J. J. Correll, J. J. Correll, F. Staud, John Grief.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Badger & Chapman, auctioneers, N. W. corner of Kearny and California streets, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 1 1/2 o'clock, P. M. of said day to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. J. PFEIFFER, Secretary. Office, No. 210 Post street, San Francisco, Cal. de7

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of November, 1867, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of this Company, No. 705 Sansome street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. F. S. SPRINO, Secretary. Office, No. 705 Sansome street. de7

San Francisco and Castle Dome Mining Company, Castle Dome County, Arizona Territory. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of November, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Treasurer, at the office of this Company, No. 329 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventh day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. A. R. SMITH, Secretary. Office, Room No. 40 Merchants' Exchange, California street, San Francisco. de7

Siempre Viva Silver Mining Company, District of Zaragoza, Sinaloa, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1867, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN F. LOHSE, Secretary. Office, 318 California street, San Francisco, Cal. de7

Mining Notices—Continued.

Ancient Silver Channel Blue Gravel Company. Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-second day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets. no23

Cordillera Gold and Silver Mining Company, Chilhuahua, Morelles Mining District, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes Whithers, J. W., Cooper, Jesse, Munier, J. W., Brownlee, J., Belden, F. C., Belden, S. C., Welch, James, R. L., Rollins, J. B., Dickson, J., Harris, Alfred, Harris, Alfred, Kelly, P. M., Kelly, P. M., Curtis, J. M., King, T. P., King, T. P.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Tuesday, the sixteenth day of December, 1867, at the hour of 10 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. no30

Chilpionca Mining Company—District of Oros, Sonora, Mexico. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-fifth day of November, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twentieth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOHN F. LOHSE, Secretary. Office, 318 California street, up stairs, San Francisco. no30

Hanson Copper Mining Company. Location: Low Divide District, Del Norte County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the first day of November, 1867, an assessment of fifteen cents (15c) per share was levied upon the capital stock of said Company, payable on and after November sixth, 1867, in United States gold and silver coin, to the Secretary, at his office, 609 Market street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the twenty-fourth day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. S. S. SWEET, Secretary. Office, 609 Market street, San Francisco. no9

Hanson Copper Mining Company, Low Divide District, Del Norte County, California. Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 609 Market street, San Francisco, California, on SATURDAY, the twenty-first day of December, 1867, at 7 1/2 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

S. S. SWEET, Secretary. San Francisco, November 15, 1867. no16

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California. Assessment No. 3. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, R. Thompson, at No. 523 Kearny street, San Francisco, California, Treasurer of the Company, at Silver Mountain, Alpine County.

Any stock upon which said assessment shall remain unpaid on the sixteenth (16th) day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. R. THOMPSON, Secretary. Office, No. 523 Kearny street, San Francisco, Cal. no16

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes G. W. Fellows, G. W. Fellows, G. W. Fellows, G. W. Fellows, G. W. Fellows.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1867, at the hour of 12 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. By order of the Board of Trustees. B. P. WILKINS, Secretary. Office, 648 Market street, San Francisco, Cal. no30

Lyon Mill and Milling Company, Kelsey District, El Dorado County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the seventeenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets, San Francisco, California. no30

Postponement and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Mount Teabon Silver Mining Company—Location of Works: Cortez District, Lander County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighth day of November, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 426 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twelfth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Tuesday, the thirty-first day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. R. N. VAN BRUNT, Secretary. Office, 426 Montgomery street, San Francisco.

N. B.—Two per cent. will be allowed on all payments made on the above prior to the 23d inst. no6

Neagle and Corcoran Silver Mining Company, Storey County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eleventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. no30

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada. Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Includes Oliver Ames, Cyrus Lathrop, Jerome W. Tyler, J. C. Tyler, Dan Blaisdell, John S. Keyes, J. Z. Goodrich, Thos. Dalby, Wendell Phillips, Clark C. Walworth, J. H. Tuttle, M. S. Scudder, Geo. Seodood, G. W. Warron, Geo. B. Neal, W. T. Reynolds, Geo. H. Faulkner, John H. Tuttle, Curtis B. Raymond, Jacob Hertz, Geo. H. Vincent.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 423 Front street, San Francisco, California, on Saturday, the seventh day of December, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale. GEORGE H. FAULKNER, Secretary. Office, 423 Front street, San Francisco, Cal. no23

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the second day of January, 1868, at the same hour and place. By order of the Board of Trustees. GEO. H. FAULKNER, Secretary. de7

Oxford Beta Tunnel and Milling Company, Esmeralda District and County, State of Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1867, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. no23

Seaton Mining Company—Location of Works: Drytown Mining District, Amador County, State of California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1867, an assessment of one hundred and fifty cents per share was levied upon the capital stock of said Company, payable on the twentieth day of December, 1867, in United States gold coin, to the Secretary, at the office of the Company, No. 60 Exchange Building, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eighth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. JOEL F. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N. W. corner Washington and Montgomery streets, San Francisco, Cal. no23

Whitino Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 405 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the second day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees. T. W. COLBURN, Secretary. Office, room No. 10, 2d floor, No. 405 Montgomery street, San Francisco, Cal. no2

POSTPONEMENT.—The day for deeming stock delinquent on the above assessment is hereby postponed until Wednesday, the first day of January, 1868, and the sale thereof until Wednesday, the twenty-second day of January, 1868. By order of the Board of Trustees. T. W. COLBURN, Secretary. San Francisco, Nov. 27, 1867. no30

OLNEY & CO., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 313 Montgomery street, San Francisco. no10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Settlers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



Is cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 108 Jessie street. 12v15tr E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

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No. 537 Washington, and 532 Merchant st., San Francisco HAS FOR SALE

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One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 14-Horse, 1,200
One Engine, 40-Horse, 1,200
One 30-Horse Boiler, 300

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15qr

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

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STODDART'S IRON WORKS,

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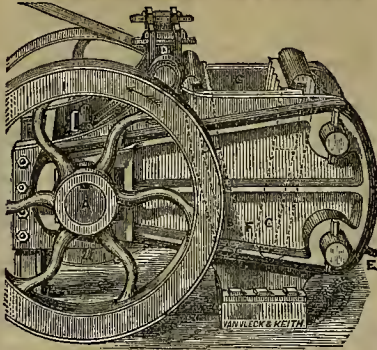
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v16-qy THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENT IMPROVED QUARTZ CRUSHER.

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Smashing Quartz, or other rocks, possessing, as it does, simplicity of action and lightness of construction, so far as is compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600

No. 2—Or 16-inch Crusher, capable of similarly reducing through five to six tons per hour, price, \$850
No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour, price, \$1,200

EXPLANATION OF THE ABOVE ENGRAVING: The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne county: RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866.

JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your latest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of compromise, without having recourse to legal proceedings, for past improvements, or of your interest in the use of this Barrel, in the limited period named, are requested to address as below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 25th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

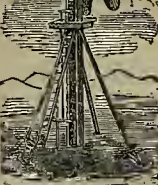
A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866.

JAMES BRODIE, Fulton Foundry, or CHAS. E. RAY, Esq., Agents, Express Building, 402 Montgomery street, San Francisco. 12v13tr

E. O. HUNT,

Manufacturer of

Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails arranged as turn edgeways to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double-Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 23 Second St., and 108 and 110 Jessie St. 2v15qr San Francisco.

DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free-gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address Dr. J. B. BEERS, San Francisco. 11v16 6m Per Wells, Fargo & Co's Express.

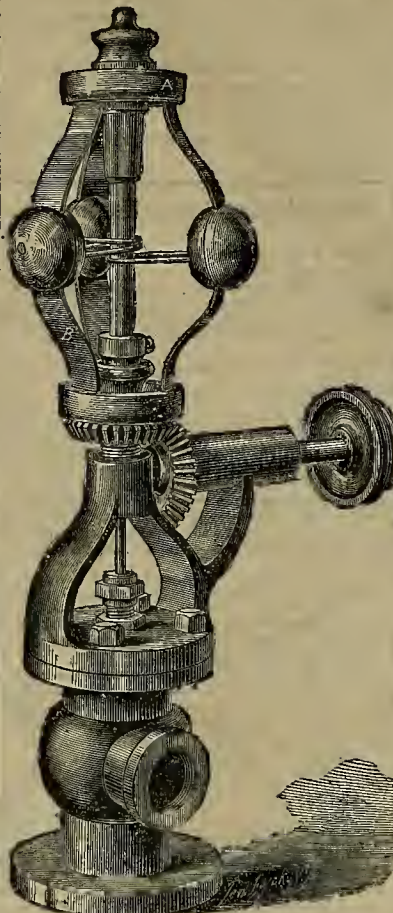
NELSON & DOBLE,

AGENTS FOR

Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Plow, Blister and Toe Calk Steel; manufacturers of

Mill Picks, Sledges, Hammers, Picks, Stone Cutters, Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, (San Francisco) 10v14qr

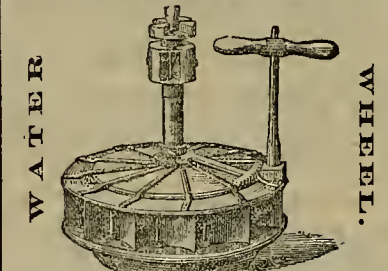
PICKERING'S ENGINE REGULATOR,



Warranted the Best in Existence.

Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2amlq

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALED AND UNRIVALED IN THE United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc., etc. CALIFORNIA REFERENCES.—E. Stoddart, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Moran Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GRANT, Agents for California. 26v13-1yq 310 Washington street, San Francisco.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

GODDARD & CO.,

San Francisco, Aug. 29, 1867. Pacific Iron Works. 9v15tr

BLAKE'S QUARTZ BREAKER! PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3v13tr SAN FRANCISCO.

Engraved to Order.—Persons who desire to illustrate their individual establishments or business, should give us their orders for Engraving and Printing, and we will guarantee good work and reasonable prices.

DEWEY & CO.,

Patent Agents, Publishers and Job Printers, 505 Clay st.

[Written for the Mining and Scientific Press.] Notes of Travel.

BENTON, Nov. 20, 1867.

The investigator of geological science, the tourist, or casual observer of nature, on passing from the western to the eastern slope of the Sierra will find new, and, in some respects, dissimilar phenomena at every step of his progress. A marked feature, everywhere apparent, leads to the conclusion that the period of volcanic action was continued to a much later period on the eastern than on the western slope. On the eastern side there is a marked similarity in geological features and unmistakable evidence of the very recent action of volcanic and igneous forces.

Descending from the high, precipitous, granite mountains, bounding Lake Tahoe on the north and east, into the Valley of the Washoe, with its little lake, without an outlet, narrowed by constantly encroaching sands to the size of a mill-pond, you are at no loss to understand why the Valley of the Washoe has its little pond of dead water, its wide sand plain, and its narrow margin of vegetation; for, in passing over the high, abrupt granite wall dividing Lake Tahoe from Washoe Valley, you encounter at every step loose sand from three to six inches in depth, and in some places even deeper—showing that the disintegrating forces are greater than the force of the mountain currents in sweeping the sands to the levels below. The wonder really is, that there is any lake at all, or any vegetation possible. May not the existence of Lake Tahoe—a grand and most beautiful sheet of water—be, to a large extent, accounted for from the non-disintegration of the rocks forming the narrow slope of the mountain wall encircling it? On the northeast, the granite sands have already encroached far out on the ancient domain of its waters. Otherwise, the Valley of Tahoe might have become a dreary sand plain.

From Washoe Valley, in a southerly direction, you enter Eagle Valley—where extends Carson City—an elongated sand plain, with a narrow strip of arable land. Here the same features present themselves as in Washoe Valley. Continuing south, you enter the great Carson Valley, or basin, having the same general features. The waters filling these valleys at some former period had an outlet to the south, in which direction you take your way, with low mountain ranges on either side. Crossing west and east Walker river, you enter Desert Valley, presenting the same features—an elongated valley, ten miles in length from north to south by five in width; the mountain stream sinking in its sands, and leaving, as it were, a hand's breadth of vegetable green to relieve the monotonous perspective.

Continuing southerly, you descend into Adobe Meadow Valley, twenty miles in length by ten in width. Reaching its southern extremity, along a granite wall encircling it on the east, but here growing narrower and dipping towards the plain, you find it pierced with outlets, and at length find an easy passage through, and down a long sand slope to the Valley of the Hot Springs, along the margin of whose waters reposes the town of Benton.

We shall here suggest what may interest some of your readers, that the valleys above mentioned, including Mono Lake Valley—an extended sand plain, along whose margin we passed—are evidently the craters of extinct volcanoes, which, upon their fires becoming extinct, filled with water, forming lakes; which, in their turn, have yielded their domain to the constantly encroaching alluvial formation of sand, pumice, tufa and scoria, which by disintegration, denudation and attrition, the mountain currents have carried down, filling up these craters to great depths, drinking up their waters, and forming over nearly all their extended surface vast sand plains. The axial line of the igneous force being uniformly nearly due north and south. As the length of the valleys, north and south, in proportion to their width, being as two to one, would seem to indicate. Low mountain ranges, strewn with the various forms of volcanic debris, encircle these valleys on every side; while to your right, in going south, rises in the distance the Sierra, with its sharp or rounded lofty summits and deep gorges, draped in its soft, wide-flowing robe of beautiful, many-colored light.

In my next, I will give you an account of mining about Benton and its vicinity. F.



A MILL FOR REDUCING CEMENT.—The Oroville Record says: Capt. Darrach and several other gentlemen have erected a mill for the purpose of working the cement, thousands of acres of which is found in this vicinity.

THE MANUFACTURE OF GOLD-BEATER'S SKIN is said to be a secret which only five men in the world now know. The art of preparing it has brought a fortune to the manufacturers.

The Chinese is the simplest of all languages, being easily traced to the roots with two letters. Egyptian comes next, having African roots, also of great simplicity.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA. Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

SULPHURETS; What they are; How Assayed; How Concentrated; And How Worked; With a Chapter on the BLOW-PIPE ASSAY OF MINERALS. By WM. BARSTOW, M. D. Published by A. Roman & Co., San Francisco. For sale at this Office.—Price, One Dollar.

ADMINISTRATOR'S SALE. NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE of the order of the Probate Court of the City and County of San Francisco, in the State of California, made on the twenty-first day of November, A. D. 1867, in the matter of the estate of HENRY GANAHL, deceased, the undersigned, Administrator of said estate, will sell at public auction, to the highest bidder, for cash in hand, in one parcel, and subject to confirmation by said Probate Court, on MONDAY, the sixteenth day of December, A. D. 1867, at twelve o'clock P. M., at the auction rooms of Maurice O'Connell & Co., No. 327 Montgomery street, in said City and County, all the right, title, interest and estate of the said intestate at the time of his death, and all the right, title and interest that the said estate has, by operation of law or otherwise, acquired either than or in addition to that of the said intestate, at the time of his death, in and to that lot, piece or parcel of land, situate, lying and being in the said City and County, and bounded and described as follows, to-wit: Commencing on the southerly line of Bush street, distant 137 feet 6 inches westerly from the southwesterly corner of Bush and Hyde streets; thence running westerly on said southerly line of Bush street 137 feet 6 inches; thence at right angles southerly 137 feet 6 inches; thence at right angles easterly 137 feet 6 inches; thence at right angles northerly 137 feet 6 inches to the southerly line of Bush street, the point of commencement, being 55-vara Lot No. 1,367. ANDREW O. SMITH, Administrator of the estate of Henry Ganaahl, deceased. Dated, November 21, 1867.

Pacific Chemical Works, Laboratory, Sixteenth street, near Folsom. Office, 623 Montgomery street, San Francisco. FALKENAU & HANKS, MANUFACTURING AND CONSULTING CHEMISTS. Particular attention given to the analysis of Ores, Minerals, Metallurgical Products, Mineral Waters, Soils and commercial Articles, etc.

WHITING & BERRY, DEALERS IN Teas, Wines, and Spirits, For Medicinal and Family Use. APOTHECARIES, PHYSICIANS, Invalids and Families, supplied in quantities to suit, at WHOLESALE AND RETAIL, WITH Fine, Medium or low-priced qualities. No. 609 Sacramento street, two doors above Montgomery, SAN FRANCISCO, 1st 15

FAIRBANK'S PATENT PLATFORM SCALES! Also, large Scales for weighing loaded wagons of Ore, Hay, etc., from 5,000 to 40,000 pounds capacity. Manufacturers' Branch House, FAIRBANKS & HUTCHINSON, 120 California street, San Francisco. Send for a Catalogue. 241400w6m

Pratt's Abolition Oil. FOR ABOLISHING PAIN—THE BEST REMEDY IN existence for Rheumatism, Neuralgia, Paralysis, Headache, Toothache, Sore Throat, Diphtheria, Weak, Swollen and Stiff Joints, Contracted Cords and Muscles, Cramps, Colic, Quinza, Cholera, Pains in the Breast, Lamé Back, and all aches and pains. It is the poor man's friend, and the best family physician. Full directions accompany each bottle. Price 50 cents and \$1 per bottle. For sale by all dealers in medicines. Sole Proprietors, A. McBOYLE & CO., Druggists and Chemists, 524 Sacramento street, opposite What Cheer House, San Francisco. 10y13-1y

Assayer and Chemist. A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given inquire at this office. 3v15tr

Quartz Mill Construction and Superintendence. THE UNDERSIGNED IS AT PRESENT OPEN FOR AN engagement as a working Superintendant in the construction or operation of a quartz Mill. Has had five years steady and successful experience in working ores in Washoe, and is practiced in saving sulphurets and the treatment of rebellious ores. Is prepared to furnish references for all the necessary qualifications of an intelligent, faithful and reliable quartz operator. Address, F. M. SHAW, San Francisco, care Mining and Scientific Press. 20v143m

It is a Fact. That BOWMAN'S AMERICAN WASHING COMPOUND is the best article for Washing and Cleaning yet discovered. It is acknowledged to be a saving both in money and labor, as the compound softens the dirt, the clothes require not more than one-half the rubbing necessary in washing by the old method; besides all who give a trial acknowledge that their clothes are whiter in washing with this Compound than they were ever known to be by using any other preparation. For washing woolen goods and linens, it cannot be equalled. Garments that cannot be washed with soap without fading are washed in the water used for holding white clothes. This Compound has been used in the Eastern States for the past three years, with perfect success. WARRANTED NOT TO INJURE THE CLOTHES. For sale by all Grocers. LEVY & PARSONS, Agents, 15v15-3m 222 Jackson street, near Battery.

Copperas! Copperas! 75,000 LBS. IMPORTED COPPERAS-SULPHATE of Iron—for sale in lots to suit, by BENJ. BRADY, 103 California street, S. W. corner Davis, vs18tr. Economy in Advertising.—The MINING AND SCIENTIFIC PRESS is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining ad. vertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

HAYWARD & COLEMAN, IMPORTERS AND REFINERS. Illuminating, Lubricating, and PAINT OILS! CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', MEATFOOT, ROILEO AND RAW LINSSEED, CASTOR AND QUINA TUT. SPIRITS OF TURPENTINE & ALCOHOL. Note.—We would specially call the attention of Mill owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This Oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning oil. A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial. Lamps and Lamp Stock! An elegant and complete assortment on hand. 19v13-3m 414 Front street, San Francisco.

NEW YORK PRICES. C. E. COLLINS, No. 603 Montgomery street, San Francisco. EXCLUSIVE AGENT FOR THE AMERICAN WATCH FACTORY. A large assortment of these Superior Watches, in Gold and Silver Cases, Constantly on hand, and sold at Factory prices. Also, ENGLISH AND SWISS WATCHES, Imported directly from the Manufacturers. The American Company are now making VERY FINE WATCHES FOR LADIES. A large assortment of Gold Chains and Jewelry. 123v10-6m NEW YORK PRICES.

WE ARE NOW OFFERING OUR IMMENSE STOCK OF Fine Custom Made Clothing AND Gents' Furnishing Goods AT PRICES THAT DEFY COMPETITION. Our Stock of Clothing Consists of ALL THE LATEST STYLES BOTH OF MATERIAL AND FINISH. A Large Assortment of Trunks, Valises, Carpet Bags, Blankets, Etc., AT EXTREMELY LOW PRICES. J. R. MEAD & CO., 8v10 Cor. of Washington and Sansome streets.

Pacific Powder Mills. SUPERIOR BLASTING AND SPORTING GUNPOWDER: Black Oiamond, in 1 lb canisters. do do in 1/2 lb canisters. do do in 1/4 kegs. Hunter's Pride, in 1 lb canisters. do do in 1/2 lb canisters. do do in 1/4 kegs. Pacific Mills River Shooting, in 1 lb canisters. do do in 1/2 lb canisters. do do in 1/4 kegs. do do in 1/2 kegs. do do in 1/4 kegs. do do in 1/2 kegs. Pacific Mills Rifle, in 1 lb canisters. do do in 1/2 lb canisters. do do in 1/4 kegs. do do in 1/2 kegs. do do in 1/4 kegs. do do in 1/2 kegs. Blasting and Mining Powder \$3 per keg. Safety Fuse and Shot for sale by HAYWARD & COLEMAN, Agents, 20v15-1m 414 Front street, San Francisco.

BELDUKE & CO., OF CONCORD, N. H., Long employed at the celebrated firm of Downing & Son, have opened a manufactory of Concord Wagons, Of all descriptions, at No. 820 and 822 Folsom street, between Fourth and Fifth streets, San Francisco. Orders received for Buggies, Expresses, and Light and Heavy Through-bags. Carriage Springs made to order. 18v15-1am-6m Mechanical Drawings. Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

Machinery. STEWART'S CELEBRATED HINGED Grinder and Amalgamator. Fig. 1, Fig. 2, Fig. 3. The Cheapest and Quickest Pan now used. It is flat-bottomed, loses far less power in throwing the pulp, and circulates the same under the miller to better advantage than any other Pan in use, while the steam, owing to the thinness of the cone, has a more direct effect of heating the pulp. It is the roller plate; F the Grinding Shoe, attached by an adjustable hinge joint, in the middle in the same—the bottom wearing down even with the dies. Mr. J. H. STEWART, the inventor, has had ten years of experience in mechanical operations, and may be addressed at San Francisco, or called on at the Miners' Foundry, First street, where his Pan is manufactured, and is to be seen at any time in operation. 14v15-1amtr

NOTICE TO MERCHANTS AND MANUFACTURERS. Moore's Patent Friction Hoist. Now in successful operation in the principal stores in San Francisco, possesses many advantages over the common Hoist—viz: Greater strength; less danger in working, as goods require no slinging or lading, consequently make fewer breakages; requires one man less to operate it; stops with the load at any point, without any lashing or attention from the operator. The undersigned take this opportunity to notify all whom it may concern that they have secured, by letters patent, the application of a friction pawl, or stop, to hoisting machines, and that they will prosecute any party making or using any machine infringing upon the same. VULCAN IRON WORKS CO. By JOSEPH MOORE, President. 21v15-1f JOSEPH MOORE.

BLAKE'S PATENT QUARTZ CRUSHER. CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866. This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Drives, actuated by a Revolving Shaft. All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz other material is crushed between upright convergent awa, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and they will be held responsible in law and in damages. Several infringing machines are made and offered for in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, 14v14tr Agents for the Pacific Coast.

Notice to Miners, Well-Borers and Water Companies. M. FRAC IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done in the best manner. M. FRAG, 8v13-1y Stove Store, No. 125 Clay street, below Davis.

A FULL ASSORTMENT OF Molders' Tools, Constantly on hand and for sale at low prices, by CHAS. OTTO & CO., Successors to Marwedel & Otto, 312 Bush st., a few doors above Montgomery, San Francisco. 2v15-3m

A FULL ASSORTMENT OF MACHINE SCREWS AND TAPS, Constantly on hand and for sale by CHAS OTTO & CO., 312 Bush street. 2v15-3m

A FULL ASSORTMENT OF TWIST DRILLS, At low prices, being sole Agents for the manufacturers, (the Manhattan Firearms Company) CHAS OTTO & CO., 312 Bush street, San Francisco. 2v15-3m

Favorable to Inventors.—Persons holding new inventions of machinery and important improvements, can have the same illustrated and explained in the Mining and Scientific Press, free of charge, if in our judgment the discovery is one of real merit, and of sufficient interest to our readers to warrant publication.



THE SAN FRANCISCO DIRECTORY for 1867-8, compiled and published by H. G. Langley, Esq., is a complete work of the kind, containing a large amount of information respecting the city and county, which is not only interesting at the present moment, but will be valuable for future reference. Besides being a full directory of residents, as also of business houses and of streets, with a map of the city, lists of societies and organizations, of Municipal, State and Federal officers, of periodicals, public means of conveyance and transportation, incorporated companies, etc., etc.,—it gives a chapter on the progress of the city, with tables showing its population for 1860, 1861 and 1867, the assessment and rates of taxation from 1850 to 1867, the municipal expenditures for the past two years, and the bonded debt of the city up to July last. The city improvements made during the past year, and now in progress, and all new buildings of importance, with the cost of each, are noticed in detail. The recorded sales of real estate for each month, with the figures, are given, showing the amount to have been nearly fifteen and a half millions of dollars for the year ending July 31st. A general review is also given of public schools, private educational institutions, religious and benevolent societies, hospitals, literary associations, banks, water companies, libraries and manufactures, with such particulars as are important in the history of each from its beginning. A chronological history of the principal events of the year is given. The Consolidation Act, with its amendments, and several laws relating to the municipal government, are included in the appendix. The whole furnishes a complete picture of the city at the present time; and impresses one most forcibly with a belief in the future glory of this Pacific metropolis. A city of seventeen years' growth, with a population of one hundred and thirty-two thousand, and an annual property assessment of ninety-six millions,—where real estate to the amount of a million and a quarter changes hands every month—a "city of homesteads"—more favorably situated for expansive growth than New York, and bound to be linked with that city within two years, by the iron thoroughfare which is rapidly and surely stretching itself in long strides across the continent, she is destined at no distant day, to take rank with her Atlantic rival, as of equal importance among the great centers of the world's trade.

**How to CHOOSE MEAT.**—Good meat has a mottled appearance, from its inter-cellular fat; it is neither pinkish nor of purple tint; it is never wet. The fat of good meat is somewhat elastic and hardly moistens the finger. Diseased meat is soft and watery, and moistens the finger freely. Good meat loses but little in cooking; bad meat shrivels up and discharges, in frying, broiling or boiling, a large amount of water. Good meat, as above described, looks bright, and shows a clear and well defined fiber, under the microscope, free from infusorial animalcules; while poor and diseased meat looks sodden and cadaverous, as if it had been soaked in water, while the fiber is indistinct, and almost always shows infusorial animalcules under the microscope.

**PAPER BONNETS** are coming into use again, made, however, on an entirely different plan from the original "Navarino," which were simply paper stamped so as to appear like straw. The material is now being made from Manila pulp, molded on a block, then spread with dissolved shellac and covered with woolen flock or clothiers' waste, and pressed till it has a velvet appearance. These may be of any color. At present the demand is great; but they can be made at less cost than by any other process, not exceeding ten cents. Material produced in manner above described, is susceptible of being made to appear very beautiful and quite susceptible.

**CHALLENGE FOR TWO THOUSAND DOLLARS,**

—AND THE—

"GOLD MEDAL."

**THE EXCELSIOR PUMP COMPANY**

Hereby challenge Mr. THOMAS HANSBROW in the above amount, to a Mechanical Trial between his "Challenge Pump" and the "Excelsior Pump," the trial to take place in San Francisco, before a

**COMMITTEE OF MECHANICS,**

Each Pump to be constructed in accordance with its patent, and to be tested from their least to their greatest capacity, together with the power required by each Pump. A meeting for settling arrangements for the trial may be had at the office of the MINING AND SCIENTIFIC PRESS. This Challenge open for sixty days.

**The "Excelsior Pump"**

Was NOT entered for the GOLD MEDAL, at the recent State Fair, as it was verbally agreed, by Mr. Hansbrow and Mr. Hooker, that they would not enter their Pumps for the Medal, as no means were provided for testing machinery, and believing that

**Policy, not Merit of Machines,**

Was to govern the award of prizes. The inference is clear—hence the above Challenge.

**CUSHING & HOOKER, Prop'rs.**

23v15tf

**A FAST TRAIN.**—The Cheyenne (Kansas) *Argus*, of Nov. 12th, says that George Francis Train arrived in that city by a special train at 10 A. M. on the day before, and in five minutes afterwards, contracts were made for a grand hotel, 132x132, on an entire block, three stories high, larger than Cozzen's House, Omaha, and on the next day (12th), put on twenty-five men to dig the cellar. That is what we call an enterprising Train.

**TRUESDELL, DEWEY & CO.**

**BOOK AND JOB PRINTERS,**

Mining and Scientific Press Office,

NO. 505 CLAY STREET, SAN FRANCISCO.

**CARDS,**

**BILL-HEADS,**

**RECEIPTS,**

**CIRCULARS,**

**HAND-BILLS,**

**POSTERS,**

**AND LABELS,**

**AND**

**PRINTING OF ALL KINDS FOR BUSINESS MEN**

**BRIEFS,**

**TRANSCRIPTS, and**

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**Life Insurance--The Money Drift.**

**ERRORS ALTA**—Sirs.—I read in your issue of the 11th, a very important statistical paper, compiled by you from the Federal revenue returns, which proves the astounding fact that the distant Life Insurance Companies plying in California through "Agents," draw away nearly one million dollars per annum.

The drain under this head, as you state it, amounts to—  
Year ending 1st August, 1866.....\$496,239  
Year ending 1st August, 1867..... 877,264

And as we write the drain increases and must be now near a million a year—to be a million and a half next year, and so on.

And you naturally ask with surprise why this matter has not been taken in hand by some of our enterprising insurance men, so as to arrest the flight of a moiety at least of this enormous drain.

I think, sirs, your question is well put, and though my hands are full, I am yet willing to step forward and assume some of the responsibility and bear some of the preliminary expenses of forming such a Company.

When you reflect, sirs, that this million dollars a year is carried over land and sea, thousands upon thousands of miles, to places where it is lent out by distant Managers and Directors to their manufacturing and commercial friends around them, at five per cent. per annum, while our merchants and manufacturers, who are to compete with these, have to pay fifteen per cent. per annum for money [we supply them with the golden weapons to beat us] you will then conceive the magnitude of the injuries effected by the sapping and mining operations of those distant Insurance Companies. The money which must drain away, day by day, steamer after steamer, from our people, will, if not stopped, impoverish this country quite as much as if it were conquered by a foreign power and held in perpetual tribute. A million a year, by compound interest, will be ten millions in five years, twenty millions in ten years, forty millions in fifteen years, eighty millions in twenty years, one hundred and sixty millions in twenty-five years, three hundred and twenty millions in thirty years! I will admit that the ordinary percentage of deaths on a business of thirty years will effect a drawback of one-third of the income, which in thirty years we will put at one hundred millions. Notwithstanding this, if we go on at our present mode of drawing, we shall in thirty years lose by the insurance operation two hundred millions of dollars! But our drain, if we don't stop it, will not stand at one million a year; it will increase year after year from one million a year to two millions a year, which, by my foregoing computation, would in thirty years foot up to four hundred millions! What it would amount to in sixty years I leave to other calculators. In round numbers, I should guess it would come to the full number of dollars equaling the national debt of the United States!

Now, sirs, I care not what may be said of me by critics or jealous opponents, some of whom cannot see farther than their own noses. I announce myself as ready to make an effort to stop this drain, and I hold every man who co-operates with me in benefactor of his adopted country.

Let the capital of a Local Life and Health Insurance Company be one hundred thousand dollars to begin, in shares of one hundred dollars each. I shall cheerfully take the names of co-operators in a book opened this day, in the office of the California Building and Savings Bank, California street, for that purpose.

I remain, your obedient servant,

THOMAS MOONEY,  
Building and Savings Bank, California street,  
November 12th, 1867. 23v15-w

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SAN FRANCISCO, SATURDAY, DECEMBER 14, 1867.

VOLUME XV.  
Number 24.

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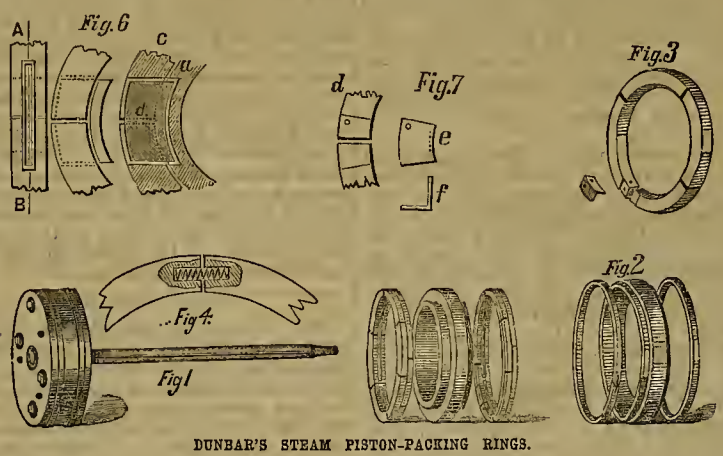
## Dunbar's Steam Piston Packing.

One of the main essentials to the economical working of a steam engine, is a proper piston packing—one that shall not wear unequally upon the surface of the cylinder, but which, at the same time, shall fit so easily and closely as to be perfectly steam tight. Connected with these conditions is also the requirement that the packing must be readily adjustable, and work with the least possible friction. So far as we have been able to learn, nothing has ever been offered to the public which more fully meets the requirements of such service, than that which is known as "Dunbar's Steam Piston

Several who have used this packing have assured us that it saves each season many times its cost in friction, time and power. It can easily be fitted to old or new pistons. It is but little liable to get out of order, and offers no chance for an unskillful engineer to tamper with it to the injury of his cylinder.

In order that such of our readers as are unacquainted with it, may form an idea of the principle of its construction, we give herewith a full illustration of it, both in parts and as a whole:

Fig. 1 represents a piston with rod complete.  
 Fig. 2 represents a plain packing ring cut once each side of a T shaped or solid ring.



DUNBAR'S STEAM PISTON-PACKING RINGS.

Packing." This packing was first patented August 14th, 1860, and re-issued 1865. A patent was also granted Oct. 31, 1865, on his single ring packing. This packing is in very general use at the East on railroad, stationary and marine engines, and is in use on about four hundred engines on this coast.

Perhaps in no part of the steam engine have greater improvements been made during the past century than in the packing of the piston. Those who recollect the way in which the old hemp packing was wound and pressed into a groove around the old-fashioned piston head, can fully appreciate the modern improvements in this direction. Then the engineer had to repack his piston almost every day, and use a large amount of oil at that. Now a piston will often run a full year without repacking. The introduction of babbit metal, which followed the use of hemp, was but a slight improvement, and both involved a large amount of friction. The springs and set-screws connected with the earlier use of rings was a source of much trouble, especially in the hands of hungling or careless engineers. Indeed, their most careful use is necessarily attended with most unequal wearing of the cylinder, in consequence of the inequality of beating given by the screws.

In the use of Dunbar's rings all necessity for springs or screws is avoided; the packing is always tight, without excessive friction, and it never gets slack or leaky.

Fig. 3 represents a plain packing ring cut into four segments each side of a T ring.

Fig. 4 represents a spiral spring placed in one joint of Fig. 3, to hold the other three joints firmly together and out to the cylinder.

Fig. 6. Letters *a d* and *c* show a continual view of view of tongue piece to break the joint of rings Fig. 2. Letters *A* and *B* show the tongue piece in the edge of the rings, doweled into the flange of T ring, to keep the rings from revolving.

Fig. 7. Letters *d c* and *d f* is an angle piece to cover the joint of Fig. 3, at the spiral spring.

Henry S. Smith, of the *Ætna* Iron Works in this city, has the agency for this packing for the Pacific coast.

PATENTS RECEIVED.—The following patents were received at the MINING AND SCIENTIFIC PRESS PATENT AGENCY by the steamer of Friday:

- John D'Arcy, San Francisco—Loaf Bread Machine.
- Dr. W. C. Kellum, San Francisco—Improvements in escapements for time-pieces.
- John Synnot, San Francisco—Writing apparatus for the blind.
- Charles Colby, San Francisco—Improvement in churns.
- Walter Pierce, Onion Valley, Cal.—Improved Rock Drilling Machines.
- Alfred Horn, Virginia City, Nev.—Improvement in amalgamators.
- Henry Goulding, Silver City, Nev.—Improvement in furnace for roasting ores.
- Wm. B. Lamb, of this city—Improved watch escapement.

## The California Geological Survey.

We condense the following from a paper read by Prof. Whitney, on the 2d inst., before the California Academy of Natural Sciences, on the condition and progress of the State Geological Survey:

The Geological Survey has now been going on seven years. The plan of the Survey, as gradually developed during the work, is divided into three principal departments, each of which is sub-divided into subordinate branches, as follows:

- A.—TOPOGRAPHY—1. Topographical Maps. 2. Physical Geography.
- B.—GEOLOGY—1. General Geology. 2. Paleontology. 3. Economic Geology, including Mining and Metallurgy.
- C.—NATURAL HISTORY—1. Botany. 2. Zoology.

To the above must be added the collection of a museum of Geology and Natural History, to illustrate the geological structure and resources of the State and Pacific Territories.

The following scheme shows the lowest and highest number of volumes contemplated in each department, according to the thoroughness with which the work is completed, and that completeness depending on the liberality of the State in her appropriations:

	Lowest.	Highest.
Physical Geology .....	1	1
General Geology .....	1	2
Economic Geology .....	1	3
Paleontology .....	2	2
Botany .....	1	2
Zoology .....	3	4
Maps .....	1	1
	11	15

Quite a full resume of the work of the Survey to the close of 1865 having been given in the preface to the volume of Geology already issued, the Professor confined himself in the paper read chiefly to the work which has been accomplished within the past two years.

### FIELD WORK OF 1866.

Messrs. W. M. Gabb and F. E. Brown commenced January 4th, 1866, a geological exploration of the Southern Coast Ranges, with the special purpose of obtaining materials for the paleontology of the tertiary rocks, and to determine the geological position and economic value of the bituminous materials found in Los Angeles, Santa Barbara, and San Louis Obispo counties. Mr. Hoffman joined the party in April, to take charge of the topographical work, and the work was prosecuted northwardly to and including the Mount Diablo range, till June, when Mr. Gabb, assisted by Mr. F. Coffey, passed to the northward of San Francisco, to continue his geological researches into Sonoma, Mendocino and Humboldt counties.

Another party, consisting of Messrs. G. King, J. T. Gardner, H. N. Bolander and C. R. Brinley, commenced the geological and topographical survey of the Yo-Semite Valley, the first week in June, the principal object of which was the preparation of the map and Yo-Semite Guide Book, authorized by the last Legislature.

During the early part of the season Prof. Whitney was with one or the other parties mentioned; but in August he repaired

ART SCHOOLS.—It is reported that a University of Art is to be established in the United States. There are no less than ninety schools of art in Great Britain. A large amount of money is annually appropriated by the Government for the support of these institutions. The object is especially the cultivation of taste in design, in order to give British manufactures the same advantages for which those of France have been so long noted. These schools are organized into one department, under the management of a Board of Inspectors. An institution upon a somewhat similar plan, at least so far as regards the Governmental aid, would, without doubt be a success in this country. If, at the same time, arrangements could be made by which deserving pupils could be personally aided, and gratuitously taught, it would be well. It would, for instance, enable many women of culture and refinement, who have been thrown by the events of the past few years upon their own resources, to secure for themselves congenial employment. The attention of writers and lecturers has of late been turned toward the pointing out of some means whereby such women can gain an honest independence without a resort to the needle with starvation. Here now is the very thing.

THE NATIONAL AMERICAN.—The "American Industrial League" has issued the first number of a new monthly, in quarto form, under the above title. The Secretary of the League, John Williams, known as the editor of the *Iron Age*, and Dr. William Elder, late Chief of the Bureau of Statistics, will belong to the editorial corps. No subject is, to an American, of greater importance, and none should be of greater interest, than that of political economy. This publication, therefore, promises to fill a place in our periodical literature which has been void. The first number contains letters from Peter Cooper, and E. B. Ward, and the address of Horace Greeley, at the opening of the American Institute. Regular contributions from other men of note, who have given industrial questions special attention, are promised.

QUICK TIME.—The steamship Rising Star arrived in New York on the 8th inst., with passengers from San Francisco, Nov. 19th—the passage having been made in the short time of 19 days and 21 hours!



to Plumas county, to make a geological and geographical survey of the same. The Professor was assisted by Mr. Wackenreuder, and at short intervals by Messrs. A. Hartwig and A. W. Keddle. This party remained in the field as long as the season would admit, including a part of Sierra in their work. Considerable other detached field work was done during the same time by a portion of the parties mentioned, and others, particularly in Kern county.

Mr. S. F. Peckham made a special detailed examination of all the important oil bearing localities in the State, for the purpose of collecting samples for chemical examination, and to obtain information in regard to the economical value of the bituminous substances in those regions. The examination of these productions was carried on by Mr. Peckham, during the ensuing winter, at Boston and Providence, and the results obtained will be embodied in the volume of economical geology.

#### THE FIELD WORK FOR 1867,

Comprised within its scope geological and topographical surveys of the foot-hills between the Chowchilla and King's rivers, and the elevated region about the head of the Merced and upper portion of the Tuolumne rivers, including the interesting valley, called by the Indians Hetch-Hetchy, an almost exact counterpart of the famous Yo-Semite Valley. The topographical work in Kern, Tulare and Inyo counties has also been continued. This portion of the survey has been plotted on a scale of two miles to the inch, and embraces an area of 100 miles north and south, by 50 in breadth, and includes all the settled portion of Kern county, half of Tulare, and the western part of Inyo, embracing the whole of the Sierra Nevada from Walker's Pass to the parallel along the lower end of Owen's Lake. Mr. Wackenreuder has also been engaged during the entire season in the central portion of the Sierra Nevada. He has made several trips along the Sierra, between Alpine and Plumas counties, completing the high part of Alpine, Calaveras, Amador, El Dorado and Sierra counties. Three months additional work will enable him to plot the whole of the Sierra Nevada, on the largest scale required, from Walker's Pass to Lassen's Peak—about 400 miles in a direct line. An extensive reconnaissance has also been made at the joint expense of the General Government and Prof. Whitney in Southwestern Nevada, including the White Mountain range and the Pahranaigat country as far east as the 116th meridian, when the season compelled the party to leave the field. This expedition was conducted under the supervision of Mr. W. M. Gabb, assisted by Messrs. Loehr, Wilson and Poston, and was undertaken for the purpose of making the necessary surveys to complete the southeastern portion of the Central California map. The State was charged only with that portion of this reconnaissance which was made within the territory of the State of California.

The area of the region surveyed during the past four years, including only the extremely difficult work in the "High Sierras," is about 20,000 square miles, or 50 miles in breadth by 400 miles in length. The counties in which the work is deficient are Tuolumne, Nevada and Placer.

During the past two years the State Geologist has been actively engaged within the State, attending to the necessary work of the survey in all its various departments, with the exception of two short periods—one of four weeks in Oregon and Washington Territory, and the other of two weeks in Nevada. Each of these excursions were made for the purpose of settling important geological and geographical questions intimately connected with the State Survey.

[Prof. Whitney states in connection with his notice of these trips, that no charge whatever was made to the State either for his salary or expenses thus incurred. We trust,

however, that the Legislature, in view of the importance to his work within the State of such trips, will not suffer such necessary expenses to come from the private means of the State Geologist.]

#### PROGRESS IN THE SEVERAL DEPARTMENTS.

Having thus taken a general survey of the field work for the past two years, the Geologist proceeded to summarize the progress made in the separate departments. We propose to follow him with a very brief synopsis:

1st. *Topography and Maps.*—By far the largest amount of expenditure, during the past two years, has been devoted to this department of the survey. The reasons given for this, were two-fold. First—Because the resignation of Prof. Brewer, (who left to take a Professor's chair in Yale College,) and the decease of Mr. A. Remond, deprived the Chief of the Survey of his principal geological assistants; and the appropriation was too small to enable him to engage other parties, without dismissing a portion of his topographical staff, who had already a large amount of work on hand, and in such a condition that it could be made of but little future value if discontinued at the time, especially with the necessity which appeared of its finally going into other hands, if resumed at all. Second—The want of any, even approximately correct maps, of any part of the State made it entirely impossible for the detailed geology to be worked out, without first forming such maps. With the imperfect maps at hand, the Geologist could neither lay down the placer or quartz mines, nor indicate the different strata cropping out at the surface, or make a description of the geological structure of the country intelligible in any other than a general way. An accurate geographical map must be the basis of any geological work, which is to be of any economical advantage to the people of the State.

The general plan of the topographical maps of the survey, embraces maps on four different scales—the first and largest is that of a mile to two inches. This will be adopted only for the most important mining districts, where the special illustration of the occurrence of veins or mineral deposits makes a large scale necessary. The second is two miles to the inch; this will be adopted for the Bay map, and for the several county maps. The third is six miles to the inch, and will be adopted for a map representing the central portion of the State, embracing only one-third of its area, but ninety-five per cent of its population. The fourth is a scale of ten miles to the inch, which will be adopted for the general map of the State.

#### WHAT HAS BEEN ACCOMPLISHED IN THE PREPARATION OF THESE MAPS.

*A Mile to two inches.*—On this scale a map of Mt. Diablo and vicinity has been completed, and is now ready for the engraver. This map is two and a half by three feet in size, covering an area of one hundred and seventy square miles, and embracing all the most important coal deposits yet discovered in the State. The map of the Yo-Semite Valley, fifteen by twenty-four inches, is also on this scale.

*Two Miles to the inch.*—A map of the Bay of San Francisco and vicinity, has been drawn and engraved to this scale. It covers an area of 4,248 square miles—a territory equal to the State of Connecticut—of the most densely settled portion of the State, embracing the heart of our agricultural and commercial interests, and over one-third of our population. Copies of this map are on the way from New York.

Three other maps of the central counties of the State, along the Sierra Nevada, and including our principal mining districts, have also been projected on this scale. Of these, the northern embraces all of Plumas and Sierra, parts of Yuba and Butte counties; the central, all of Nevada, Placer, El Dorado, Amador and Calaveras, portions of Sutter, Sacramento and San Joaquin; the southern, part of Calaveras, all of Tuolumne and Mariposa, and parts of Stanislaus, Merced and Fresno counties. These maps are intended to show the minute details of the topography, the position of all towns, villages and mining camps, ranches, roads, mines, mills and ditches. The field work for Plumas and Sierra is nearly completed; that for the central and southern counties is about one-third completed. A map of that portion of the Sierra Nevada, adjacent to the Yo-Semite, embracing from 2,000 to 3,000 square miles, the roughest and most picturesque region

of the State, is completed and in the hands of the engraver. This map is intended to accompany the Yo-Semite Guide-Book, ordered by the Legislature, and will be the first accurate map of any high mountain region ever prepared in the United States. Much other territory, not enumerated above, has been plotted to this scale for future use in a general map of the State.

*Six miles to the inch.*—This is the scale adopted for the Central California Map, which will embrace an area of about 80,000 square miles. It will be printed on four sheets, each 24 inches square, to be put together for use as a wall map. It will require two years to complete this work, and when finished will be the largest inland work of topography yet undertaken in the United States. A large portion of the territory embraced is very mountainous, and includes the highest and roughest in the country, and probably on the North American continent.

Enough has already been done to give a very good idea of the western and central portion of the State, and to make the worthlessness of all other maps heretofore compiled appear perfectly evident. The region of country embraced by this map is twice as large as that of Ohio.

A map of the coast region, south of Monterey, has been commenced on this scale, the field work of which might be completed in six months. This map will be 3 by 2½ feet in size, and embrace 16,000 square miles.

*Ten miles to the inch.* will probably be the scale adopted for a general map of the whole State, which would have to be about 5 feet square, and would necessarily embrace a large portion of Nevada, unless that State should be left blank. A large portion of the material for this map has of course been collected in the preparation of those already noticed. The principal part of the work which yet remains to be done is in the southeastern and northwestern portions of the State, which are thinly inhabited, and in which the work cannot now be done except with the presence of a military escort. Before this map can be completed, a system of carefully conducted astronomical observations should be made to fix the positions of a considerable number of points on the sheets already prepared. Until this is done we can never have even a tolerably correct map of the State, as there are errors and discrepancies in the work of the U. S. Land Office, which can be cleared up only by such a series of observations.

#### PHYSICAL GEOGRAPHY.

The collection of materials in this department have gone on uninterruptedly. The number of barometrical observations to determine the heights of important points has been greatly increased during the past two years. The important investigations of Col. R. S. Williamson in regard to the fluctuations of the barometer on this coast, are now in process of publication. As soon as that volume is published a revision of barometrical observations already made by the Survey will be commenced, and the corrected results will be tabulated, and a close approximation to the heights of from one to two thousand points will be given. These results will be of great practical as well as scientific value.

The investigation of other subjects connected with the physical geography of the State have been continued, and among them the nature and distribution of the forest trees has been found of peculiar interest. A beginning has been made in the construction of a map which will show the boundaries and areas occupied by the principal groups of trees.

#### GENERAL GEOLOGY.

For reasons already stated, much less progress has been made in the strictly geological, than in the topographical department. Still, as has already been shown, a very large amount of work has been done, and a large amount of material has been collected for the second volume of Geology. This volume, however, will be the last one published of the series, as it will be designed as a complete resumé of all the geological and paleontological work. It will also be accompanied by all the necessary sections, showing the structure of the mountain ranges, and with a geological map of the State, and probably of all the Pacific States and territories.

#### PALEONTOLOGY.

But little exclusively paleontological work has been done during the past two years, as Mr. Gabb has been employed in the field during most of the time when in the service of the Survey, as will be observed by the synopsis of the field work already given. Most of the work performed has been in the way of arranging the collections already

made, and selecting such as were needed for description. Of this, more will appear under head of "Progress in the Publication Department."

#### ECONOMICAL GEOLOGY.

It is proposed in this department to prepare first that part of the report which includes the non-metalliferous minerals—such as coal, all bituminous substances, petroleum, asphaltum, building materials, mineral paints, fire-clays, etc.

No plans, however, can be made for embracing the metalliferous mines of the State, unless more liberal appropriations are made, such as will enable the State Geologist to secure competent assistants, by the aid of whom that work can be thoroughly done. If properly executed it cannot fail to be of the greatest value to the State. Superficial investigations will be of no advantage.

#### BOTANY.

The collection of materials for the botanical report has been continued during the past two years in such a manner as to be but a trifling expense to the State. Mr. Bolander, who has had charge of this department, has made extensive additions to the material previously collected. Indeed, so many new discoveries have been made that the working up of the material at the East will occupy a longer time than was anticipated. Mr. B. was in the field about five months in 1866. He also made two extended excursions in 1867. Prof. Brewer thinks that the volume under his charge will be ready for delivery during the coming year.

#### THE COLLECTIONS OF THE SURVEY

Still continue where there is no probability of their being of any very great practical importance to the State. They are large and valuable. Some work, however, has been done towards getting this mass of material in order. A part of the minerals are laid out upon shelves. The fossils are arranged in drawers and partially named. The shells of living species have also been arranged, named and labeled. These collections can thus be examined and studied, and are, to some extent, by those interested.

The plants have been placed in cases, arranged in families and genera, so far as known, and specific names are added as fast as received from the various authorities engaged in working them up. The cones of all the pines, firs and spruces, with seeds, fruit, etc., have been arranged in drawers, and the cryptogamic vegetation, also, so far as worked out.

#### PUBLICATIONS.

Progress has been made in this department, since the last session of the Legislature, as follows:

*Paleontology, Vol. II, Sec. I, Part I*, comprising the first installment of the Tertiary Invertebrate fossils, by Mr. Gabb, with their ten plates, is nearly ready for delivery. The text has been stereotyped. It is expected that the whole of this volume will be required for the remainder of the Cretaceous and Tertiary invertebrate fossils. A third volume will be required for the Secondary and Paleozoic fossils, the plants, vertebrate remains, and microscopic fossils. The materials for the same are already in the hands of eminent authorities in the East.

*A Geographic Catalogue* of the mollusca, found west of the Rocky Mountains, prepared by Dr. Cooper, has been printed. It contains the names and localities of eight hundred and twenty-five species.

*Mining Statistics, No. 1*, containing a list of quartz mines and mills, between the Merced and Stanislaus rivers, etc., etc., prepared by A. Remond, and printed.

*In the Zoological Series*, the drawings and engraving for the volumes of birds and fishes has been going on steadily. The former is nearly ready for the press. Arrangements have been made for editing a volume of conchology, and a beginning made in the mammals. The progress on the several maps has already been briefly referred to in our abstract under the head of "Topography and Maps."

The accounts of the Survey, and a complete statement of all the expenditures of the different departments will be submitted to the Legislature at an early date. The following statement was given in the paper as read:

STATEMENT OF EXPENDITURES OF GEOLOGICAL SURVEY.	
To Dec. 31, 1865, as per account rendered.....	\$39,008 71
January 1, to December 1, 1866.....	22,617 66
January 1, to September 30, 1867.....	15,853 40
Estimate for October 1, to December 31, 1867.....	5,600 00
Total amount of Appropriations.....	\$134,069 77
Deficiency at the end of 1867.....	\$8,496 77

An appropriation of \$15,000 is asked for the continuance of the Survey through the present fiscal year, and if this is not granted, the Survey will be stopped at once.



## Mechanical.

## Steel Boilers.

We notice an advertisement by Nelson & Doble, of a quantity of steel plate, recently received from the manufactory of Firth & Co., (of whom they are the agents), suitable for making steel boilers. The introduction of steel boilers is a subject of great importance to California, and we have no doubt that before long this will form another of the advances in machinery made in this State.

It is strange that in this country, where transportation forms so important an item, and where high pressure steam is used, perhaps more than in any other part of the world; and where, in many places, fuel is very expensive, so little has been done in introducing steel plate, instead of iron.

The United States government has made certain laws to govern the thickness of plates, diameter of boilers, and pressure of steam allowed to be carried in steamboat boilers; but no such law exists in relation to boilers used on land. The consequence is, that while the steamboat boilers have to be made in conformity to such laws, and to the approval of the United States Inspector, the land boilers are made oftener after the whims of men who may be able to stop, start or run an engine; but who are utterly unfit to plan a boiler, or say under what pressure or thickness of plates it will work. The objects to be kept in view in proportioning a steam boiler are, cheapness, safety and economy of fuel:—Cheapness, in the ordinary class of boilers, by making them large, in order to make one boiler answer instead of two; safety, by having them properly braced, and by having the sheets as thick as possible; economy of fuel, by having the plates as thin as possible; other things, such as circulation, etc., not dependent on the quality of material, being equal.

The United States law, already referred to, sets the limits of CH No. 1 American iron at 9,240 pounds tensile strain to the square inch, and objects to give a certificate, even to that strain, with plates over  $\frac{1}{2}$ -in. thick; but makes no objection to 5-16 and  $\frac{1}{4}$ -in. iron—not distinguishing between single and double riveted seams. Now, it has been proved by very careful experiments, that the thinner the iron, the more readily heat is transmitted to water; and that with steel plates instead of iron, more water can be evaporated with a pound of coal. From the greater strength of steel, thinner plates can be used, thereby accomplishing the object of larger boilers, with the same thickness of plate; or thinner plate with the same diameter of boiler, and consequently a saving of fuel. Steel shows less liability to rust, or waste with bad water—another valuable property.

We believe there has only been two steel boilers made in California up to the present time. These were made for the Almaden Quicksilver mine, in the year 1861, by Mr. Sargent, of the Vulcan Iron Works Co., and were 36 inches diameter, and made of 3-16 steel plate. After being used with a pressure of from 70 to 90 pounds of steam for three years, they, by accident were fired up without having any water in them, and before the fires were drawn the sheets were at a red heat. Yet, with this severe usage, they have, after being caulked up, again been used, and have continued in constant use, nearly night and day, up to the present time, and show a fair promise of lasting many years longer.

Since the times when those boilers were made, great improvements have been introduced in the manufacture of steel. Indeed, no branch so important in engineering or metallurgy has made such progress. From recent investigations, made in England to satisfy engineers how far steel plates could be relied upon, it was shown that plates could be made of any tensile strain, adapted

to special purposes, according to its hardness. So far, about thirty-five tons to the square inch is about the limit for steel boiler plate; though plates have been made to stand twice as much, but were too hard to stand punching. Even this, however, may be remedied by drilling, instead of punching the holes. But what is most astonishing, is that steel plates, capable of sustaining thirty-five tons to the square inch, and as thick as  $\frac{1}{4}$  and  $\frac{3}{8}$  of an inch, will bend when cold—flat, even—without cracking; which test few brands of soft boiler iron will stand.

The brand upon the steel sold by Nelson & Doble is sufficient guaranty of its quality, and we hope to hear soon of its extensive introduction in steam boilers. If ever we have the good fortune to have a boiler insurance company in San Francisco, (which would be another step in the right direction) we have no doubt that a steel boiler would be (as in England) insured at enough less rate to warrant the first increased outlay.

We are not prepared to give the comparative cost between steel and iron, though we do not think, when everything is taken into consideration, that there is much difference.

We propose at an early day to say more upon this boiler question, which is one of the greatest importance to California, and the Pacific Coast generally.

**IRON ROOFS.**—Iron is now being largely used, in many places, as a material for the construction of large roofs. Among the most noted instances of this class of construction, we may mention the following: The main arched roofs of the Dublin Exhibition Building—one of which is 218 feet long by 50 feet span, and the other 353 feet long by 50 feet span. The arched roof of the Derby Market Hill is 192 feet long by 86 feet span. The main roof of the London Crystal Palace is 120 feet span. The Amsterdam Crystal Palace is 329 feet long by 64 feet span. The largest single span is that now being built at St. Pancras Station, on the Midland Railway, England, which, when completed, will be 690 feet long, with a clear span of *two hundred and forty feet!* This roof will be a little wider than the roof of the Moscow Riding School, the largest single span heretofore constructed.

**USEFUL DATA.**—A cubic foot of water weighs 62 $\frac{1}{2}$  pounds, and contains 6 $\frac{1}{4}$  imperial gallons; hence one imperial gallon may be taken to weigh ten pounds.

A pipe one inch in diameter and one yard in length, contains 20.26 cubic inches, or nearly a pound of water; hence the following practical rule is generally used to find the quantity of water in a pipe of any given diameter:

Square the diameter of the pipe in inches, the result is the weight of water in pounds, per yard of the pipe's length; shift the decimal point one place to the left for the quantity of water in gallons per yard.

For practical purposes, water may be regarded as incompressible, inasmuch as when completely deprived of air and subjected to a pressure of 22 atmospheres, its bulk is reduced only to the extent of one 890th.

Water expands in bulk and decreases in density from a temperature of 39° F. up to 212°, when it boils and evaporates into steam. Below 39° it again expands and decreases in density down to 32°, when it crystallizes into ice. In assuming the form of ice the bulk is increased in proportion of 9 to 8, and the force with which it expands is so great that scarcely any thing can resist it.

**PROTECTION AGAINST LIGHTNING.**—It has been stated by an especial French scientific commission, that if a copper cylinder two centimeters in diameter, by twenty or twenty-five inches in length, be used instead of the ordinary gold, platinum or copper, on the top of lightning rods, there can be no danger from electricity, as the copper so used cannot melt on account of its great conducting power.

## Scientific Miscellany.

## Interesting Paper on Aluminum.

At the last meeting of the New York Lyceum of Natural History, Professor Henry Wurtz, well known as the discoverer of the peculiar value of sodium amalgam for amalgamating gold ores, read a very interesting paper on some newly discovered properties of the metal aluminum, an abstract of which we find in the *American Journal of Mining* as follows:

The author's numerous experiments upon metals with sodium amalgam have revealed to him new and surprising properties of aluminum, the most abundant metal (as he says) upon the earth; and promising to be the most valuable. These new phenomena, once discovered, may, however, be readily reproduced without the aid of sodium, and they were exhibited to the Lyceum by Prof. Wurtz, repeatedly, and in various forms. He first pointed out the wonderfully exceptional nature of aluminum, never found native, and so hard to detach from oxygen; yet, when detached, manifesting no more disposition to recombine therewith than gold. His new discoveries solve this paradox perfectly. He first proved that the surface of the metal is passive to quicksilver, as he has before shown in *native gold, iron, etc.*, but that, wholly contrary to common belief, the internal parts of a piece of aluminum *absorb pure quicksilver* with avidity; so that a piece of rolled sheet is thus quickly split into component laminae. The internal surfaces thus enfilmed with quicksilver, he then proved to possess most surprising new properties. On exposure to air, they at once *take fire spontaneously, and burn with evolution of heat*; a coating of hydrate of alumina, as a bulky, feathery or filamentary mass, being formed, with a growth so rapid as to be *visible to the eye*, and under the lens wonderful to behold. To condense the discoveries of Prof. Wurtz we give his new theory of aluminum, slightly altering the phraseology for the sake of brevity.

1. Normal aluminum is in the electro-negative or *passive* state, corresponding to "passive iron," for example.

2. Quicksilver induces an abnormal, *active* or electropositive state, precisely corresponding to normal sodium and potassium.

His experiments have shown, as he has maintained in a previous paper, that no amalgam of aluminum is formed; and this newly discovered absorption of quicksilver beneath the outer crust of the metal, he believes to be perfectly analogous to the phenomenon of Prof. Joseph Henry's celebrated lead syphon experiment, in which a solid amalgamated lead syphon conducted quicksilver indefinitely through its internal pores from an upper to a lower vessel. Prof. Wurtz's deductions from his own theory are of high interest and importance. For instance, he holds the idea, that we may confidently hope, as one of the results of investigations in this new field, to obtain a permanently passive form of iron; a discovery which, if ever made, will be surpassed in practical value by few others; and he asks, why we should not now regard as possible the discovery of sodium and potassium in their passive forms, corresponding to ordinary aluminum—in which case, these metals could be handled with impunity, and become articles of general commerce. Mr. W. announces that his paper will probably appear in full in the next number of the *American Journal of Science*.

**SULPHURIC ACID IN LIVING MOLUSCA.**

At the last meeting of the Academy of Sciences, M. Dumas communicated a curious note by which M. de Luca determined, in the liquid contained in a living molusca the presence of a thirtieth part, or about three per cent. of pure sulphuric acid; and stated furthermore, that the same molusca, plunged in water, disengages a considerable quantity of carbonic acid.

**A NEW LUBRICANT.**—From specimens of the Chinese tallow tree transplanted into Northern India, Dr. Jameson has made several hundred weight of grease, and has forwarded on trial a portion of it to the Punjab railway to have its qualities tested as a lubricant. The grease thus obtained forms an excellent tallow, and burns with a clear, brilliant, and white light, emitting no unpleasant odor or smoke.

**COPPER** deposited by galvanic action is rendered *tough*, according to M. Bouillet, if a mere trace of gelatine be added to the solution of sulphate used in its preparation.

**ORGANIC STRUCTURES FROM INORGANIC ELEMENTS.**—We have several times of late alluded to laboratory experiments, in which various organic structures have been produced from inorganic elements. The experiments of Berthelot for obtaining brandy from coal were detailed at some length in our issue of July 20th, 1867. Further experiments were detailed June 29th, 1867, in which the same distinguished chemist, assisted by Daubré, had succeeded in producing artificial combinations of carbon and hydrogen, devised from purely mineral substances, without the intervention of either animal or vegetable life. These same carbides of hydrogen, so formed, were also further built up by the addition of oxygen so as to form alcohol, oxalic acid, and other similar products composed of C, H and O. It may not be generally known that *artificial oil of bitter almonds* is now manufactured from ordinary benzene. The process is described as follows: A fine stream of benzene and another of smoking nitric acid, are allowed to run together in a worm kept cooled. The liquids react on each other on coming in contact, heat is disengaged, and the artificial oil collected at the end of the worm is first washed with water, then with a solution of carbonate of soda, and lastly, again with water.

**MUSHROOMS IN THE EAR.**—Dr. C. Robin, in a paper addressed to the French Academy of Sciences, described two new kinds of mushrooms of the *Aspergillus* genus, growing on the membrane of the tympanum. This parasitical vegetation he had observed in ten patients, four of whom had it in both ears; and in all cases it existed independently of any other morbid affection. Each of these auricular mushrooms presents the chief botanical characteristics of *aspergillus glaucus*, but they differ in the color of their organs of fructification. They form a pseudo membrane, covering that of the tympanum, so that if the former be extracted entire, it will be found to have the exact shape of the latter. Dr. Robin wished to see whether these aspergilli could exist elsewhere than on the human body; he therefore tried several kinds fruit, and found that they took to the lemon and orange very readily, but on the transfer they lost the color exhibited while on animal soil. The growth of these parasites in the human ear is an obstinate malady, for which Dr. Robin prescribes highly diluted solutions of hydrochloride of lime or of arsenite of potash, which at once destroys the cells of the aspergillus. Phenylie tannic acids do not destroy the cells, but mummify the pseudo-membrane in a remarkable manner.

**BLACK CURRANT LEAVES.**—The *Journal des Connaissances Medicales* contains an article on the virtues of the leaves of the black currant (*Ribes nigrum*). These leaves, when green, are much used by the country people for tea in cases of difficult digestion. With sugar, this beverage is agreeable, aromatic, and possessed of exciting properties. M. Blucher has distilled these leaves in the same way as those of peppermint, balm, etc., the operation being stopped when the liquid obtained is equal in weight to the substance employed. The leaves should be handled as little as possible, in order not to crush their odoriferous glands. This medicated water is a good vehicle for all stomachic potions, and will keep without change for two years.

**CHEMICAL OR MECHANICAL.**—Some rails of one of the New York city railroads were taken up a short time since, and on their lower surface was a perfect representation, or reproduction of the grain of the sleepers on which they rested, with all the knots and the curvatures of the wood, as neatly done as if by the painter's art. On applying the fingers to aid the sight, these lines were found to be really engraved or indented into the iron so much as to be readily detected by the sense of feeling. Whether produced by chemical action or by mechanical force is a question.

**FEELING SOUND.**—Dr. Peet has discovered a very curious fact—that deaf persons can feel a drum when beaten. They feel the reverberation as if striking the soles of their feet and passing up to the regions of the heart. He has made a curious application of the discovery, having an alphabet which he beats on the drum, and the mutes, with their backs turned, write the word spelled in that way.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand, New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

70,724.—IMPROVEMENT IN WATCH ESCAPEMENT.—William H. Lamb, San Francisco, Cal.

I claim 1st, The construction of an escapement for time-pieces, in such a manner as to pass the teeth upon opposite sides of the balance staff, thereby giving an impulse on both the right and left vibration, substantially as herein described.

2d, Unlocking pin, *g*, from the teeth, *n*, of the escape wheel, by the liberating pin, *i*, on the balance-staff coming in contact with the end of the detent lever, *d*, substantially as described.

3d, The combination of the wheels D and E, operating on each side of the balance-shaft by means of the notched rollers, *b* and *c*, or their equivalent, and the liberating pin, *i*, operating on the detent-lever, *d*, and the pin, *g*, the whole operating as and for the purposes herein specified and described.

This invention relates to the escapements used for time-pieces, and its object is to provide an improvement of such a nature that an impulse is given to the balance-wheel at each vibration, by passing the teeth of the escape wheel on each side of the balance-shaft; it also consists in unlocking the teeth of the escape-wheel, by means of a pin on the balance-shaft coming in contact with the end of the detent-lever, the whole forming a perfectly free escapement. To effect the first, I attach two wheels to the same staff, one being much smaller and placed higher up than the other. The smaller one has its escape teeth on the outer circumference of the rim, while the larger one has them on the inner circumference. The staff of the balance-wheel passes up between these two sets of teeth, and carries two notched rollers, so constructed that the smaller wheel acts upon one side of one roller, on one vibration, while the other one acts upon the opposite side of the other roller for the reverse motion. A small pin, also attached to the balance-shaft, comes in contact with the end of a detent-lever at each vibration, and moves it back. This lever carries a pin, which is thus thrown out of contact with the detent teeth, on the outside of the larger wheel, thus allowing the wheel to rotate.

70,971.—IMPROVED LOAF-BREAD MACHINE. John D'Arcy, San Francisco, Cal. I claim the combination and arrangement of the kneading rollers, C, C', endless apron, *a*, carried by the rollers, D and D', and the rotating knife, F, all as set forth.

The design of this invention is to provide an improved machine for rolling and cutting dough into the desired size for loaf-bread, and consists in constructing a machine with rollers or cylinders placed transversely across a platform operated by toothed wheels. An endless belt or apron revolves beneath the rollers, and a revolving knife in front of the rollers cuts a portion of the dough into the desired size at every revolution, and the endless belt carries it to the end of the machine, from whence it is taken and folded in such a manner that the gases are retained until the dough is ready for the oven. A full description of this machine and process, with the advantages which it presents over the ordinary hand process, has already been given in our columns.

70,973.—IMPROVED BOTTLE WASHER.—Henry B. Davidson, San Francisco, Cal. I claim a hench or supports, provided with a series of holes, B, B, to hold the bottles, in combination with a series of jet pipes, D, D, extending into the nozzles of the bottles, and conducting water to wash them, substantially as described.

The design of this invention is to provide a box of any desirable shape, and of a size sufficient to accommodate any number of bottles. At the bottom of this box is a pipe, which is connected with the tank or source from which the water is derived; considerable pressure being necessary to render it effectual. A number of jet tubes is attached to the upper side of this pipe, and holes are made in the top of the box, corresponding with those tubes, into which the neck of the bottles are inserted, and the water then turned on. As fast the bottles are washed they are removed, and others take their places.

71,019.—IMPROVEMENT IN ESCAPEMENT FOR TIME-PIECES.—William C. Kellum, San Francisco, Cal.

I claim, in combination with the escape wheel, *o*, the arrangement of the detent-lever, H, springs, J and K, lock-lever, *n*, and adjusting screw, I, substantially as and for the purposes set forth.

The design of this invention is to provide an improvement in escapements used in time-pieces, and which consists, first, in attaching a return spring to the detent-lever by a pivot, in such a manner that the two may be kept in adjustment by one spring. The detent-lever may be locked upon the escape wheel by gravitation, when used in an upright or pendant time-piece. Also my return spring may be kept in its adjustment upon the point of the detent by gravitation, whether attached at any point of the detent by pivots, or to any other part of the time-piece. A lock lever is attached to the detent lever, so that in case more than one tooth passes at once, this lever will catch the escape-wheel, and force it to lock upon the detent-lever.

The invention also relates to an arrangement for banking, by which the balance-wheel is allowed to vibrate to a certain point in either direction, but not far enough to pass more than one tooth. This is affected, first, by means of a light spring, so placed that as the hair-spring uncoils, it forces it out so as to catch the banking-pin or the rim of the wheel; and secondly, by means of a lever, so placed as to be moved out and in by expansion and contraction of the hair-spring, and which shall catch the banking-pin at a certain point.

[We have at hand four other California patents, which reached us by yesterday's steamer, the titles of which are given elsewhere; but the usual notices of which are necessarily deferred till next week.

## RECENT INVENTIONS.

ANOTHER NEW PLOW.—The Stockton Independent says that Mr. Geo. H. Dahl, of that city, has constructed an improved plow, the advantages claimed for which are: First, the general design; second, the shape of the mold-board; third, the manner of attaching the mold-board; fourth, the land-side, and manner of attaching the same; fifth, a pivot-wheel; sixth, novel scrapers to keep the wheels clear of earth; seventh, the shape and strength of the standard. The gang consists of four ten-inch plows, which are longer than most others in use, and so set in the beam as to produce less resistance to the draught than those set more squarely to the land. The improvement has been thoroughly tested in different soils and found to work well in all cases.

NEW GATE HOOK.—Dr. F. G. Hearn and Dr. Wm. Bisbee, of Yreka, have invented a new spring hook and bolt, which the Journal of that place says will hook a door or gate, so as to render it impossible to be opened from the outside, and the spring of the hook is so arranged as to allow sufficient room for shrinkage. For steamboats, railroad cars, houses, stores, gates, etc., they are said to be superior to anything now in use, and will undoubtedly be in great demand when offered to the public.

IMPROVED DUMP CART.—Mr. Munger recently exhibited to the New York Institute, an improved dump cart or rather wagon, as it is placed upon four instead of two wheels. The main device consists of rollers on the forward and hind bolsters; hooks hold the wagon bed in place, but when unhooked, and the horse backs, the reach, having a hinge in the middle, rises, the wheels approach each other, and the wagon box is turned the same as a cart body. When the horse starts up the wagon returns to a natural position. The Committee of the Institute appointed to examine and report upon it, were decidedly of the opinion that it is a simple and important improvement, useful on any farm. The cost of such attachment is \$10.

GALVANISM IN ORGAN PLAYING.—By a recent invention galvanism and magnetism are made to do the work of opening and closing the valves in playing the organ, thus doing away with the necessity of a great physical exertion when "playing full organ."

STEEL RAILROAD IRON DIRECT FROM THE FURNACE.—Lorenzo Sibert, of Augusta county, Va., has recently devised a process for making steel railroad bars, and other steel, direct from a blast furnace, at comparatively little expense. If such a process is successful it is one of the most important discoveries of the age.

## TO INVENTORS

ON THE  
Pacific Coast.

Messrs. DEWEY & CO.

Take occasion to call your attention to the following rules, regulations and suggestions relative to the obtaining of LETTERS PATENT of the United States:

## Self-Evident Facts.

Having had large experience, and gratifying success with the great variety of cases emanating on this coast, we feel confident of our abilities to assist inventors in patenting their inventions, saving them from vexatious delays, and from receiving worthless papers by reason of imperfect preparation of their claims before being sent to the Patent Office.

The branch of Patent Law is of itself a SPECIALTY of legal jurisprudence; or, as Mr. Phillips, an eminent Patent lawyer, justly remarked: "The metaphysics of the law."

In early days but little preparation was needed, or but ordinary skill required to obtain a patent; but now, by reason of the multiplicity of inventions, and the numerous acts of Congress, found necessary to protect the inventor while the patent lasts, and to do justice to the people after it expires, the utmost care and skill are requisite in managing cases and obtaining a patent that will be of real value to the Patentee, and stand the test of passing through the legal ordeal of an infringement suit.

The general practice of the Patent office regarding the examination or issue of Letters Patent for inventions has not been materially changed for many years, yet there have been amendments added to the laws of 1861, 1863 and 1866, and which it is necessary for all parties managing an application to be conversant with. Old inventors invariably advise the employment of none but agents of responsibility and experience. As agents with such qualifications, we solicit your patronage.

## Advantages to Patrons of Our Agency.

Some of the advantages to be obtained by patronizing us, may be enumerated as follows:

1. Inventors on this Coast having their applications for patents made out through our agency can sign their papers at once, and thus secure their rights at least three months sooner than by trusting the same to distant agencies, situated at New York or Washington.

2. As many of the inventions conceived here are especially adapted to the Pacific Coast, they should be properly brought out here, which can be accomplished (if the invention is a meritorious one) by illustrating the subject, with a careful description, in the columns of the "Mining and Scientific Press," free of charge; the inventor paying simply for the engraving, which will be executed at a moderate charge. The same cuts can be subsequently used for books, letters, or circulars. In a word, we are determined to make it of decided interest for every inventor on this Coast to patronize home talent and enterprise.

3. Most inventions on this Coast are for objects and purposes but little understood by parties at Washington or other parts of the East. Our mining machinery, processes and operations are best understood by those familiar with their use; and a personal, verbal explanation is oftentimes of important service, and enables us to be more successful than agents generally.

4. Remittances of money made by individual inventors to the Government sometimes miscarry, and it has frequently happened that applicants have not only lost their money, but their inventions, also, from this cause and consequent delay. We hold ourselves responsible for all fees entrusted to our agency. By sending duplicate correspondence to our Washington agent we avoid hazardous delays.

## Confidential Advice.

Those who have made inventions and desire to consult with us respecting the same, are cordially invited to do so. We shall be happy to see them in person at our office, or to advise them by mail, or through the MINING AND SCIENTIFIC PRESS. In all cases they may expect from us an honest opinion. For these consultations, opinion and advice we make no charge. A pen-and-ink sketch and description of the invention should be sent together with a stamp for return postage. Write plain, do not use pencil or blue ink; be brief.

Remember all business committed to our care, and all consultations, are kept by us secret and strictly confidential. Our permanent business interests demand, as it were, a sacred compliance with our obligations as solicitors, and in reference to our strict fidelity in this respect we refer to one and all of the hundreds of inventors and patentees on this coast who have patronized us.

## Letters Patent.

A patent is an open letter, embodying all the language of an inventor or his agent, contained in the specification, without alteration, and is granted to citizens of the United States, or those who have declared their intention of becoming such, and is signed by the Secretary of the Interior and the Commissioner of Patents, with the seal of the Patent Office affixed. Its jurisdiction is for the whole United States, for the term of seventeen years.

A patent right is personal property, and is assignable, but cannot be seized and sold on execution.

## What Claims can be Patented?

A knowledge of Ancient and Modern Mechanics and familiarity with American and Foreign

patent issues and rejections, enables us to determine in a measure in all cases what can be patented, and how much can be claimed as new and novel, and be covered by Letters Patent. This is one of the most difficult questions encountered by both old and new inventors—one in which an experienced counsel is of great service—and yet it can never be positively determined except by presenting a formal application for a patent to the Government, embracing a petition, specification, model, duplicate drawings and payment of the first government fees.

## Caveats.

A caveat is a description of the invention designed to be patented, lodged in the Patent Office before the patent is applied for, and while the inventor is perfecting his design. When properly made, it operates as a bar to applications respecting the same invention from any other quarter; but when improperly done, it is inoperative by reason of such defect. The Patent Office always returns a receipt for caveat papers with a copy of the laws governing the same, but does not seek to point out its incorrectness, unless there be some glaring defect. If worth filing at all, these cases should be prepared with very great care and caution.

One inventor on this Coast, who had filed a caveat by an attorney, was, sometime afterward, surprised to find that his invention, which was a very important one, had been patented and was being brought out by an eastern company with a capital of more than a million of dollars. Upon inquiring at the Patent Office, he was informed that his caveat was inoperative by reason of imperfections and his not having complied with the law in that case as made and provided.

Our fee for the service varies from \$10 to \$20. The Government fee, under the new law, is reduced to ten dollars. This latter sum does not now apply, as heretofore, as part of the fee on presenting an application for a patent.

Inventors will oftentimes find it very important to take advantage of the caveat system—the expense under the law being comparatively small.

To enable us to prepare caveat papers, we only require a sketch and description of the invention; no model being necessary.

If an inventor publicly uses and sells his invention, prior to making application for a patent, he cannot, afterward, prevent others from doing the same thing; and should any party put the invention into use, before such application for a patent is made, they could continue to use the specific machine or composition of matter after the patent is issued to another. Filing a caveat does not give the right to affix the words, "Patented," or "Patent applied for."

## Re-issues.

When, through "inadvertence, accident, or mis take," an insufficient or defective patent has been issued, the defects in the Specification and Claims can be cured by a re-issue. In order to obtain this, the inventor, or the holders of the patent, must surrender the patent, and file an amended specification and drawings, and a statement specifying the ground for asking for a re-issue. Re-issues are generally applied for after it has been found that the patent could not withstand litigation. It is, therefore, especially desirable that the new Specification and Claims should be prepared with great care and skill. Terms liberal in these cases.

## Expense of Applying for Patent.

The Government fee, on filing an application for a patent in the United States, is fifteen dollars; and if the patent is allowed, twenty dollars additional is required. If rejected, the first fee of fifteen dollars is all that is demanded. English, French, Austrian, Prussian, Spanish, and inventors of every nationality, may now obtain patents in the United States upon the same terms as our citizens. The only discrimination made is against subjects of governments that discriminate against the inhabitants of the United States.

To the foregoing official fees must be added fees for preparing the various documents and expense of drawings. Our charge for preparing a case, presenting it to the Government, and attending to all business connected with it, varies from \$20 to \$40.

Following is the list of Government fees:

On every caveat.....	\$10
On every application for a patent, for seventeen years.....	15
On every application for a design, for 3 yrs and 6 mos.....	10
On every application for a design, for seven years.....	15
On every application for a design, for fourteen years.....	30
On issuing each original patent.....	20
On filing a disclaimer.....	10
On every application for a re-issue.....	50
On every additional patent granted on a re-issue.....	30
On every application for an extension.....	50
On the grant of every extension.....	50
On appeal to the Examiners-in-Chief.....	10
On appeal to the Commissioner from Examiners-in-Chief.....	20
On every appeal to the Judges of Circuit Court, D. C.....	25

## Illustrate your Inventions!

Too many ingenious inventors lose the value of their genius and labor by not bringing their improvements conspicuously or plainly enough before the public—the general reading public.

One of the best means—and the cheapest, too—for eliciting attention to a new invention, is that of illustrating and describing it in the columns of the Mining and Scientific Press. To do this in the case of a meritorious improvement (and none other will be accepted), will cost our patrons no more than the price of a first class engraving.

With a cheap representation we will have nothing to do, as it would be calculated to injure both the inventor and ourselves.

We also take especial pains in furnishing engravings and electrotypes of superior merit, of all kinds, at fair rates, and tender our patrons the benefit of our practice and experience, by advice and assistance in getting up their circulars, advertisements, etc.

DEWEY & CO.,

Patent Solicitors, Mining and Scientific Press Office,  
505 Clay Street, San Francisco.



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, December 14, 1887.

City Stocks.

City Stocks, for the most part, are well maintained. California Steam Navigation is in the market at an advance, selling at 80 1/2 @ 81 per cent; the usual monthly dividend will be disbursed on Monday, the 16th instant.

The Bank of California has declared the usual monthly dividend of one per cent, amounting to \$50,000, payable on and after Monday next.

We give below the Marine Premiums received by seven different local Insurance Companies for the two last quarters, ending July 31, and October 31, 1887, to wit:

Table of Marine Premiums for various companies like Pacific, National, Merchants, Union, California, Home Mutual, and Fireman's Fund.

Mining Share Market.

The mining share market has been quite active and firm during the past week, obtaining increased activity at the close, owing to the somewhat rapid advance of several prominent claims, and on this account the stock arena is more excited than usual.

The assessments of Comstock claims have been quite large during the present month, and compare as follows with the dividends:

Table comparing Dividends and Assessments for various mines like Savage, Kentucky, Gold Hill Quartz, Chollar-Potosi, etc.

SAVAGE—has been well maintained under greatly increased sales, opening at \$110 75, improving to \$111 50 ex-dividend of \$7 50 per share, receding to \$104, then selling at \$110, and closing at \$109.

CHOLLAR-POTOSI—has been sold to a large extent, over 3,000 shares changing hands at improved rates, rising from \$55 to \$69, falling to \$50, improving to \$65, and closing at \$62.

IMPERIAL—has been less active than last week, declining from \$169 to \$158, advancing to \$167, and closing yesterday at \$169.

principal portion coming from the incline of the 154 level, and is said to yield an increased percentage of gold. The 210 level does not look so promising as formerly.

HALE & NORCROSS—was inquired for at the close, advancing to \$1050, and closing at \$1000, seller 60. Owing to the heavy expense of raising ore from the winzes, work was stopped in them on the 10th instant.

YELLOW JACKET—declined from \$490 to \$475, rapidly rose to \$600, and closed at \$615. We are informed that the drift from the 750 level toward the Kentuck line "struck" it handsomely.

KENTUCK—is in good request, and during the past week sold at \$175 @ 165, then rapidly rose to \$200, and closed at \$183.

Considering all difficulties encountered, these shipments are remarkable, and the amount received from the eastern mines is refreshing, evincing the richness of their ledges.

CHOLLAR-POTOSI—rose to \$135 seller 3, then sold at \$122 @ 128, and closed yesterday at \$130. We have no material change to note in the condition of the mine since our previous report.

CROWN POINT—advanced from \$630 to \$605 under limited sales, and closed at \$670. We have nothing of especial interest from this mine. In the north drift, 700 level, ore is found eight feet wide, and sixty-one feet below the 600 level the ground is opening well, showing some good ore.

EMPIRE—was in the market at \$165. The receipts of bullion in November aggregate \$18,763 78, against \$20,579 48 in October. This decrease is owing to the stoppage of the mill for some time early in November.

OVERMAN—has been sold to a large extent, over 3,000 shares changing hands at improved rates, rising from \$55 to \$69, falling to \$50, improving to \$65, and closing at \$62.

OPHIR—was in the market at \$115. Annual meeting at Virginia on the 16th instant.

SIERRA NEVADA—sold at \$3 @ 4 50. An assessment of \$4 per share was levied on the 11th instant.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,025,355. The sales in the open sessions amounted to \$250,834, showing a combined aggregate to date during the past week of \$1,276,189.

MINING SHAREHOLDERS' DIRECTORY.

(Compiled for every issue, from advertisements in the MINING AND SCIENTIFIC PRESS and other San Francisco Journals.)

Comprising the Names of Pompano, District or County of Location; Amount and date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Large table listing mining shareholders with columns for Name, Location, Amount, Day, and Date of Assessment.

\* Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table of stock prices for various companies like United States, California State, San Francisco City, etc.

GAS COMPANIES.

Table of gas companies like San Francisco Gas Co., Sacramento Gas Co.

RAILROADS.

Table of railroads like Sacramento Valley Railroad, San Francisco and San Jose Railroad, etc.

BANKING INSTITUTIONS.

Table of banking institutions like California Loan and Savings Society, etc.

INSURANCE COMPANIES.

Table of insurance companies like Fireman's Fund Insurance Co., Pacific Insurance Co., etc.

MINING STOCKS—WASHOE DISTRICT.

Table of mining stocks in the Washoe district like Alpha, Baltimore American, Bolcher, etc.

San Francisco Market Rates.

Table of market rates for various commodities like Flour, Corn Meal, Oats, Barley, etc.

GROCERIES, ETC.

Table of grocery prices for items like Sugar, Coffee, Tea, etc.

Retail Prices.

Table of retail prices for items like Butter, Cheese, Eggs, etc.

San Francisco Metal Market.

PRICES FOR INVOICES.

Jobbing prices rule from ten to fifteen per cent. higher than the following quotations.

Table of metal market prices for items like Iron, Steel, Copper, etc.

ESTABLISHED [MAR, 1860.]

VOLUME SIXTEEN

Mining and Scientific Press,

COMMENCING JANUARY, 1868.

DEWEY & CO., Publishers.

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DEWEY & CO., Proprietors.

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MINING AND SCIENTIFIC PRESS.

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Notices of Meetings, per square, three weeks, \$3 50; five copies, one year, in all, in advance, 6 00.

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THE CIRCULATION OF THE PRESS, already extensive, is rapidly increasing, and substantial traders who can profit by widely disseminating information of their business among the most intelligent industrial and commercial classes of the Pacific States and Territories will find no more effective or economical medium.

DEWEY & CO., Proprietors.

Patent Agency and Job Printing Office, 505 Clay street, San Francisco. (Name) July 1, 1868.

American and Foreign Patents.—Letters Patent

for Inventions can be secured in the United States and foreign countries through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We offer applicants reasonable terms, and they can rest assured of a strict compliance with our obligations, and a faithful performance of all contracts.



## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

OWING to the non-appearance of our exchanges, caused perhaps by the non-arrival of the mails, our Mining Summary this week is not so voluminous as usual.

## CALIFORNIA.

## Alpine County.

*Miner*, Nov. 30th: The Morning Star mine is again turning out black ore as of old. We have seen as fine ore this week as any taken out in the palmiest days of the old strike.

Orders have been received to start up on the old Alpine tunnel.

In the stomach of a cow, killed at Silver Mountain lately, was found gold dust to the value of over \$10, after panning out. The cow has run for the last two years on Wolf Creek.

## Amador County.

*Ledger*, Dec. 7th; Last Monday Coney & Bigelow sent to San Francisco a gold brick, the product of 50 days' run of their chlorination works, weighing 418 ozs.; fineness, 994; value, \$20.54 per ounce, the whole amounting to \$8,588.15.

The Tubbs mill is crushing rock from the Kennedy mine. A good clean up is anticipated.

The Oneida mine is supplying more ore than their 40 stamps can crush. They will add 20 additional stamps and another boiler to the mill.

The ore in the shaft of the Union mine is as good if not better than any found above.

The new steam hoisting works at the Coney & Bigelow mine is now in operation, and works admirably.

The chlorination works are now running on sulphurets from the Keystone mill, at Amador City.

## Butte County.

*Oroville Record*, Dec. 7th: The machinery for a quartz mill at Swedes Flat, came up on Monday. It is for the Merrimac Co., who are erecting a 15-stamp mill. The engine is from the Golden State Iron Works, San Francisco.

A 40-stamp mill is in process of construction near Forbestown.

## Calaveras County.

*Chronicle*, Dec. 7th: Paul & Co., near the Junction, are working their claim with profit. At present they are taking out pay dirt.

Prindle & Bowman are working their claim in Chili Gulch night and day.

Albright & Co., Allen & Co., Bracket & Co., Dicare & Co., and many others in that vicinity are doing well.

Mr. M. Shaw has commenced operations on the hydraulic plan on his claim, and will soon wash a gap through Stockton ridge.

We were shown, this week, by Dr. Hepburn, some quartz which assayed \$700 per ton. The location of the mine is a secret as yet. A few pounds have been sent to San Francisco to be carefully assayed.

Staples & Co. have some 20 men at work clearing off the ground and making preparations for the erection of their mill in Rich Gulch.

The ditch of the Water Co. is completed to the new diggings near Camanche.

Hepburn & Co's mill, at Railroad Flat, is employed crushing more rock from the Petticoat lead. The last quartz taken from that claim paid \$50 per ton.

San Andreas Register, Dec. 7th: At Rich Gulch Alexander, Seavers & Co. the past season, have realized enough from their lode to pay for their 10-stamp water mill and \$6,000 beside. Mr. Staples, a capitalist from San Francisco, is now making arrangements for the erection of a mill on his lode, in the same locality. A company will also erect a mill on the Lamphear & Co. lode, early in the spring.

Most of the laborers on the Union copper mine have been discharged. The company have 400 tons of first class ore out awaiting shipment. Work will not be resumed until spring.

## Inyo County.

*Los Angeles News*, Dec. 3d: The silver mines near Lone Pine, on Owens river, are turning out silver in large quantities. In another place in this paper will be found an interesting letter from this county.

## Mendocino County.

The Mendocino Democrat says that a silver ledge has been discovered on Eel river in that county, and a company has been organized to work it. Some croppings, sent to San Francisco for assay, made a return of \$16.58 to the ton.

## Mono County.

The Dutch Flat Enquirer says that the

Dozier Co. have chosen Benton, Mono county, Cal., as a field of operation, where they have erected three furnaces. The Secretary has already received a test brick weighing six pounds. A letter from this district will also be found in another column of to-day's issue.

## Nevada County.

*Grass Valley National*, Dec. 4th: The owners of the Chippis quartz ledge are putting up an 8-stamp mill, having ascertained that their rock pays remarkably well.

A man named Henry Beckman while out prospecting lately, broke off a piece of float quartz, and extracted from it \$12.

Dec. 5th: We take from the certificate the following return of an assay of a sample of sulphurets from the Dromedary mine, made in San Francisco. The sample is found to contain \$13.42, in silver, and \$364.12 to the ton in gold, total \$377.54.

Dec. 7th: The works of the Nevada mine on Deer Creek, have recently been put in thorough order. The dam has been strengthened and the mill overhauled. The tunnels have been put in order, and a body of ore struck which is equal to any ever taken from the mine.

Teams are briskly employed in hauling float quartz from off the slide to the Gold Hill mill for crushing.

Dec. 9th: Arrangements have been made by which the employes and creditors of the Jim Co. have taken the mill and mine for payment of their claims.

*Transcript*, Dec. 4th: Several sets of gravel diggings have already started washing at Scott's Flat, and one or two more companies will soon be at work. The washings have so far been first rate, and there is a prospect that all the claims in this locality will yield large returns during this season.

*Gazette*, Dec. 4th: Work has been resumed on the Inkerman ledge, on Weimar Hill, near the French lead, by A. Powuing & Co. They are now down 65 ft., and the prospects are flattering.

Dec. 11th: The late rains have caused an extraordinary rise in the South Yuba. Information was received yesterday afternoon at the office of the Canal Co., that three boxes of the flume at the dam had been carried away, and the man in charge writes that the river is higher than it has been since the winter of 1861-62.

**EXCELSIOR.**—The snow is now about a foot in depth, with the prospect of more, and work on many of the claims has ceased. Operations are still carried on in a number of claims, among which are the Enterprise, U. S. Grant, Mohawk and Montreal, Excelsior, and a few others; but the gold production is not sufficient to support the population and many of the residents will leave to spend the winter in a more genial climate, with the intention of returning in the spring. The publication of the Meadow Lake *Sum* has been suspended.

## Plumas County.

*Quincy National*, Nov. 30th: A correspondent from Cherokee, gives the following items:

The Indian Valley Co. have struck it big in their lower level—ledge 18 ft. in width, all pay rock.

Judkins & Kellogg's ledge having been drained looks better than ever before.

The Caledonia mine continues to pay largely. Two mills are kept running on \$12 to \$15 rock.

*Quincy Union*, Nov. 30th: The new mill of Keating & Co., in the North Arm of Indian Valley, is being built more for the purpose of working silver bearing rock than gold. The ledge contains considerable gold bearing quartz also.

A ledge has been struck in the Mohawk ledge, and a well defined vein with excellent quartz found.

*Chico Courier*, Nov. 23d: Mr. Bidwell is in town with nine pounds retorted bullion taken from the Caledonia ledge in Plumas county.

## Sierra County.

*Downsville Messenger*, Dec. 7th: The Sawpit Flat correspondent gives the following items:

The Eagle Co. are breasting out good dirt. The Union is also taking out pay dirt.

The Buckeye claims are paying well. One-sixth interest sold lately for \$3,000.

The American and Union Cos. at Washington Hill, are doing well.

Mr. Hagan has purchased the old Franklin ditch and thoroughly repaired the same.

The Forest City correspondent says: The Adella Co. at Rock Creek, have lately struck rich pay in their main tunnel. Persons who have been into the diggings within a week and prospected them inform me that they obtained from \$1 to \$3 to each pan of dirt.

The Brush Creek quartz mine near the Mountain House, looks as promising as

ever. The deeper they go the better looks the rock and the mine.

## Sierra County.

*Yreka Union*, Nov. 30th: Wm. Smith, of Cottonwood, lately cleaned up, for a little more than a half a days' work, \$2,250. The claim is known as the "Hundred Feet."

## Tulare County.

*Visalia Delta*, Dec. 4th: At Kernville, the Cochran Bros. have built and put in operation a new quartz mill of eight stamps. They have rich rock. The Staples will soon have up another mill on their lodes in the same district.

## Yuba County.

*Marysville Appeal*, Dec. 8th: On many of the Yuba bars work has been resumed. At Long Bar No. 2 the Long Bar Co. have erected, set wheels and made other preparations to continue operations during the present propitious weather. Work has also been resumed to some extent on Slate Range Bar, in the head of the river, where moderately fair remuneration is being obtained. At Castle Bar considerable has been done the past season.

The Brown's Valley correspondent writes: The Rattlesnake Co. are still taking out very rich quartz, and their improvements are rapidly advancing in all directions. They intend to have their 10-stamp mill ready within a week. The prospects of the Dannebrog are very flattering—meanwhile their mill is partly supplied with quartz from the Rattlesnake mine. The Jefferson seems to advance slowly.

The Pennsylvania Co. have run a lot of tailings, formerly considered worthless, through one of Wheeler & Randal's grinding pans, and cleaned up 84 ozs. of amalgam, worth \$5 per oz.

## ARIZONA.

*Miner*, Nov. 23d: Last week, the Vulture Co. struck a pocket, out of which they took a small lot of rock, which contained over \$2,000 worth of gold. Smith & Wickenburg were getting ready to work. They are fixing up Henry Wickenburg's 5-stamp mill, have sent teams and men to the mine, and expect soon to turn out bullion.

## COLORADO.

*Georgetown Miner*, Nov. 21st: The following is a report of the tests made on ore from the W. B. Astor lode, in addition to the \$1,146 68 extracted by Garrott, Martine & Co.:

Six lbs. of ore, tested for A. D. Cooper, gave 24 ozs., silver, 998 fine, value \$32.40.

Six lbs. tested for J. A. Fisher, gave 24 ozs. silver, 998 fine, value \$32.40.

Six lbs. tested for A. T. M. Adams, gave 9 1/2 ozs., 998 fine, value \$12.82 1/2.

Eighteen lbs. gave 57 1/2 ozs., 998 fine, value \$77.62 1/2.

## IDAHO.

*Owyhee Avalanche*, Nov. 30th: Meek has finished his contract on the Poorman. The ledge is widening, and the ore about as rich as ever.

The Lincoln mill has started up on ore from the Ida Elmore and will continue on that ore during the winter. About twenty tons per day are being crushed.

The Iowa mill in Flint district, is constantly at work, and Black's mill will be started in a day or two.

We were this week shown a piece of ore, weighing about 60 pounds, from the Golden Chariot mine. Gold was visible every where on its surface, and a streak, about 1 1/2 in. wide, apparently nearly half gold extended entirely through the mass.

## MONTANA.

*Post*, Nov. 23d: The new 10-stamp mill of the Lost Lake Co., in the New York Gulch, started up one day last week. The mill crushes at the rate of 15 tons of rock per day. It is now crushing ore from the Little Giant lode, and on Saturday last, after a run of two days, the plates looked remarkably well and bid fair to make a good return for the first run.

There is a silver brick in the National Bank, the result of ore from the Poorman and other leads. The ore was crushed in a common arastra, without quicksilver, and yielded at the rate of \$75 per ton.

No mining of consequence is now going on at French Bar.

Turnley's mill cleaned up last week \$1,900 from 75 tons of ore out of the Park lode, Grizzly Gulch. The returns which have recently been made from this lode, represent it as one of the richest lodes in that section.

## NEVADA.

## Esmeralda.

*Union*, Nov. 30th: The ore in the Juniata mine are looking well. The mill is kept constantly running, crushing 22 tons every 24 hours.

The workmen in the Diana mine, at Hot Springs, cut the ledge on the lower level,

and found the ore richer than ever, several days since.

Mining matters at Walker's River and Pine Grove are extraordinarily quiet. At Washington but few people remain.

Mr. Tom Preece has the machinery on the ground for a mill, which will be erected immediately in Washington Dist.

## Humboldt.

*Unionville Register*, Nov. 30th: The Pioneer mill has been undergoing extensive repairs for some time.

The rock taken from the Monroe Series mine is now sent to Holt's mill, Winnemucca. The company intend to erect a steam mill at Dun Glen, with a capacity for crushing 20 tons daily.

*Virginia Enterprise*, Dec. 4th: Several large thoroughbred wagons are being loaded with machinery at the Clipper Gap hay-yard for the Humboldt mines.

## Pahranaagat.

*Reese River Reveille*, Nov. 30th: Day is breaking in Pahranaagat Dist. A better condition of things exists at present than at any previous period.

Companies are working on Peter's Hill and Silver Hill, on both of which there are many claims.

The Indiana ledge is producing chloride ore of a superior quality. The Crescent Co. is working a claim on the List ledge.

## Reese River.

*Reveille*, Nov. 30th: Wells, Fargo & Co. shipped from this city during the month of November 277 bars of bullion, weighing 19,672 pounds, and valued at \$298,762 11.

The Manhattan Co. shipped during the month of Nov. \$105,583.10.

Dec. 2d: During the month of Nov. there were shipped through Wells, Fargo & Co., by the First National Bank, \$89,039.10; and by John A. Paxton & Co., \$47,500.

On Saturday evening five bars of bullion, valued at \$6,399 52, were received in the city from the Knickerhocker mill, near Iona.

Dec. 3d: It is estimated that the ore produced by the Superior ledge, New Pass Dist., will yield from \$15 to \$20 per ton. The ore has been tested repeatedly by both crushing in mortars and mills, and the yield justify the estimate.

Dec. 4th: Keyser & Co., in Morey Dist. are pushing work on their claims with the most encouraging prospects.

The Belmont stage, last evening, brought 4,000 ozs. of bullion produced by the mill of the Old Dominou Co. at Hot Creek.

## Washoe.

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

*Virginia Enterprise*, Dec. 3d: Three or four leads are now being worked in Palmyra Dist. and the prospects obtained in some of them are good. A lot of four tons recently reduced at the Eagle mills, Dayton, yielded \$40 per ton, while another lot of 10 tons went over \$20. Fifty tons are now being worked, and promise to yield a handsome profit.

Dec. 4th: The Occidental mine is paying as handsomely as ever. There was yesterday at the assay office of Van Wyck & Co., three bricks from the mine, weighing 3,320 ozs., valued at \$5,710.45, 995-1,000ths fine, the result of eight days working of a 15-stamp mill.

The Lady Bryan Co. are working ores of their mine in the DeLand mill, and find the croppings to yield from \$29 to \$30 per ton. They have 150,000 tons of the same kind of ore.

Dec. 5th: The Gould & Curry mill shut down yesterday on account of the scarcity of ore.

Dec. 7th: Wells, Fargo & Co. shipped from their offices in this city and Gold Hill, during the past week, 7,115 lbs. of bullion, valued at \$203,643.64.

## UTAH.

*Salt Lake Vedette*, Nov. 30th: It is rumored that rich placer diggings have been recently discovered on Ham's Fork.

*Gold Hill News*, Dec. 3d: At Wells, Fargo & Co's express office, Virginia, can be seen one of the largest and richest pieces of gold bearing quartz ever witnessed in this section. It weighs 50 lbs., and is estimated to contain over \$300 in free gold. It is from Sweetwater Dist., Utah.

## OREGON.

A gentleman, says the Umatilla Press, recently from John Day's river mines, says the Texas Bar diggings are paying better than ever. Two ditches are completed, one from Desolation Creek, and the other from the North Fork. In one run of 10 days, Sneed's Co. took out per man an average of \$6.38 per day. Companies on the opposite side of the river have taken out about the same. The miners expect to work most of the winter.



Communications.

In this Department we invite the frank suggestion of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

Notes of Travel.

[Continued from page 355.]

BENTON.

Benton is 110 miles from Carson City, 45 miles from Aurora, and has an altitude of about 6,500 feet, being nearly 2,000 feet less than that of Aurora, which is said to have the highest altitude of any city on the continent.

The Hot Springs, having a temperature approaching the boiling point, bubble up on the west side of the valley, at the point of its greatest width, and where the promiscuous conglomerate of sand and volcanic debris, filling up an extinct crater, overlies the granite wall flanking it on the west. At several points along this line of conglomerate and primitive rock, warm water oozes out. The springs send forth a volume of about 150 inches (miners' measure) which, after flowing two miles or more, with diminishing temperature, disappears in the sand. The valley proper is two miles in width by four in length. But to the north and south extends a wide sand plain. In the midst of this plain rises a low mountain range to the height of 500 feet, and extends twelve or fourteen miles in length, running parallel with and along the base of the White Mountains. The latter run in a northerly direction, at a point nearly due east, and rise to the height of over 12,000 feet. These mountains are a spur of the Sierra, taking this name without doubt from the white color of the feldspathic rocks of which they are largely composed. On the low range, as also at points along the western and eastern base of the White Mountains, are found very rich mineral veins.

MINES.

Owing to scarcity of water, difficulties of temperature, and in gaining altitude; the White Mountains have not been prospected; indeed have been ascended by only one party (State Geological).

On the low range—easily accessible—are situated the Camanche, Diana, Cornucopia, Rockingham, Kearsarge, Eureka and other mines. From the Cornucopia and Rockingham, considerable quantities of ore have been subjected to a very imperfect reduction, or smelting process, by which only from thirty to fifty per cent. of their silver and gold has been obtained, with the entire loss of their copper and antimony. From all of them except the Eureka, the first quality of their ore yielding, it is believed, when properly worked, from \$500 to \$1,000 per ton, in gold and silver, have been freighted 275 miles overland, to tide water, and shipped to Swansea for reduction, with very meagre returns to the owners of the mines, but sufficient to enable them to continue their operations.

Of the ores of but one mine, the Diana, has a persistent effort been made to work them by the ordinary mill process. The owners, Messrs. Williams and Wickland, in June, '65, erected a 4-stamp mill, (230-pound stamps), with two of Wakoley's pans. They crush second and third quality of ore; that class of ore having less copper, and working better by mill process. They inform me this ore yields \$70 per ton, which is sustained by the fact that they came here empty handed, as part owners of the Diana, and are now sole owners.

The rocks in which this group of mineral-bearing veins occur, are igneous and metamorphic. The line of the vein is nearly due north and south with the line of stratification. On the west is granite, approaching syenite in character, followed by chloritic rock of fine granular texture, olive green, which is succeeded by chloritic chert, greyish white, soft, forming the foot wall lining of the vein. On the east is porphyritic granite—continuous to these rock on both sides of the vein are heavy luses or strata of lamellar, feldspathic rock; some talc and hornblende also occur. But the rocks most abundant in the upheaval are granite and feldspar. The veins dip to the east. The Camanche 70°, its inclination being 30° from a perpendicular; the Kearsarge has a dip of nearly 90°, descending

nearly perpendicularly. Others vary more or less from these.

The ores most abundant are antimonial silver, sulphuret of silver, chlorido of silver; antimonial sulphuret of silver also occurs.

Native silver not infrequently appears in dendritic or arborescent forms, also in more solid auriferous shapes. The ores also abound in green and blue carbonate of copper. Galena and zinc blende occur, the former in some cases in considerable quantities.

As these ores have never been worked with a view of saving the copper and antimony, it is not known what per cent. of those metals they carry, nor has it been only remotely determined what per cent. of silver they carry; as a large per cent. of the chlorido of silver is lost by the assay process.

The mines most extensively developed are the Cornucopia, Camanche, Diana, Rockingham and Kearsarge. These, however, are but partially developed.

There is one uniform peculiarity or feature connected with this group of veins, viz., the difference in the quality of the ore taken across the vein at any given point. There is a line or stratum ranging from six to eighteen inches in width—the width differing more or less in the same mine—that will yield, it is believed, when properly worked, from \$500 to \$1,500 per ton. Next, a quantity of ore adhering to and laying alongside this stratum, that when properly worked will yield \$100 per ton and over. There is a large amount of third quality of ore of the approximate value of which no result has been obtained.

A further description of these mines until for the present be deferred.

THE DOZIER'S METALLURGIC CO.

The most interesting point of observation at Benton, is the works of the Dozier Metallurgic Company. They are nearly completed, and will very soon be put in operation.

Discarding the mechanical mill process for reducing silver ores to an impalpable powder, and then collecting their precious particles by the agency of quicksilver; also discarding the European and Mexican tedious imperfect process by smelting—Dr. Dozier effects easily and at once by the laws or forces of chemical analysis and combination, aided by the agency of heat, a nearly complete separation of the baser metals—antimony, copper and other metals—from the precious metals of gold and silver. As a demonstration will soon be made, when it is expected the works will themselves report as to the success and completeness of the process. Further description of the works, or explanation of the process would seem at present to be uncalled for.

[Written for the Mining and Scientific Press.]

Cement Mining in Sierra County.

EDITORS MINING AND SCIENTIFIC PRESS:—Some eighteen months since a party of six or eight men in San Francisco, jointly purchased a claim at this place, formerly known as the Extension Claim, incorporated a company under the name of THE ADELLA GOLD MINING COMPANY, and forthwith commenced active operations. But before alluding to progress made by the present company, a brief account of its past history may not be amiss.

It was located in early days on the Blue Lead, adjoining on the north the Forest claim, long noted for its richness, and bounded on the east by the Oregon and Live Yankee claims, two of the best gravel mines in the State—the latter, as I am credibly informed, having paid monthly dividends of from ten to twelve thousand dollars to the interest for several years in succession. It was, during that time, owned by twenty-five members, with one hundred feet each.

After the expenditure of large sums in the prosecution of the work on the Adella Company's claim, and owing to inability, pecuniarily, to carry it further, it passed, before the lead was reached, however, into the hands of Messrs. Slidell & Preston, of Marysville, from whom the present company derive title. The new company have expended some \$15,000—much of which has been lost by a species of false economy, (too often witnessed in our mines,) for the want of a competent engineer to manage the machinery. But their perseverance seems now about to be rewarded, as they have finally struck the lead, which, as far as prospected, is similar in every respect to that of the adjoining claims, of which mention has been

made, and fully meets the expectations of the most sanguine of the company. A tunnel has been run across the lead, a distance of two hundred and fifty feet, through an excellent quality of gravel, reaching the east rim or bench, where it prospects even better than in the main channel.

I had the pleasure of seeing a number of pans washed from this portion of the claim, which yielded from one to three dollars to the pan. On inquiring of the miners present if much of the ground was likely to pay in the same ratio, one of them replied, that there was enough already prospected to afford work to fifty men for the next five years, while another asserted that the claim, with all the force the company might choose to employ, could not be worked out in fifty years. The company are only waiting for a few days for some necessary repairs to be made in the machinery, before they begin the work of breasting out with a large number of men. So much for the history, the progress and prospects of this claim, which we trust you will publish for the information and encouragement of mining stockholders, generally. D. O. S.

Rivot's Process.—It is known to many of our readers that ineffectual attempts have been made on this coast, both in Nevada City, in this State, and in Virginia City, to work Rivot's process for extracting gold and silver from sulphurets by the use of superheated steam. We understand that a gentleman who has been carefully instructed in this process by Rivot himself, has lately arrived with the intention of giving the process a new start here. He brings a model of the furnace to be constructed, with plans and specifications, and as we understand, asserts, as also does Mr. Rivot himself, that by this process it is possible to work our ores and tailings *thirty per cent. above their assay value.* Of course this assertion implies that our assayers do not reach the full value of our ores by their laboratory work. The value of this assertion may be estimated when it is stated that all assayers are in the habit of *proving* their work by placing known quantities of metals in non-metalliferous rocks, and proceeding, in the usual way to recover it. New processmen would be much more likely to succeed in securing the confidence of the mining public on this coast, if they would confine their pretensions more closely to facts, and let their *work* precede their *assertions.*

ALABASTER.—Immense beds of pure alabaster have recently been discovered in the vicinity of the great rock salt deposit of St. Domingo. This variety of gypsum is a hydrated sulphate of lime, with two atoms of water. It is largely used as a coating for walls and ceilings. The article recently obtained as above, at St. Domingo, has been pronounced by builders in New York to be of a very superior quality.

COAL MINE EXPLOSION AND LOSS OF LIFE. The Pine Ridge colliery, two miles north of Wilkesbarre, Peuu., has been closed for several days to smother and quench the fire-damp. A recent attempt was made to open it, resulting in an explosion which killed three men, and badly injured two. Several explosions followed, some of which were distinctly felt in Wilkesbarre.

A NEW Polar Continent seems to have been discovered in the middle of the Arctic Ocean. The existence of the land has long been known, but is has never yet been explored. If it possesses verdure, and reindeer, walrus, seals, etc., as the letters published would indicate, it *must be inhabited.* Here is a new field for ambitious explorers to earn a fame not often offered to them. And it will not now remain long before it will be explored.—*Honolulu Com. Advertiser.*

EMPEROR THEODORE, of Abyssinia, against whom the English have recently sent out a hostile expedition, rules over 5,000,000 semi-barbarous individuals. They are Christians of the Greek Church. They differ from our usual nations of pure African, in that they have straight hair, and are quite black, copper-colored, or fair, according to the locality in which they reside.

Order Bussey's Combination Burglar and Powder-Proof Keyless Lock!

REASONS WHY.

- 1st. It is the best Combination Lock known.
- 2d. It is impossible to pick it.
- 3d. It can be subjected to over half a million changes, and when run by a burglar, he is no nearer entrance than when he began.
- 4th. It has no key to lose.
- 5th. The more it is used the better it is liked.
- 6th. It has no signs, letters or figures, on its face.
- 7th. It is the simplest to understand.
- 8th. It is impossible to open it without knowing the set.
- 9th. It is least possible to get out of repair, as any one will be convinced on examination.
- 10th. It is the strongest Lock.
- 11th. No possible derangement of combination can be made.
- 12th. Amador County has adopted this Lock for its safes.
13. It received a special premium at State Fair

Opinions of the Press and others in regard to Bussey's Combination Lock.

The Bank of British Columbia ordered the first one of these locks introduced in this city, and the following recommendation has been received by the inventor:

BANK OF BRITISH COLUMBIA,  
San Francisco, May 24, 1866.

Recently, two of Wm. C. Bussey's new Patent Combination Burglar-Proof Locks were placed upon the vault doors of the Bank of British Columbia. They are found to operate with all the efficiency claimed by the inventor and in every way meet our fullest approval.

They were ordered upon mature deliberation, after strict investigation of their merits, in comparison with some of the most noted and popular old styles of combination locks.

We deem the lock entirely burglar-proof. It is strong in construction, without intricate or delicate parts, with simple and easy movement. We had no difficulty in either opening or closing it, nor in changing its combinations, which may be made almost innumerable.

As a California invention of extraordinary merit, we take pleasure in recommending it to public attention, believing it to possess all the advantages which are claimed for it.

WM. H. TILLINGHAST, Sub-Manager.  
We do hereby certify, that Wm. C. Bussey's Combination Lock is the best Safe Lock in existence, and indisputable to be picked. We have applied several to Vaults and Safes, to entire satisfaction to parties interested.

KITREDGE & LEAVITT,  
Pioneer Iron Works, cor. Fremont and Market sts.

SAN FRANCISCO, May 6, 1867.

I do hereby certify, that Mr. Wm. C. Bussey's Combination Lock is the simplest and strongest in construction, and the least possible to get out of repair; and for Safes and Vaults in every other respect as good as any other improved combination lock which I am acquainted with.

JOHN E. SIBLEY,  
Vault Manufacturer, Oregon street.

JACKSON, April 27, 1867.

I, the undersigned, Sheriff of Amador County, do hereby certify that I am using one of Wm. C. Bussey's Keyless Combination Locks on my safe, which is made to draw four bolts with facility. I believe the lock to be the best lock ever invented, for the following reasons:

1st.—Because it is impossible for either burglar or expert to pick it.

2d.—The lock being constructed without a key-hole, it cannot be blown to pieces by powder.

3d.—There is no possibility of deranging the combination by breaking off, or attempting to drive the knobs into the safe. And it is in fact the nearest approach to perfection yet arrived at in the art of Lock making.

R. COSNER,  
Attested by J. C. SHEPMAN, County Clerk.

JACKSON, April 27, 1867.

The undersigned, Treasurer of Amador County, do hereby certify, that I am now using one of Wm. C. Bussey's Keyless Combination Locks. It is fastened to the outside door of the Treasurer's Safe. I have no fear of any by-stander gaining a knowledge of the set of the combination, when locking or unlocking the same. If I desire to have access to the safe every few minutes, I can so adjust the combination as to open this lock in two seconds of time. I am exceedingly well pleased with the same, and I deem this lock to be all that the inventor claims for it.

OTTO WALTHER,  
Attested by J. O. SHEPMAN, County Clerk.

CALIFORNIA LOCK ANKAD.—A special premium was awarded Mr. W. C. Bussey for his superior Combination Powder and Burglar-Proof Safe Lock, at the recent State Fair. We are sure no award was ever more meritoriously bestowed. This Lock was described at length in the Press several months since. At that time it was adopted by several banking houses in this city, and we are now assured that the remarkable claims asserted in favor of the Lock at that time, have been confirmed since by its practical use. We feel an interest in this California invention, and wish to see it speedily meet with the success it is ultimately certain to attain. Mr. Bussey, having properly first fairly tested his lock in California, is now desirous of introducing it in the East, and offers to dispose of the right for several States at very reasonable rates.—*[Mining and Scientific Press, Sept. 29, 1866.]*

They are the only SAFE lock ever invented. Every State and County treasury vault, and every bank and business place should have one.—*[Amador Ledger.]*

This is a lock in which a series of rotating annular tumblers is employed, and it consists in a novel arrangement of such tumblers in connection with one or more arms connected with one or more bolts, whereby an extremely simple and effective lock is obtained, presenting an almost unlimited number of combinations. For which he was awarded a special premium at the State Fair.—*[Sacramento Union.]*

We, the undersigned, practical Locksmiths, unhesitatingly pronounce Bussey's Improved Combination Burglar Proof Lock to be the most reliable lock constructed.

F. MARK & CHAS. WILSHIRE,  
No. 18 Post street.

REFERENCES:  
R. COSNER, Sheriff.  
O. WALTHER, Treasurer.  
W. JENNINGS,  
C. H. INGALLS, } Supervisors.  
L. MC LAINE, }

Any good blacksmith can put this lock on safe doors. Boxed or single old locks removed and this placed in their stead, to work one, two, three or four bolts, as the case may be.—*[See page 30 in Pacific Coast Directory.]*

A deaf or blind man can open this lock when he knows the set and understands the full manipulation, without any expert detecting the combination.

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## Mining and Scientific Press.

W. B. EWER,..... SENIOR EDITOR.

C. W. M. SMITH. W. B. EWER. A. T. DEWEY.  
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## Canvassing Agents.

Our Friends can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office, Jan. 11, 1866.

Mr. C. T. Rancy is our duly authorized agent for Sacramento County, Nov. 29, 1867.

Dr. L. G. Yates is our duly authorized traveling agent, July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper, July 15, 1867.

Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana, Aug. 17.

## San Francisco:

Saturday Morning, Dec. 14, 1867.

## Notices to Correspondents.

A STOCKHOLDER requests our opinion respecting statements made by the correspondent of a daily evening cotemporary respecting the future prospects of the Comstock lead, and those made by the *Stock Circular*, and also the inferences which may be drawn from the conduct of those having the management of the principal mines of Washoe. To these queries all that we can reply is, that the boldness of the charge made in the two communications alluded to, would, if we felt certain they were made in good faith, incline us to consider them as well founded. There are, however, several matters too obscurely described for us to place implicit faith in that dolores statement. For instance, in the communication alluded to, it is boldly stated that in all the mines on the Comstock lead whereon deep shafts have been made, the entire of the ore has "petered out." This is a vague phrase, and ought to be explained fully; for instance, does the correspondent mean that only barren rock is found at the greatest depths yet reached; such as slate porphyry, simple quartz, greenstone, etc., etc., or merely that the vein has thinned out, either with or without becoming poorer as respects the precious metal, or does he intend it to be understood merely that the rock so procurable is merely so poor as regards the precious metals that it will not pay the expenses of extraction and reduction? We should like to hear from some of our Washoe friends respecting these points.

QUID RIDES, Stockton.—This correspondent seems to think he is able to be quizzical at our expense, by propounding the inquiry: Is there any connection between the English philosopher, Cavendish, alluded to in our last notices, and the invention of "Cavendish tobacco?" Quid may have laughed in his sleeve when he penned his query; he will, perhaps, in future, if a grower or smoker of "the weed," enjoy it with greater gusto by possessing the knowledge that indirectly this well known, in fact we may say world renowned, form of commercial tobacco is derived from the Cavendish family. William Cavendish, the first Earl of Devonshire, was one of the earliest adventurers who settled and planted a colony and plantation in Virginia; he also had a large grant of land in the Bermudas; the latter was until recently, and, perhaps, still is, denominated the Cavendish estate. Tradition adds, that the estates so owned in Virginia had also the same title, and that it was from one or both of these properties that the first Cavendish tobacco was derived. So much for fame. Some square packets of what might easily be taken to be pressed rotten leaves, have spread the name of Cavendish over a wider circle than all the patriotic deeds, literary or philosophic achievements which its most illustrious bearers have been able to accomplish.

AGRICOLA.—The most valuable mineral constituents, in order to form fertile soils, are those containing potash and phosphoric acid; no soil can be fruitful which is not capable of yielding to the roots of plants this indispensable alkali and acid through the medium of the solvent influence of water. Nitrogen may be absorbed by growing plants either from the nitric acid or ammonia existing in a moist atmosphere or deposited by rain, but the two former named substances can only be derived from the soil. The great bulk of all soils merely constitute a nidus for the growing plant.

## The State Geological Survey.

We give to-day a carefully prepared synopsis of the communication read on Monday of last week, before the Academy of Sciences, by the State Geologist, giving a somewhat detailed report of the progress which has been made by the Survey during the past two years, and which, we presume, embodies substantially the report which he has made to the Governor, to be laid before the present Legislature. From a perusal of this document, it will be learned that the Survey is still steadily prosecuting its work, and constantly adding to the already vast accumulation of material, important to the industry of the State, to say nothing of its great scientific interest. "The charts and drawings of the Survey have already been of great practical utility to the authorities and citizens of many counties, who have been allowed access to them in advance of publication whenever public interests demanded. The information and advice given by the officers of the Survey have prevented many unprofitable investments, and would have prevented more, had they been more often heeded. Besides these points, and many others which bring the Survey close home to our material interests, and make it minister to our pecuniary wants, we should consider that in enabling us to increase the common stock of knowledge, and to swell the number of facts upon which inductive science constructs its finest fabrics, the Survey has done the State noble service."

No other survey has been undertaken where so much has been accomplished in so short a time, or at so small a cost. It is a fact notorious to all who are intimately acquainted with the history and personnel of the Survey, that most of the members thereof have retained their positions more out of love of scientific research in a new and rich field, than for the pecuniary consideration derivable from their respective positions. There neither is nor has been, scarcely a member of the Survey, who could not have commanded better pay for his services in other fields of labor or research. We trust that the present Legislature will look with more interest upon this important enterprise than have their predecessors, and make a liberal appropriation for the continuation of a work which has been so well begun.

THE VOLUME OF THE SAN FRANCISCO MUNICIPAL REPORTS for the past year, appears to have been prepared with more than usual care, and is also more voluminous and complete than any previous issue. It forms a book of 530 pages. It contains a carefully written and instructive report from the retiring Superintendent of Public Schools, which covers 100 pages of the volume. In addition to the general statistics of the schools, scholars, receipts, expenditures, etc., it also contains some valuable remarks on the general management of public schools, and a number of excellent suggestions for the improvement of the system. The appendix, compiled by Mr. Bingham, is among the most valuable and interesting portions of the volume, especially to the general reader. It contains information with regard to about forty different matters affecting the city, which can nowhere else be found so concisely stated. It contains reminiscences of early days of the city, information with regard to our military organization, the sea wall, the overland railroad, property in the various wards, valuations of former years, etc., etc.

THE FIFTH of the series of articles on the "Freiberg or Barrel Process for the Reduction of Silver Ores," came to hand too late for insertion this week. These articles have been prepared with great care, and we are pleased to learn that they are being read with much interest by all our readers who take any special interest in the subject treated upon. They will probably be concluded in two more numbers.

## Mining Claims, and Water Rights.

It is a somewhat singular fact that in American legal literature there should have existed no original work on Mining Law, until the appearance of the work bearing the title affixed to this article, and recently issued by Roman & Co., of this city. This work has been written with great care, and with special reference to the Act of Congress of 1866, granting a general license to mine on the public lands, and providing a way in which all who desire to do so, can secure titles in fee to their mining claims. The author, Gregory Yale, a well known lawyer of this city, has evidently devoted much attention to the entire subject of legislation and judicial action with regard to mines, going back into early English and Spanish jurisprudence, and tracing out the customs, regulations, and legislation which has gradually grown up therefrom in our own country.

A large space is devoted to the early customs and regulations of this State, which have more recently received the sanction of both state and national legislation. In the course of this resumé, no less than two hundred and fifty-six cases are noted, more or less at length, which comprise almost every possible question which can come up under the "mining rules and regulations" which govern courts in this State.

The Act of Congress of July, 1866, is taken up section by section, and fully discussed; while full instructions are added for procedure under each section. The mode of perfecting land claims is also given, and the various questions growing out of contested claims are fully presented and discussed.

Several chapters of much interest to the general reader as well as to those engaged in mining, are given in relation to water rights, corporations, the general geology of the State, mining education and a mining college. The subject of water-rights is treated on at great length, all the important decisions given, etc.

In addition to the mining laws of Congress and this State, the statutes of Oregon, Idaho, Colorado, Arizona and Nevada are also given, either in substance or detail. A page is also devoted to the mining regulations of Australia. The work concludes with a very full glossary of mining terms, and terms connected with mining, and forms an octavo volume of 452 pages, which should find its way into the house of every person in the State in any way extensively engaged in mining. It meets a want long felt, and fully supplies the need.

SIR JOHN FRANKLIN.—The last news from Captain Hall, who is now prosecuting the search for the remains of the lost navigator, is to the effect that he had obtained information which makes it probable that the body of Sir John was deposited in a brick vault, built for the purpose by his men, and afterwards covered with large flag-stones. Captain Hall was about starting for the point indicated. As the region is inhabited by hostile Esquimaux, he offered \$500 in gold to each of the first five men belonging to the whaling fleet then in the Arctic, who would volunteer to accompany him. The party was soon made up, and we may expect to learn something definite by next midsummer, in reference to the question for the solution of which so much has already been risked.

THE MESSAGE of the retiring Governor, F. F. Low, is a business-like, straight-forward document, and does him much credit. It makes a very satisfactory exhibit of the condition of the State. There are now over \$1,200,000 in the Treasury, with nearly all the taxes of the present year to come in. The funded debt amounts to \$5,126,500, which the Governor thinks can be easily liquidated in ten years. A reduction in taxation to the amount of ten cents on \$100 is recommended. The message shows the State to be generally prosperous.

NEW QUARTZ MILL.—A 10-stamp mill, with engine and other machinery complete, left the Aetna Iron Works on Saturday morning last, for the Merrimac Mining Company's mine, in Butte county, about fourteen miles southeast from Oroville. The stamps weigh 650 lbs. each, work in two mortars, of the latest and most approved make. These mortars are copper-lined throughout upon their sides, quite to the top. The engine has a 12-inch cylinder with 24 inch stroke, and a balance wheel weighing 1½ tons. The hoiler, which is 16 feet long by 48 inches in diameter, with 46 tubes, was made by Moninan & Aiken, on Mission street. It was made by the best No. 1 CH. (charcoal hammered) American iron. All the castings connected with this mill were very smooth, and every thing about the work was of a superior finish. We noticed, what was to us a novel and very convenient arrangement for holding up the stamps, an iron shaft passed across the back of the battery upon which was affixed iron sockets, corresponding in number to the number of stamps, working with a sleeve upon the shaft, and intended to receive short levers which could be readily made to catch under the tappets and thus easily and securely hold up any one or all of the shafts as might be desired. The main belt, carrying the power from the engine to the machinery of this mill, was made by M. M. Cook & Son, of the best oak-tanned California leather. It is 50 feet long by 10 inches wide, and copper fastened. Every piece of leather which went into the belt was carefully selected for that purpose, to secure its uniform wear and tension. It is claimed that a leather belt, when properly made and of the right material, is superior to rubber. Notwithstanding the false feeling of distrust in California leather for hose, belting, etc., its actual superiority over Eastern make is fast becoming recognized. It will soon be quite as generally appreciated here as it is at the East, where we understand California oak-tanned leather is worth fully three cents more per pound than Eastern leather.

CALIFORNIA MINING MACHINERY FOR NICARAGUA.—The Union Foundry has just completed a 10-stamp quartz mill, with amalgamating machinery (such as is generally used in Grass Valley) complete, which will be shipped on the next Nicaragua steamer for the Javali mine, in the Chontales mining district, near the town of Libertad, and about fifty miles east of the most northerly point of Lake Nicaragua. This mine belongs to an English Company, whose head-quarters are in London; they have given their orders for machinery here for the reason that they think a better character of gold-mining machinery can be furnished from the foundries in this city than would be obtained from English foundries. The Chontales mining district yields both gold and silver ores. It was first made known to the world about two years after the gold discovery in this State. But little, however, has been done until quite recently in opening the mines. There are as yet only two or three mills in operation there, one of which belongs to an American named George King, who has just put up a steam mill, the engine and machinery for the same having been brought out from New York. The Javali Company's mill will be run by water, as they have a good water power convenient to the mine. No deep mining has yet been done; the quartz, which is of a friable nature, being worked directly from the surface. The general average, so far, has been about \$16 to the ton, which, counting the low price of labor there, and the small cost of mining—the veins being very large—is good pay.

There is a fair prospect that a valuable mining district will be eventually opened up there. As yet but little is known of its extent. We are not aware that any placer mines have yet been found. Ready communication might be opened with the mines by a road, not over fifty miles in extent, connecting with the navigable waters of Lake Nicaragua. Should extensive mines be opened there, they will probably be supplied with machinery chiefly from this city. The machinery, about to be sent down from the Union Foundry, will no doubt present such a favorable contrast with that heretofore used as to determine all future purchases from this point.



[Written for the Mining and Scientific Press.]

**On the use of a Concentrated Solution of Salt, saturated by Chlorine Gas, for the extraction of Gold and Silver.**

BY DR. LANSZWEERT.

EDITORS PRESS:—In your issue of December 7th, in number four of the series of articles by Prof. Rowlandson, appears the following: "It has been proposed to obtain gold and silver at the same operation, when employing Augustin's mode, by impregnating the hot solution with chlorine, which it has been asserted would have the effect of dissolving the gold present, also. I have no knowledge how far any practical results have followed from the above suggestion."

In my general review, No. V, of "The Problem of Gold and Silver Extraction," published in the MINING AND SCIENTIFIC PRESS of March 18, 1865, I referred to a modification of the Plattner's or Calverts chlorination process, as applicable to *poor ores*, and especially to those ores containing a natural alloy of gold and silver, such as are rebellions, generally, to any other treatment. I am not aware as to the amount of chlorine gas capable of being held in a *hot solution of salt*; but if I recollect rightly, the author of the process is Mr. Poumares, and it was published to the world in the *Oestr. Zeitschr. für Berg und Hüttenwesen*, 1863, with the following remarks:

"Gold can be extracted through chlorine, as by Plattner's method. The silver in these ores, (according to their nature and previous treatment,) is obtained by leaching the same with ammonia, solutions of chloride of sodium, or of hyposulphites, or even by hot water, according to the methods of Rivero, Gmelin, Augustin, John Percy, Ziervogel, Patena, etc. But applied to ores containing a certain alloy of gold and silver, the above methods are far from being satisfactory; as there generally remains, in the tailings, a large amount of the precious metals. They have tried to extract both metals, alternately, according to the process applicable to each; first, for the silver, they employed Augustin's or Ziervogel's methods; then for the gold, Plattner's, and *vice versa*; but there always remained in the tailings an auro-argentiferous residuum, which required a repetition of the process, or involved the necessity of proceeding to their extraction by concentration in the dry way. The reason for this is easily explained, as each of the above metals, by itself, insoluble in the solvent of the other. In treating an auriferous silver ore by chlorine gas, a portion of the gold is formed into chloride; chloride of silver is formed in the meantime, and being insoluble, protects the balance of the alloy from the subsequent action of the chlorine gas, by covering it with a film of chloride of silver. In dissolving this film of chloride of silver, by solutions of ammonia, salt or hyposulphites, a pure metallic surface of gold is obtained, which also protects the rest of the metallic alloy from the action of these solutions. If the ores are rich enough, they will warrant this alternate treatment; but if too poor, the expenses of extraction would be larger than the value obtained. Heretofore such alloys have been lost in the tailings; but with the use of the above concentrated solution of salt, saturated by chlorine gas, they can be readily extracted; as such a solution dissolves rapidly and entirely an artificial alloy of gold and silver, and, as proven by experiments referred to below made on ores containing a silver alloy of gold, rebellions to any other treatment.

These ores must first be properly roasted, then leached with a concentrated solution of salt saturated with chlorine gas, and satisfactory results will be obtained. An ore treated as above, and containing only 1.24 per cent. of native alloy has left in the tailings no more than 0.019 per cent. Another poor ore containing only 0.19 per cent. of native alloy has left only 0.002 per cent.

In both cases the yield could still have been more, as, in the washing water, gold and silver were distinctly detected. Thus, the use of a *cold concentrated solution of salt saturated with chlorine gas*, would be advantageous in the treatment of poor ores containing an auro-argentiferous alloy, without concentrating the same, and with hardly any loss of the precious metals.

CONTINENTAL Life Insurance Company, 302 Montgomery street, corner of Pine.

**PEDESTRIANISM.**—The newest sensation in this line is the undertaking by Seth Wilbur Payne, to walk from New York to San Francisco in one hundred and fifty days. He started on November 11th. The distance by the route which he proposes to take, viz: along the line of the Central Pacific Railroad,—being just 3,300 miles, he must make an average of twenty-two miles per day. Mr. Payne is doing this on his own account entirely. Walking is no new thing to him. Some years since he perambulated nearly all Europe, and gave to the world a history of what he saw. In the present case, he intends to do the same thing, and he apparently set a time for the completion of the task, simply because it happens just now to be in the fashion. No wager is dependent upon his success, as in the case of Weston, who has just pocketed ten thousand dollars for a walk from Portland, Maine, to Chicago, Illinois. Of course, therefore, there will be no excitement among "the fancy,"—no ovations, no cheers, no goings-out to meet, no pictorial illustrations—with minute descriptions of his every article of dress. Yet which example is best worth following?

**ANOTHER NEW MINING JOURNAL.**—We have received two numbers of a new mining journal, just established in New York, and entitled the *Mining World*. It is published by Bliss & Thompson, at No. 95 Liberty street. This journal is ably edited, and one of the neatest looking papers in the country. If it meets with the success which a journal of such excellent literary and practical merit is entitled to, it cannot fail to bring a most remunerative pecuniary return to its enterprising publishers.

**THE VULTURE MINE.**—Four of Hendy's Concentrators were sent out last week from the Union Foundry, for the Vulture mine, in Arizona, where four others have been for some time at work. We are informed that a large sample lot of concentrated sulphurets from this mine have been recently worked in this city, which yielded at the rate of \$812 to the ton. It was in consequence of this extraordinary yield that the company determined to double the number of concentrators at their mill. We understand that this mine is rapidly developing into one of the most valuable mining properties on the coast.

**NEW MECHANICAL FIRM.**—We notice that Messrs. Baurhyte, McAfee and Spiers have associated themselves as a new firm for carrying on the boiler making and general machine shop business, on Howard street, between Fremont and Beale. We shall probably take occasion for further reference to this firm next week.

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. Lutz, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

**JACOB SNEW, Pioneer Photographer,** 612 Clay street, north side, four doors above Montgomery, (date 315 Montgomery street) takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14f

**SECRETARYSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15f

**CO-OPERATIVE UNION STORE.**—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions twenty per cent. cheaper than ever before, and the very best articles in market. The store is located at 115 Sutter street, Lick House Block. 22v15f

**Save Your Teeth.**—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Montgomery and Sutter streets, over Tucker's Jewelry Store, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pure gold—thus restoring them to their original usefulness and beauty. Call and examine the work. Finest quality of artificial work also manufactured. 16v14f

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**J. A. EATON & CO.,**  
Managers Pacific Branch, 302 Montgomery st.  
2v14f9p SAN FRANCISCO.

**SIXTH INDUSTRIAL EXHIBITION UNDER THE AUSPICES OF THE MECHANICS' INSTITUTE, SAN FRANCISCO.**

The undersigned, acting under authority from the Mechanics' Institute of the City of San Francisco, take great pleasure in announcing to the public that they have resolved upon holding an Industrial Exhibition in the month of August, 1868, on a much larger scale than was ever before attempted on this coast; and they make this early announcement of their intention, that all who may desire to participate shall have ample time for preparation. A programme, embracing rules and regulations for the government of participants, with a list of Premiums to be awarded, etc., is receiving such earnest and careful attention as the importance of the enterprise demands; and in due season the same will be made public by circular letters widely distributed, and by advertisements in the leading journals of this coast.

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**AND CHEMICALS OF ALL KINDS,**  
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Sudden colds, coughs, etc., can be cured immediately, as hundreds can testify, by mixing about one teaspoonful of Perry Davis' Vegetable Pain Killer with four tablespoonfuls of molasses, mixed well together, and taken as your coughing spell comes on; three teaspoonfuls of the mixture will answer for a dose. Also rub a little of the Pain Killer on the hands, and inhale the scent of it into the lungs. After you have taken the medicine, bathe the throat and around the collar-bone, also across the upper part of the breast and down the sides, if they have been made sore by coughing, and you will soon get relief if you do not neglect it too long. The sooner the medicine is applied, the more speedy the relief. In all cases, if you do not get relief in thirty minutes, take it again, and bathe freely according to directions.

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A One-half Interest in the **UNION IRON WORKS, SACRAMENTO,**  
Owned by William R. Williams, is offered for sale on the most favorable terms.

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May be had, as the proprietor is going home to Europe. It is seldom that so good an opportunity is offered for a sure and permanent investment. The business of the establishment is exceedingly flourishing, as can be shown. The Shop is of brick, new and well built. The lot is 35 feet front by 163 feet in depth, in a good location for this business, on Front street, between N and O streets. Inquire at the office of the Foundry, or address  
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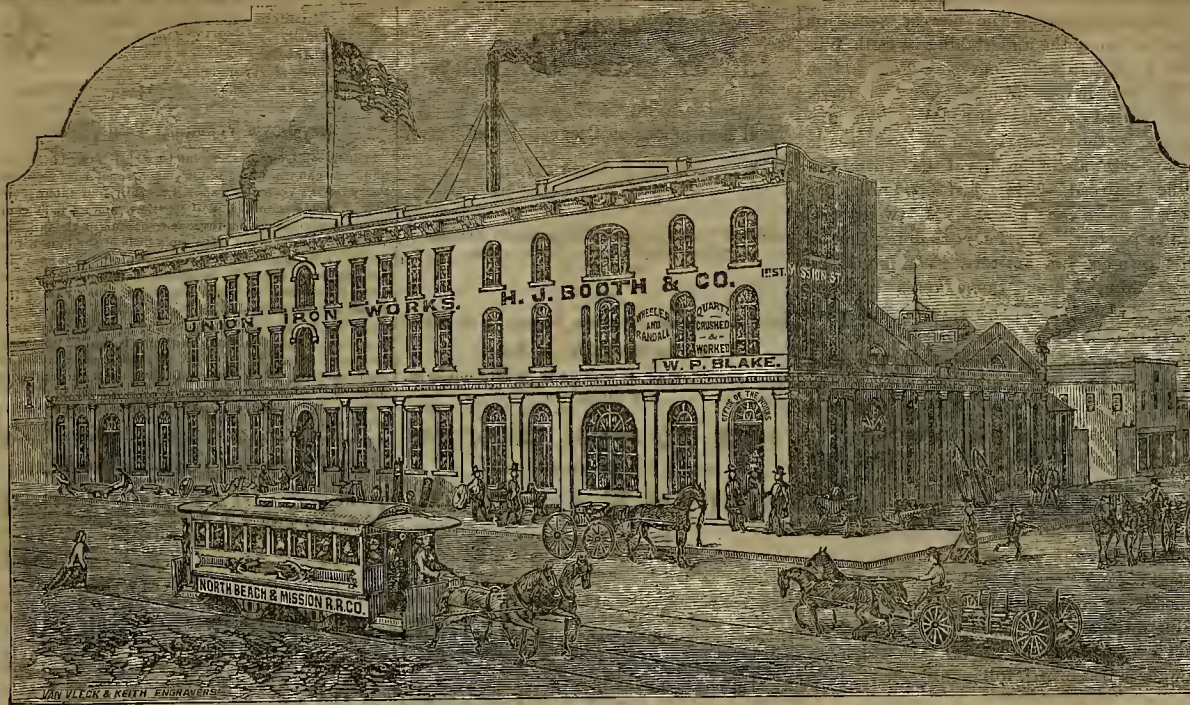
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The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter.

Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in the delivery by way of Hamburg and Bremen:

- Rates of postage on newspapers and other printed matter (periodicals, etc.) sent from the United States to countries in Europe and Asia, by Bremen or Hamburg mail—prepayment compulsory: NEWSPAPERS—MARKED AS FOLLOWS: Bremen, by Bremen mail—2 cents each.

PERIODICALS, ETC. Bremen, by Bremen mail—1 cent per ounce. Hamburg, by Hamburg mail—1 cent per ounce.

These charges are in each case in full to destination, combining rates between the United States and Bremen or Hamburg, and the rate beyond Bremen and Hamburg to points of delivery.

CURIOSITIES OF THE EARTH.—At the city of Modena, in Italy, and about four miles around it, wherever the earth is dug, when the workmen arrive at the depth of 63 feet, they come to a bed of chalk, which they bore with an augur five feet deep. They then withdraw from the pit before the augur is removed, and upon its extraction, the water bursts up through the aperture with great violence, and quickly fills the new-made well, which continues full, and is affected neither by rains nor droughts.

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**AN UNDERGROUND FOREST IN IOWA.**—The McGregor, Iowa News learns that Captain Appleman, who lives on a point of land nearly the highest in Fayette county, east of Clermont, while sinking a well, a few days ago, through heavy clay at the top of a hill, at the depth of twelve or fifteen feet, came upon the top of the forest, the trees, many of them standing upright in the solid earth. The trees were small, about fifteen feet in height, and standing in a position showing that the earth by which they were submerged had been gently and gradually deposited around them, else they could not have maintained an erect position.

**NEW TREATMENT FOR BRONCHITIS.**—A new and interesting method of treating bronchial affections has lately been introduced. By means of an apparatus similar to the so called odorator, a solution of sulphate of zinc or nitrate of silver is reduced to an extremely fine spray, so that it can be inhaled with the breath, and applied directly to the inflamed mucous membrane.

**SAPPHIRES IN MONTANA.**—We have been shown by N. E. Collins, says the Montana Herald, six fine sapphires taken from claim No. 4, on El Dorado Bar, which have just been elegantly cut in New York city. Experienced lapidaries pronounce these stones to be of very fine quality and second only to diamonds in value. They are in color light and dark-blue, straw-color and red.

**WINE PRODUCTION.**—Within a radius of five miles of Folsom over 100,000 gallons of wine will be made during the present season. We arrive at the above figure from a careful calculation of the amounts given us by the owners of the different vineyards and gardens in this place and its vicinity.—*Telegraph.*

**HEAVY BUSINESS.**—A gentleman in Petersburg, Virginia, has succeeded in teaching four chickens to draw a miniature wagon, in which a big white rooster rides. They rattle over a lawn with great speed, while the rooster looks as grave as a bishop.

**IMPROVEMENT IN THE SPONGE BUSINESS.** Since the organization of a company in England for the purpose of preparing sponge to be used for upholstery and all purposes for which curled hair is used, the trade in sponge at the Sandwich Islands is likely to become of some account. A fine quality is found there.

**A CLOUD OF BUTTERFLIES.**—Milan, Missouri, was recently invaded by a cloud of butterflies. The air was filled with the colored beauties above, below, and around. They traveled in a southwesterly direction, and were fully an hour in passing.

The land of the Trinity and St. Paul's churchyard, in New York, is of such a value that every grave is estimated to be worth \$2,000.

A joint stock company has been established in Australia for the purpose of boiling down into tallow 10,000 sheep a week.

Among the great engineering works of the day is a tunnel under the river Mersey, to connect Birkenhead with Liverpool. The cost will be \$5,000,000.

**BLASTING POWDER.**  
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**PORTING, CANNON AND MUSKET POWDER,**  
Of superior quality  
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THE PHILOSOPHY OF MARRIAGE, BEING FOUR IMPORTANT LECTURES ON FUNCTIONS AND DISORDERS OF THE NERVOUS SYSTEM AND REPRODUCTIVE ORGANS, TO BE HAD BY ADDRESSING AND INCLUDING TWENTY-FIVE CENTS, POSTAGE STAMPS, TO SECRETARY PACIFIC MUSEUM OF ANATOMY, MONTGOMERY STREET, SAN FRANCISCO. 25v13-ly

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Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

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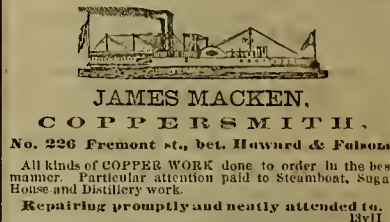


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NATHANIEL GRAY. H. M. GRAY. N. GRAY & CO., UNDERTAKERS, 641 Sacramento St., cor. Webb, San Francisco.

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We are prepared to furnish any of the following blanks used in securing patents for lands under the National Mineral Land Act of 1866: I. Applicants' Declaratory Statement. II. Diagram, Description of Diagram and Boundaries, and Notice.

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Our Patent Agency. The PATENT AGENCY OF THE MINING AND SCIENTIFIC PRESS has been signalized with remarkable success during the past two years. The importance to the inventive genius of this coast of a thorough and reliable agency for the solicitation of LETTERS PATENT from the United States and foreign Governments cannot be over-rated, and the Proprietors of the Press, feeling the responsibility which rests upon them, and the reward which must follow the faithful performance of their trusts, will take care to afford inventors every advantage to be secured to them through a competent and responsible agency upon this coast.

MINING AND SCIENTIFIC PRESS.—This valuable journal has closed its fourteenth volume and entered upon its fifteenth. It is a publication that should have a wide circulation among our mining and mechanical population. It publishes, in addition to the most complete summary of mining news, a vast amount of information on the application of science to mining and the mechanic arts. It contains notices and descriptions of all new mining processes, and all machines intended to facilitate the extraction of the precious metal from ore and rock with which it is blended. It also chronicles all new inventions, and, in most instances, contains drawings to illustrate them. To miners and mechanics it is a paper of incalculable value, and should be in the hands of all who desire to keep themselves posted in the progress being made in these departments.—Irada Union. Postage.—The postage on the MINING AND SCIENTIFIC PRESS to any portion of the United States is twenty cents per annum, or five cents per quarter, payable in advance at the Post Office delivering the paper. Postage free in the city and country. Foreign postage (with few exceptions) two cents per copy, prepaid. To Bremen and the German States (marked via Bremen and Hamburg line), three cents per copy, prepaid. Single copies to any address in the United States, two cents.

Professional Cards.

SHERMAN DAY, Mining Engineer, No. 114 Montgomery Block, San Francisco, Will examine, survey and report upon mines, and consult and advise concerning investments in mining property, or the machinery management and expenditures of mines.

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December 10th—SACRAMENTO, Capt. Wm. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Oray. December 19th—CONSTITUTION, Capt. J. M. Cavarly Connecting with the RISING STAR, Capt. Conner. December 30th—MONTANA, Capt. E. S. Farnsworth Connecting with ARIZONA, Capt. Maury. Cabin passengers berthed through. Baggage checked through—100 pounds allowed each adult. An experienced Surgeon on board. Medicine and attendance free. These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock. Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—if desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England. For Merchandise and Freight for New York and way ports, apply to Messrs. WELLS, FARGO & CO. The Steamship CHINA, Capt. E. W. Smith, will be dispatched January 13th, at noon, from wharf, corner of First and Brannan streets, for YOKOHAMA and HONGKONG, connecting at Yokohama with the steamer COSTA RICA for SINGAPORE. For passage and all other information, apply at the Pacific Mail Steamship Co's office, corner of Sacramento and Leidsdorff streets. OLIVER ELDRIDGE, Agent.

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To Those Whose Interests We Represent.

While there is every reason for gratification at the circulation which this journal has already reached, we are yet well aware that there are great numbers of miners, mechanics and lovers of science to whom it might be made a source of much usefulness and profit.

New subscriptions will be received at all times by mail or otherwise. Those who have friends that they think might be interested or benefited by the paper, will confer a favor both upon them and us by calling their attention to this matter, and at this time by so doing they will place us under still greater obligations to themselves, and enable us by its increased receipts, to add still more to the value of the paper.

We trust that it is needless to urge upon our readers the necessity of promptly renewing their subscriptions. The two indexes for volumes XII and XIII, which we have already published, and the 500 ample pages of reading matter, apart from advertisements, to say nothing of our numerous engravings and illustrations, speak more for the value which we give for the price of a year's subscription than we can say in this connection.

Jan. 1, 1867.

National Mineral Land Law, Instructions, Blanks, Etc.

Copies of the Act of Congress, approved July 26th, 1866, relating to the Location of Mineral Lands, together with the instructions to the "United States Registers and Receivers and Surveyors General," from the Commissioner of the General Land Office Department of the Interior, dated at Washington, Jan. 14th, 1867, can be had at this office.

Postponements and Alterations.—Secretaries requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience.

New Mining Advertisements.

Hanson Copper Mining Company. Location: Low Divide District, Del Norte County, California. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the first day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Beyerlof, John, Deland, A. S., Hanson, John O., Kinsman, Chas W., Kelsey, J. D., Kelley, J. J., Thompson, M. A., Whitney, Geo S.

And in accordance with law, and an order of the Board of Trustees, made on the first day of November, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, at the office of the Secretary, 609 Market street, on Tuesday, the twenty-fourth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary. Office, 609 Market street, San Francisco. dec17

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, Nevada. Notice is hereby given, that the postponed Annual Meeting of the shareholders of the above named Company, will be held at the office of the Company, 425 Montgomery street, San Francisco, the SECOND DAY OF JANUARY, 1868, at 3 o'clock, P. M. for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary. Office 425 Montgomery street, San Francisco.

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada. Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the

eightth day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Borel, F. A., Borel, F. A., Bell, Thomas, Cunningham, Lewis, Cunningham, Lewis, Cunningham, Lewis, Finkner, Bell & Co, Gardner, F. A., Gordon, Jehu, Gussler, James, Gussler, Frank, Gussler, George, Gussler, George, Herbold, Adam, Johnson, A. W., Macpherson, A. W., Mack, David, Vandervoort, J. C., Wentz, August, Wilson, E.

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the thirty-first day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary. Office, 425 Montgomery street, San Francisco. dec14

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at No. 611 Washington street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the tenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, unless payment shall be made before, will be sold on Saturday, the eighth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPH, Secretary. Office, 611 Washington street, San Francisco. dec14

U. S. Grant Mining Company.—Location of Works and Mine: Excelsior District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of December, 1867, an assessment of five dollars per share (\$10 per foot) was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to T. L. Barker, 405 Front street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the thirteenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. L. BARKER, Secretary. Office, 405 Front street, San Francisco. dec14

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the second (2d) day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Wm Ireland, Wm Ireland, L G Brown, L G Brown.

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary. Office, 429 Pacific street, San Francisco. Cal. dec7

Ancient River Channel Blue Gravel Company.

Location of Works: Nevada County, California. Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-second day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at No. 5 Government House, corner Washington and Sansome streets. Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets. no23

Cordillera Gold and Silver Mining Company, Chihuahua, Morelos Mining District, Mexico.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Whithers, J. J., Cooper, Jesse, Harts, Alfred, Brownlee, J., Bolden, P. C., Reiden, F., Hart, J. B., Rollins, J. B., Dickson, J., Harris, Alfred, Hart, J. B., Kelly, P. M., Kelly, P. M., Curtis, J. M., Klug, T. P., Klug, T. P.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Maurice Dore & Co., No. 327 Montgomery street, San Francisco, on Monday, the sixteenth day of December, 1867, at the hour of 1 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

HENRY R. REED, Secretary. Office, 321 Washington street, San Francisco, Cal. no30

Chilpanca Mining Company—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twentieth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN P. LOHSE, Secretary. Office, 318 California street, up-stairs, San Francisco. no30

Hanson Copper Mining Company, Low Divide District, Del Norte County, California.

Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 609 Market street, San Francisco, California, on SATURDAY, the twenty-first day of December, 1867, at 10 o'clock, P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

S. S. SWEET, Secretary. San Francisco, November 16, 1867. no16

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at G. Tanner, Treasurer of the Company, at Silver Mountain, Alpine County. Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. THOMPSON, Secretary. Office, No. 523 Kearny street, San Francisco, Cal. no16

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 509 Market street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the seventeenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. BUFFINGTON, Secretary. Office, No. 5 Government House, corner Washington and Sansome streets, San Francisco, California. no30

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like G W Fellows, G W Fellows, G W Fellows, Gavyn Balston.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the saleroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary. Office, 618 Market street, San Francisco, Cal. no30

Neagle and Corcoran Silver Mining Company, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company. Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary. Office, 408 California street, San Francisco. no30

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Oliver Ames, Cyrus W Lathrop, Jerome W Thompson, Jos C Tyler, Dan Blaisdell, John S Keyes, J Z Goodrich, Thos Dalby, Wendell Phillips, Clark, J. H. Stephenson, M S Scudder, G W Warren, Geo B Neal, W T Reynolds, Geo H Faulkner, John Kurtz, Curtis B Raymond, Jacob Burz, T W Tuttle, Geo H Vincent.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 425 Front street, San Francisco, California, on Saturday, the seventh day of December, 1867, at the hour of 2 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE H. FAULKNER, Secretary. Office, 425 Front street, San Francisco, Cal. no23

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the second day of January, 1868, at the same hour and place. By order of the Board of Trustees. GEO. H. FAULKNER, Secretary. dec7

Nuestra Señora de Guadalupe Silver Mining Company, Location of Works: Tayollita, San Dimas District, Durango, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 2) levied on the twenty-first day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Names, No. Certificate, No. Shares, Amount. Includes names like Cosmos Damm, Val Gassner, Val Gassner, Joseph G Wessel, Fr. Mueller, C. Stenbringer, J J Correll, J J Correll, F Staud, John Greif.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Badger & Chapman, auctioneers, N. W. corner of Kearny and California streets, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 1 1/2 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. J. PEPPER, Secretary. Office, No. 210 Post street, San Francisco, Cal. dec7

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1867, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine. Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary. Office, 212 Clay street, San Francisco. no33

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirtieth day of November, 1867, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 705 Sansome street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

F. S. SPRING, Secretary. Office, No. 705 Sansome street. dec7

San Francisco and Castle Dome Mining Company, Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of November, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 320 Montgomery street, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the seventh day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R. SMITH, Secretary. Office, Room No. 40 Merchants' Exchange, California street, San Francisco. dec7

Siempre Viva Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1867, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 318 California street, San Francisco, Cal. Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary. Office, 318 California street, San Francisco, Cal. dec7

Sent on Mining Company.—Location of Works: Drytown Mining District, Amador County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1867, an assessment of one hundred and fifty dollars per share was levied upon the capital stock of said Company, payable on the twentieth day of December, 1867, in United States gold coin, to the Secretary, at the office of the Company, No. 60 Exchange Building, San Francisco, California. Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eighth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOEL P. LIGHTNER, Secretary. Office, No. 60 Exchange Building, N. W. corner Washington and Montgomery streets, San Francisco, Cal. no23

Whitman Gold and Silver Mining Company, Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 405 Montgomery street, San Francisco. Any stock upon which said assessment shall remain unpaid on the second day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBERT, Secretary. Office, room No. 10, 2d floor, No. 405 Montgomery street, San Francisco, Cal. no2

POSTPONEMENT.—The day for settling stock delinquent on the above assessment is hereby postponed until Wednesday, the first day of January, 1868, and the sale thereof until Wednesday, the twenty-second day of January, 1868. By order of the Board of Trustees. T. W. COLBERT, Secretary. San Francisco, Nov. 27, 1867. no30

OLNEY & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 313 Montgomery street, San Francisco. no10



Machinery.

VARNEY'S PATENT AMALGAMATOR.

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



cheap, durable, strong, and not liable to get out of order Built and on hand at No. 28 Second street, and 103 Jessie street 14151st E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boilers, Castings,

AND ALL KINDS OF MACHINERY,

No. 537 Washington, and 532 Merchant st., San Francisco

HAS FOR SALE

- One Engine, 6-Horse Power, \$100
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One 30-Horse Boiler, 300

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12151st

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco. 2412 3m

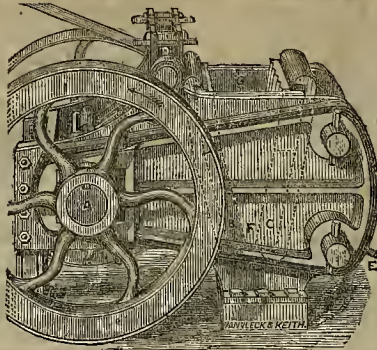
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7415-17 THOMAS PATTINSON.

Brodie's Patented Improvements



FOR THE TREATMENT OF

Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this improved Machine for Breaking or Splitting Quartz, capable of similarly crushing, simplicity of action and lightness of construction, so far as compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low prices: No. 1-10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut-... \$600

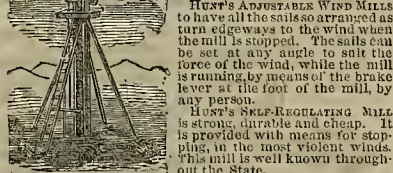
No. 2-15-inch Crusher, capable of similarly crushing through five to six tons per hour... 850
No. 3-18-inch Crusher, will in a similar manner crush from seven to eight tons per hour... 1,200

The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and G the fixed jaw. H represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco. The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine in Tuolumne County: RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866. JAMES BRODIE, Esq., San Francisco-My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly pulverizing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.-This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers. For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of procuring, without having recourse to legal proceedings, for past infringements, or to avoid the same, are invited to apply for the limited period named, are requested to address as below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 25th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.-This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers. A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. JAMES BRODIE, Fulton Foundry, or CHAS. OTTO & CO., 312 Bush Street, San Francisco. Express Building, 402 Montgomery street, 12151st



HUNT'S ADJUSTABLE WIND MILLS to have all the sails arranged as turn edgeways to the wind when the mill is in use. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is provided with means for stopping, in the most violent winds. This mill is well known throughout the State.

Tread Horse-Powers, Swap Horse-Powers, Pumps in great variety, Single and Double Acting, Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 28 Second St., and 103 and 110 Jessie St., San Francisco. 2415q

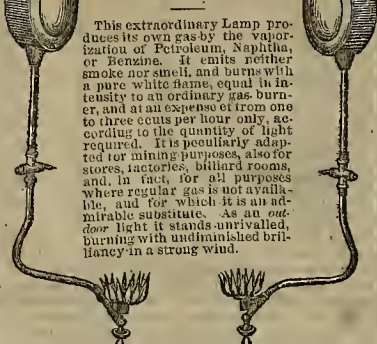
DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Pacer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the dust/fines can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars and further particulars, address DR. J. B. BEERS, San Francisco, 111515 6m Per Wells, Fargo & Co's Express.

NELSON & DOBLE, AGENTS FOR Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Blow, Blister and Toe Calk

Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco, 101413d

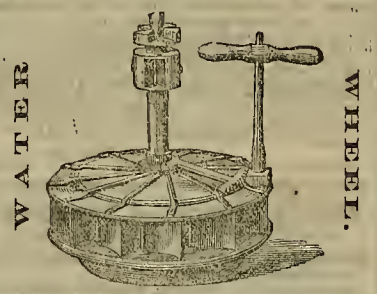
THE CELEBRATED Self Generating Portable Gas Lamp.



This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naphtha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of iron one to three cents per hour, according to the quantity of light required. It is peculiarly adapted for mining purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivaled, burning with undiminished brilliancy in a strong wind.

Directions for Use. Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a pertion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed. A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light-by turning the tap off, it will gradually go out. When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of stout cotton rag, one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe-the ends cut short off the burner again screwed on with a little white lead, and the lamp is ready for use. Manufactured solely by JOHN J. HUCKS, original proprietor. Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State, 1814-34-5

LEFFEL'S American Double Turbine



THESE WHEELS, UNEQUALED AND UNRIVALED IN THE UNITED STATES or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.-E. Stocton, Polson; O. Simmonds, Oakland, (Mill at Clear Lake); Morgan Coville, Lexington, Santa Clara County; J. Y. McMillan, Lexington, Santa Clara County. Send for Circular, to KNAPP & GRANT, Agents for California, 2513-15q 319 Washington street, San Francisco.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated Hartford Engine, With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation. GODDARD & CO., Pacific Iron Works, 9v151st San Francisco, Aug. 29, 1867.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED! MACHINES OF ALL SIZES FOR SALE

WM. P. BLAKE, Corner First and Mission streets, or Box 2,077 3v13f SAN FRANCISCO.

A FULL ASSORTMENT OF Molders' Tools, Constantly on hand and for sale at low prices, by CHAS. OTTO & CO., Successors to Marwedel & Otto, 312 Bush st., a few doors above Montgomery, San Francisco. 22v15 3m

A FULL ASSORTMENT OF MACHINE SCREWS AND TAPS, Constantly on hand and for sale by CHAS OTTO & CO., 312 Bush street. 22v15-3m

A FULL ASSORTMENT OF TWIST DRILLS, At low prices, being sole Agents for the manufacturers, (the Manhattan Firearm Company.)

ALSO- Steam Gauges, a general assortment of Hardware, Cutlery, and MECHANICS' TOOLS, By CHAS. OTTO & CO., 312 Bush street, San Francisco. 22v15-3m

The Sierra Gordo Mines.

EDITORS MINING AND SCIENTIFIC PRESS: I have been in these mines sometime, having come here from Virginia. They are situated in the Inyo Mountains, a continuation of the White Mountain range south. The distance from Virginia is about 300 miles. The journey from there I made by stage to Independence, which is the county seat of Inyo county, and where there is a military post established. The distance by stage to Independence is 260 miles. From there to Loue Pine, eighteen miles, I came by mule team, and from thence to these mines, twenty-two miles, I came on horseback. The road passes through very productive valleys for the distance of 100 miles or more, called Blind Springs Valley, and Owens Valley. The range of White and Inyo mountains are on the east side of the valley, and the Sierra Nevadas are on the west. The distance of the mining camp from the valley, is seven miles, over a mountain trail. There are no wagon roads in the mines, as yet. Owen's Rivor runs through the valley and empties into Owen's Lake. The mines are west of the lake, which is in sight from the camp. The distance from Los Angeles here is about 260 miles, and from there to San Pedro, twenty miles. The traders have their goods brought in by this route, and the price for bringing freight from San Pedro is seven cents per pound. There is another way to reach this point from the west side of the Sierra, through Walker's Pass by way of Visalia, which is about 180 miles from here. There is a trail leading to Visalia, which makes the distance there only about ninety miles, but which cannot be traveled during the winter season, on account of the snow.

The first mine discovered here was by Pablo Flores, and two other Mexicans. They started from Austin two years ago last March, on a prospecting tour, and traveled southwest over the different ranges of mountains, but did not find any mineral until they reached this place. After they had satisfied themselves that there were rich silver and lead mines here, Pablo Flores' two companions started for Virginia for supplies, and he remained alone at the mines. As they did not return at the appointed time, nor for a long time afterwards, Flores left, on account of being out of provisions, to look for them, fearing that they might have been killed by the Indians. He made his way to Virginia, and could learn nothing of them from his countrymen, and they have not since been seen or heard of. The Indians no doubt killed them. Flores told his friends about the discovery of these mines, which induced many of them to come here with him, and last summer there was quite an immigration of other Mexicans. During the summer and early in the fall several Americans came and located mines.

I am connected with the Sierra Gordo Mining Co., which is about to reorganize under the name of the Virginia Co. The company is not incorporated. It owns claims in a great many different ledges. Some of them contain a large amount of silver, a little lead and copper, and some contain a large amount of lead and considerable silver. The mines generally are of that character. The Mexicans have been and are still smelting ores in rude furnaces, and refining in wasos. They are taking out quite a quantity of bullion; but there is difficulty in disposing of it, and it cannot be sold for coin here, for the reason that coin is not here in quantity. There being no assayer here, the exact value cannot be ascertained, and they are compelled to trade it off for merchandise and provisions at about \$1 per ounce. The ledges already discovered are very numerous and there are many more yet to be found. This is the richest section for mineral that I have ever seen. The mines located are mostly in the hands of poor people, who can work them only in a small way. The prices for them are low, being from fifty cents to \$20 per foot. The ores are mostly of the class that require smelting,



and there is plenty of lead for the purpose of flaxing, although some of the ores can be worked by the ordinary mill process.

I am preparing to erect for the company a furnace for smelting and one for refining, and expect to have them ready in about three weeks. I know of no place on the Pacific coast that holds out so great inducements as this for persons of capital and enterprise, and there will probably be a large emigration here next season. The climate seems to be quite mild and agreeable.

Much of the ore could be conveyed to San Francisco and reduced there at profit, but of course it would be more profitable to work it here. I will not pretend to say what the ores will produce, but I know that they will pay largely. There is an opening here for persons who wish to build roads, work in the mines, put up reduction works, build sawmills, sell goods of all kinds and provisions, for mechanics and artisans, and those who want to speculate in mines and town lots. I may in a future communication give you the result of ore that I shall smelt, cost of mining, smelting and refining. The ordinary spelling of the name of these mines, "Cerro Gordo," is incorrect. They should be spelt Sierra Gordo.

JAMES DELAVAN.

Long Pine Dist., Inyo Co., Nov. 12.

FIVE HUNDRED DANES FOR BUTTE COUNTY.—The Butte County Press, of the 23d ult., says: Some months since we announced that the Mandeville and Solomon tract of five thousand acres of the choicest farming land in the State, a little east of town, had been purchased by the Danish Consul of San Francisco, to be parceled out among five hundred Danish emigrants, now on their way to this coast, and now we take pleasure in further announcing that the bargain was consummated and the transfer made on Thursday last. The emigrants, we understand, will be here in time to put in a crop the ensuing spring. The commodious brick building on Main street, now in course of construction, is designed as a store for their accommodation. An addition to our population of five hundred wealth producers at one dash, is no small item. And when the other large tracts, now held by capitalists, are sub-divided into small sized farms, as they will be at no distant day, Chico Township will be the seat of population and wealth unsurpassed by any other locality in the State.

THE Rev. Dr. Peck, formerly of the Howard Street Methodist Church, in this city, is preparing an original work to be entitled "The History of the Great Republic, considered from a Christian standpoint."

A. T. DEWEY. C. W. M. SMITH. W. B. EWER.

THE BEST IN AMERICA.

The Mining and Scientific Press, is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

DEWEY & CO.,

Patent Agents, Publishers, Book and Job Printers, 505 City Street, San Francisco.

THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises SIXTEEN PAGES (64 columns), and furnishes more valuable reading matter than any other weekly journal in California.

To the practical mechanic, metallurgist, prospector, millman, mine holder or worker, it is worth many times its subscription price. Its files contain a record of the improvements in mining machinery, the progress and development of the mines, and all new methods and processes for working and

SAVING PRECIOUS METALS,

All progressive information, in fact, transpiring with the mines—which cannot be obtained from books.

THE MINING AND SCIENTIFIC PRESS is now in its FIFTEENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1886:

Resolved, That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the MINING AND SCIENTIFIC PRESS, of San Francisco, to the consideration and support of the miners of the Pacific coast.

Terms of Subscription.—One year, \$5; six months, \$3—in advance. Send for sample copies. Remittances may be made by mail at our risk, if parties sending will register their letters, or send money order.

As an ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the PRESS is unsurpassed. Rates moderate.

SPECIMEN NUMBERS of the Press and Patent Circulars, sent free.

DEWEY & CO., San Francisco.

Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out. Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, where purchasing agents are employed, to send their orders to the undersigned.

M. BUFFINGTON,

IV15-1f No. 5 Government House, San Francisco.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA.

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN.

Price, \$5.—For sale at the office of the Mining and Scientific Press, San Francisco. 13v15tr

SULPHURETS;

What they are; How Assayed; How Concentrated; And How Worked; With a Chapter on the BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D.

Published by A. Roman & Co., San Francisco.

For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 2v15tr

FARMERS' AND MECHANICS' BANK OF SAVINGS.

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Economy in Advertising.—The Mining and Scientific Press is the best and most economical mining advertising medium in this city. Our terms are less than ONE HALF the rates now charged by daily newspapers, and the mining community are beginning to appreciate our reasonable rates of advertising. The Press contains, proportionally, a larger amount of mining advertising than any other paper on the Pacific coast. Its character renders it the proper journal for the concentration of mining patronage.

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NOTE.—We would specially call the attention of MILL owners and Engineers to our superior PARAFFINE OIL, which we manufacture from the California Petroleum. This oil will not gum. Machinery thoroughly cleaned and lubricated with it will not heat, and after remaining at rest, can be started without cleaning out. A sample can of our Paraffine Oil will be forwarded on application to us, as we desire a fair and impartial trial.

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TO SPORTSMEN.



THE UNDERSIGNED, HAVING BEEN APPOINTED Sole Agent for the Pacific Coast for the sale of ROBB'S BREECH-LOADING SHOT GUN, which discharges four shots in two seconds, circulars will be furnished by applying to or addressing HENRY ETEL, 111 Second street, Or Lock Box 1172 P. O., San Francisco. 18v15-2m6m

Administrator's Sale.

NOTICE IS HEREBY GIVEN, THAT IN PURSUANCE of the order of the Probate Court of the City and County of San Francisco, in the State of California, made on the twenty-first day of November, A. D. 1887, in the matter of the estate of HENRY GANALL, deceased, the undersigned, Administrator of said estate, who sell at public auction to the highest bidder, for cash in hand, in one parcel, and subject to confirmation by said Probate Court, on MONDAY, the sixteenth day of December, A. D. 1887, at twelve o'clock M., at the auction rooms of Maurice Doro & Co., No. 827 Montgomery street, in said City and County, all the right, title, interest and estate of the said intestate, at the time of his death, and all the right, title and interest that the said estate has, by operation of law or otherwise, acquired there or in addition to that of the said intestate, at the time of his death, in and to all that lot, piece or parcel of land, situate, lying and being in the said City and County, and bounded and described as follows, viz: Commencing on the southerly line of Bush street, distant 137 feet 6 inches west-streets thence running westerly on said southerly line of Bush street 137 feet 6 inches; thence at right angles southerly 137 feet 6 inches; thence at right angles easterly 137 feet 6 inches; thence at right angles northerly 137 feet 6 inches, to the southerly line of Bush street, the point of commencement, being 53-vara Lot No. 1, 1857. LINDSEY D. SMITH, Administrator of the estate of Henry Ganall, deceased. 2v15-1w Dated, November 21, 1887.

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

Machinery. NOTICE TO MERCHANTS AND MANUFACTURERS.

Moore's Patent Friction Hoist.

Now in successful operation in the principal stores in San Francisco, possesses many advantages over the common hoist—viz, greater strength; less danger in working, as goods require no slinging or lashing, consequently make fewer breakages; requires one man less to operate it; stops with the load at any point, without any starting or attention from the operator.

The undersigned take this opportunity to notify all whom it may concern that they have secured, by letters patent, the application of a friction hoist, or stop, to hoisting machines, and that they will prosecute any party making or using any machine infringing upon the same.

VULCAN IRON WORKS CO., By JOHN MOORE, President. JOSEPH MOORE.

BLAKE'S PATENT QUARTZ CRUSHER.

CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procure, at some time since, a reissue of the Patent, bearing date January 9th, 1886.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Upright Convergent Jaws, actuated by a Revolving Shaft.

All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz or other materials are crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and they will be held responsible in law and in damages. Several infringing machines are made and offered for sale in this city, upon which Patents have been obtained. Manufacturers, purchasers and users, are notified that such Patents do not authorize the use of the original invention, and that such machines cannot be used without incurring liability for damages. BLAKE & TYLER, Agents for the Pacific Coast. 14v14tr

Notice to Miners, Well-Borers and Water Companies.

M. PRAO IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for this branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved patterns, for vessels of all classes. Also, Slip Plumbing done. M. PRAO, 8v13-1y Stove Store, No. 125 Clay street, below O'Connell.

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**TOBACCO.**—The American people are wedded to no habit more firmly than that of using tobacco in its various forms, and as a consequence, we find that frequently a poor man will spend his last quarter for a bit of the precious weed when he does not know from whence his next meal will come. The habit is one that grows upon the consumer, and the longer he uses the "weed" the harder it is to break off the habit. Webster says that the practice of using it in any form soon conquers distaste, and forms a relish for it that is strong and almost unconquerable. That its use is injurious to health, there is no doubt, besides its accompaniments are filthy in the extreme. The good it does can never overbalance the bad, although some consider it the sweetener of each day's toil. No remedy has been discovered for its use, other than the will and resolution of the person using it, until Messrs. Traver Bros., of this city introduced their antidote for the evil, which is said to completely eradicate all taste for it. We would recommend its trial by all who use the "weed."

**NEW INCORPORATIONS.**—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

**SAN BRUNO HOMESTEAD ASSOCIATION.**—San Francisco, Dec. 10th. Capital stock, \$80,000; 200 shares, \$400 each. Trustees: J. W. Reay, William Douglas, R. W. Coffin, A. Bryan and James Johnston.

**ELECTION OF OFFICERS.**—CALIFORNIA TRUST CO.—San Francisco, Dec. 7th. President, Henry L. Davis; Cashier, DeWitt C. Thompson; Auditor, Thomas B. Ludlum.

**LUMBERERS' AND STEVEDORES' ASSOCIATION.** San Francisco, Dec. 3d. President, John Casey; Vice President, John Odyke; Recording Secretary, Stephen White; Financial Secretary, Edward T. Ackland; Treasurer, Charles Kirstein; Board of Trustees: Michael Ford, Duncan McDonald, Richard Welch, Daniel Logan, Patrick McFadden and Edward Sadler; Sergeant-at-Arms, John Russell.

**COLE S. M. Co.**—San Francisco, Dec. 11th. Trustees: R. S. Eells, Thos. S. Eells, Geo. D. White, Josiah Stanford, Jno. S. Eells, A. P. Stanford and J. H. Stoutenborough; Secretary, John W. Allyn. Office, No. 404 Montgomery street.

**INDIA RUBBER PAINT.**—We would call attention to the fine double house on Capp street, near Center, residence of C. V. Stuart, Esq., as a fair sample of painting with Ellery's patent india rubber paint. The paint is undoubtedly a good article, and the materials, india rubber gums, pure linseed oil, and coloring materials, all of the best. Call and see their works, corner of Battery and Jackson streets.

**BUSSEY'S LOCK.**—Attention is called to the advertisement of W. C. Bussey's Keyless Combination Lock, in another column.

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Hereby challenge Mr. THOMAS HANSBROW in the above amount, to a Mechanical Trial between his "Challenge Pump" and the "Excelsior Pump," the trial to take place in San Francisco, before a

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**The "Excelsior Pump"**

Was not entered for the GOLD MEDAL, at the recent State Fair, as it was verbally agreed, by Mr. Hansbrow and Mr. Hooker, that they would not enter their Pumps for the Medal, as no means were provided for testing machinery, and believing that

**Policy, not Merit of Machines,**

Was to govern the award of prizes. The inference is clear—hence the above Challenge.

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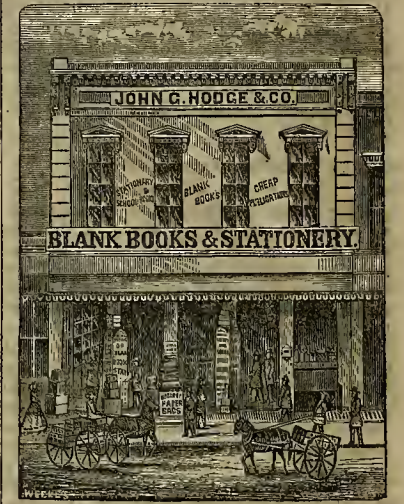
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SAN FRANCISCO, SATURDAY, DECEMBER 21, 1867.

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Number 25.

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## A New Pump or Water Lifter.

Many of our readers will, no doubt, readily call to mind, in the accompanying illustration, the new pump or water lifter which attracted much attention at the State Fairs at Sacramento, held in 1866 and 1867. Very few of the visitors at those exhibitions, we presume, were able to form any intelligent idea of the mechanism of these pumps, known as "Wilcox's Patent Water Lifters," unless they previously had some practical acquaintance with the invention. We have several times had occasion to refer to this novel and useful invention, and in our notice of its exhibition at the last State Fair

Fig. 2 shows the internal arrangement of parts; *P* is a float fitting loosely into the receiver, and acts as a floating partition between the steam space above and the water space below it, and rises and falls as water is alternately received and discharged. *R* is a rod passing loosely through the float, and is attached to the steam valve *O*. The valves of the supply and discharge pipes are seen at *m* and *n*. The mode of operation is as follows: Supposing the pump to be filled with water—the valve *n* being closed—steam is admitted through *i* and the pressure forces water out through *b*. The float *P* is lowered by the pressure of steam and discharge of water until it strikes the button on the lower end of the rod *R*, and brings the valve *O* down, cutting off the steam entrance *i* and opening the passage *H H*. Steam is then passed from the receiver through *H H* into

quires no engine, no piston, no plunger nor gearing of any description, consequently it is without the friction incident to those attachments; its economy in steam, using both the expansive and exhaust power; in other words, it uses the same steam twice instead of once, and receives it direct from the boiler by a pipe; it will work sandy or muddy water without the slightest injury to any of its parts; it is light and easily placed in working position, and requires but little space.

It may be made of any size and capacity required, and its working height is limited only by the strength of the boiler used. For mining purposes, it is adaptable to shafts and tunnels, whether perpendicular, horizontal, or at any angle. For basins to be prospected, or where tunnels have been run too high to drain them, this pump can be used to great advantage, from its indestructibility by grit, and the large quantity of water it will raise.

It is claimed by the proprietors that these pumps will raise more water, with the same amount of steam, than any other in use. We are not aware, however, that any carefully conducted experiments have been undertaken to verify this assumption; although there is certainly an apparent great economy of steam in the invention. By a cut-off attachment, which might be readily affixed, the economy might be made still greater. The steam is used direct, with a mere moiety of the friction due to an engine, and the action of the pump, as witnessed at the last State Fair, was all that could be desired for such work. The pump is extremely simple, and so easily understood that a child can manage it. We have been shown certificates of the highest character of their use in this State, both for mines and for irrigating purposes, where they have been subjected to continuous work, with the most gratifying success. They have been employed in California to raise from 1,000 to 3,000 gallons per hour, and can, with equal facility, be constructed to raise 15,000 gallons in the same time. They can be made double-acting if desired.

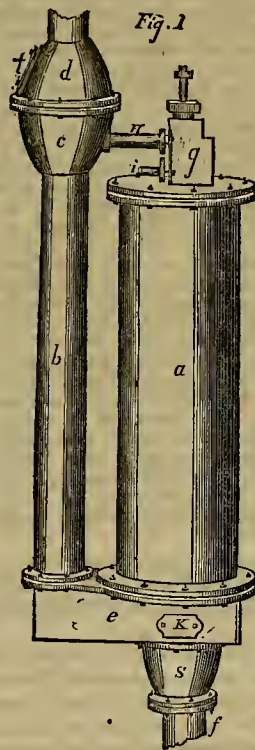
By a slight modification in the arrangement of the valves, making the supply and exhaust pipes horizontal in position, instead of vertical, this pump might be most advantageously applied to the propulsion of boats on the hydraulic principle, as applied to the English steamer Water Witch, and as by a modification of that principle proposed by a San Francisco inventor. The inventor has placed in our hands a drawing of such modification, which is subject to the inspection of any who may be interested in such a device. For further information see the advertisement of M. & A. Wilcox, which will appear in our next issue.

NEW EXPRESS COMPANY.—The "Pacific Union Express Company" has filed its certificate of incorporation. It has been formed for the purpose of carrying on a general express business in the United States and territories and foreign countries. Its principal office will be in this city. The proposed capital is \$3,000,000.

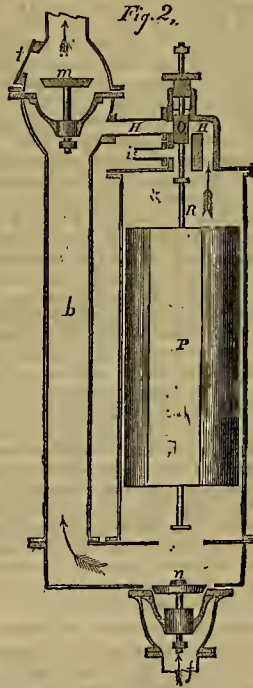
WOOD PRESERVING COMPANY.—A company has been formed with a capital stock of \$320,000, to engage in the preserving of wood after the patent of Mr. Samuels, which has already been described in this paper.

THE STATE GEOLOGICAL SURVEY.—We regret to observe that one of the newly elected members of the Legislature, Mr. Pendegast, has given notice of a bill for the discontinuance of the State Geological Survey. Of course the bill will find but few supporters among such an intelligent body of men as compose the present Legislature of California. To abandon the Survey at the present time, would be the infliction of a grievous wrong upon the State and the cause of Science throughout the world. An immense amount of valuable statistics, and other information with regard to the mineral resources, geology and topography of the State has been collected, at great cost, which would be virtually abandoned and lost by the passing of such a bill. There may be need for retrenchment; but this would surely be the most expensive way of saving the people's money. Mr. Pendegast represents Lake, Napa and Mendocino—agricultural counties. Surely the people of those counties cannot approve of such a course on the part of their representative. We hope to see, on the other hand, a liberal appropriation, such an one as will enable the Survey not only to finish, as speedily as possible the publication of data already collected; but also to go forward with increasing zeal, in the important work of gathering still more for future publication.

METALLURGICAL WORKS.—It will be seen by reference to our advertising columns, that Mr. Chas. Balbach & Brother, for many years connected with the Metallurgical Works of Newark, N. J., have opened a branch establishment at 315 Howard street, in this city, for assaying and working all kinds of ores, more particularly of gold and silver and their sulphurets. They are also agents of Edward Balbach's patented process for separating gold and silver from lead, which is represented as having been in successful operation for nearly three years at their works in Newark, N. J. It is claimed that by this method the expensive and tedious process of "cupelling" is avoided—better results, even, being reached with a great saving of time, labor, fuel and metal. From one to four per cent. of zinc—according to the richness of the lead—is used, which is subsequently returned to the metallic state in a few hours, to be used again in a similar way. We hope to see this new process tried soon, on some of our rich argentiferous lead ores.



WILCOX'S PATENT PUMP AND WATER LIFTER.



promised an illustrated description of the same. We are now enabled to redeem that promise in such a manner that we presume all our mechanical readers will be able to gather a perfectly intelligent and correct idea of this novel steam pump, which works without engine, piston, plunger, or hockets. As will be seen, it uses steam direct from the boiler, as does also the steam syphon pump, but with a much greater amount of economy. The former, however, is designed to be used chiefly in cases of emergency, and is not constructed with a view to economy, which last consideration is one of the chief claims of the Wilcox lifter.

Its construction and operation will be understood by reference to the accompanying engraving. In Fig. 1 *a* represents the receiver or cylinder in which the steam is applied, *f* the supply or suction pipe, *b* the discharge, *c* the condensing chamber, *d* and *s* valve chambers, *t* and *K* capped openings for access to valves, *g* the case or hocket containing the steam valve. Steam enters at *i* and exhausts through *H*.

*c* and instantly condensed. The vacuum thus formed constitutes a suction or draft by which the receiver is again filled from below. As the receiver fills, the float rises, and striking the upper button on the rod *R*, raises *O*, cuts off passage *H H*, lets steam in again from *i*, and thus continually repeats. The float being used to fill an intervening space between steam above and cold water below is made of such length as not to allow the steam to come in contact with the same parts as does the cold water of the supply, but preserves as neutral space one-third or more of the length of the receiver. The water surrounding the upper end of the float being once heated does not pass off into the discharge, but retains its position, rising and falling with the float, which, acting as a valve to the passage beneath, cuts off the discharge of water at the same instant that its own motion is stopped, thus retaining the water surrounding its sides. No cold water is allowed to enter the upper part of the receiver.

Its merits, which are considered as especially worthy of consideration, are enumerated as follows by its inventor: It is exceedingly cheap and simple in its construction, and not liable to get out of order; it re-



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all proper subjects—correspondents alone being responsible for the ideas and theories they advance.

(Written for the Mining and Scientific Press.)

### The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER FIVE.

#### LOSS OF BULLION INCURRED BY DIFFERENT PROCESSES.

In the first place will be taken into consideration the losses incurred by the older processes of amalgamation, and compare the same with the recently introduced pan method, afterwards attempt an approximate estimate of those which take place with the recently introduced humid modes.

The Real del Monte Co., Mexico, have for several years been in the habit of keeping a very correct account, not only of the cost attendant on the reduction of particular ores by various methods, but classifying the different charges, which are again subdivided to such a degree that in the tabulated results are to be found inserted single items so low as four and five cents per 3,000 lbs. of ore. Unfortunately, however, these accounts, when they come to describe the losses of bullion, owing to imperfect extraction or otherwise, are not efficiently definite to remove all grounds for dispute. I name this fact because what will hereafter be stated may possibly be based on a serious fallacy.

The accounts alluded to give the respective amounts of silver left unextracted by the several methods which I am about to describe, as follows: Smelting, six per cent.; patio amalgamation, 15 per cent.; the average of three Haciendas by the Freiberg barrel, 18 per cent. By the Washoe pan process, admitted to be 35 per cent!! The uncertainty attached to the preceding account of the percentage of bullion unextracted from the ores of Real del Monte, arises from the non-statement whether such estimate is based on the assay of the raw ore, or only applies to the residuary matters after treatment. For reasons which will be briefly given, I have assumed the former opinion to be the true one. In the first place, the loss amounting to six per cent. of the silver, when treated by smelting, is a very heavy one, and clearly displays the rude manner in which this mode is executed at those mines. Secondly, the loss described as attending the barrel mode is very much heavier than that which occurs in Germany, including the loss of silver sublimed during the preparatory furnace work, unless both the sources of waste alluded to were included in the estimate, otherwise the loss sustained by the harrel process of Rio del Monte would exceed thirty per cent. instead of eighteen. Such a very great loss as that last supposed would be the more surprising, as, in place of scrap iron as used at Freiberg, at Real del Monte small copper balls are employed for the purpose of effecting the dechlorization of the chloride of silver, the superiority of which metal over that of iron for this purpose is well known; therefore, I do not think I can be very far wrong in attributing the total loss at only eighteen per cent., as that would only exceed by three per cent. the loss sustained at Freiberg when the same process is employed.

I was always inclined to the opinion that the loss sustained by the patio process was in a large measure attributable to the losses sustained by the drainage or seepage of mercury and amalgam through the floor of the "torta," and to a considerable extent I suspect such a loss must occur for some time after operating on a newly formed floor. Recently, however, a gentleman informed me that when an attempt was made to introduce the patio mode at Washoe, the heap or torta was formed in a large wooden vessel perfectly impervious at the joints or

through the pores of the wood, and that consequently no loss could occur through seepage; that the losses sustained occurred in consequence, as my informant described it, to the impossibility of agglomerating the "floured mercury."

Respecting the attributed source of the evil I am disposed to concur, but I suspect it was caused by phenomena of a different character to that to which my informant attributed it, viz: the extreme divisibility of the mercury or amalgam. This extreme divisibility, as is well known, is obviated to a great extent by prolonged motion of the pulp after being sufficiently attenuated to promote the desired aggregation. Why this remedy was found so very ineffective in the case under notice, arose most probably from the fact that a large part of the so-called floured mercury existed not in the metallic form, but as a dichloride (calomel) not simply uncombined, but probably as a double or even poly-chloride or dichloride in which either iron, copper or silver, either as a chloride or dichloride may singly or in conjunction combine with the mercury in this state, so as to form that extraordinarily impalpable combination, the floating away of which occasions so much loss, not only of mercury but of bullion, also. This theory has never previously been published, and only occurred to the writer in consequence of the conversation above alluded to; its correctness, however, is in a great measure corroborated by what occasionally occurs in patio amalgamation, in which it is found that when on examining the "torta" that the mercury is in an extremely divided state, and of a dark color, with occasional brown spots, it is said to be too hot, and if the operation was allowed to proceed, a very large loss of mercury would occur along with a more than ordinary incomplete extraction of the silver; the remedy for the cure of the malady is lime. Lime so applied, however, will not heal the injury which had previously taken place, the benefit would merely result afterwards. For a similar purpose lime has been used with like good effect in pan amalgamation. These last named remarks are worthy of being noted as they are not only suggestive of probable sources of loss in amalgamating processes, but may also tend to lead to the introduction of preventatives, palliatives or cures which it would not be difficult to arrive at by *a priori* reasoning if the theory above set forth is based upon fact.

This lengthened notice of the patio process is not written for the purpose of inducing the reader to infer that such a course of proceeding is what the writer would recommend as being the most economical; however, as many of the phenomena relating thereto are more or less associated with every variety of amalgamation, I have thought fit to dwell upon and explain several points under this head. If otherwise desirable, the patio method could only advantageously be followed at Washoe for three months of the year, during which limited period the process would be greatly retarded by the coolness of the nights, during no inconsiderable portion, even, of that brief term. One of the most important practical facts connected with the discussion of this part of the subject, is the circumstance that the Washoe pan method of amalgamation occasions a loss of bullion equal to one hundred and thirty-three per cent! beyond what takes place by the old, or what is commonly called the rude patio method.

#### MISCELLANEOUS OBSERVATIONS.

It would have been well if a concise statement could be made of the relative cost of each mode of reducing the ores of the precious metals, as well as the details respecting the losses of bullion inseparable after each method. On reviewing the whole subject, however, what with the fact that the chemical modes, which have never yet been attempted on any scale on this coast, and the cost of fuel, labor, etc., varying so much from what occurs in Europe, it is impossible to draw anything like a correct comparison. I have found it impossible to draw an estimate other than an approximate one. For similar reasons I have refrained from reviewing in detail, as I originally intended, the losses connected with the various modes of extracting the precious metals by the humid methods, on which points the reader is referred to what has been stated in former portions of this series. As far as I can ascertain, the average losses on Augustin and Ziervogel, do not vary much, the advantage being rather in favor of the latter, when very pure mats are treated, but in favor of the former when arsenic or antimony, or both, are present, according to which conditions the losses on account of non-extraction vary from two to eight per cent. of the bullion in the ore. As, however, metals become, in the course of this preparation, considerably purified from many matters that otherwise would be

noxious, a comparison made between sulphureted mats and ordinary ores, would by no means be a fair one, even though the latter should, by concentration or otherwise, be brought up to an equal standard of production. After summing up in my next paper my reasons for recommending the harrel process, or something of an analogous character, as being best adapted to all the circumstances and conditions at present attached to gold and silver extraction on this coast, I shall attempt, briefly, to explain in what cases, probably, the more modern or humid methods might either wholly or in part be employed.

As an instance of the difficulty attendant on arriving at a proper estimate of the various modern methods just alluded to, reference may be made to the instance of Patera, recently cited by Mr. Kustel in the current volume of THE MINING AND SCIENTIFIC PRESS, page 323, wherein it is stated that on an experiment on five tons of ore, a clear profit was obtained of seventy-five florins, by the hot brine and chlorine method, as compared with that of amalgamation. This would be a saving at the rate of fifteen florins per ton.

Presuming silver, not currency florins, are meant, the difference between the two methods would amount to seven dollars and one half per ton. This great discrepancy could not be, on account of the charges incident to each being so greatly more in the one case than the other, because up to the time for employing either brine or mercury the cost would be identical, and the subsequent charges on either must fall very much below the sum named. Consequently it is a fair inference that the difference of profit claimed by Patera must be wholly due to the more perfect extraction of the precious metals. Mr. K. relates that Patera has stated that all the copper (does not say what percentage,) was obtained, 98.94 per cent. of silver, (present in the ore, it is presumed,) and nearly all [the] gold.\* Such a great discrepancy can only be accounted for by the fact that the comparison so made was with an ore very unfitted for ordinary amalgamation, and probably was originally composed along with the ordinary gangue, of sulphides of copper, iron, antimony and lead (galena,) with possibly more or less of the sulphide of zinc (blende,) and arsenic combined with iron, a species of ore which, it is well known, is peculiarly unfitted for amalgamation with mercury. In the one case nearly all the bullion must have been obtained from the roasted ore, in the other fifteen per cent., at least, must have been lost, the latter being more than double the amount lost, even by badly executed barrel amalgamation. The last fact, alone, affords tolerably good testimony that the ore may either have been unfavorable for amalgamation, or like the Mansfield mats, the treatment of which, by Ziervogel's method, has previously been described at considerable length, the greater part, or even more than the whole of the saving may possibly be comprised in the article copper, especially as all that metal present in the wasted ore is stated to have been obtained by the hot brine method.

In the forthcoming work of Mr. Kustel, that gentleman will, it is hoped, fill the brief omissions here alluded to. It would also be an acceptable piece of information if Mr. K. could, at the same time, furnish more specific details respecting Patera's and Roesner's trials with hot brine and chlorine.

**A NEW MINING REGION.**—A Milwaukee newspaper speaks of important discoveries on the northern shore of Lake Superior. The Indians and trappers of this region have often brought pieces of silver ore into the settlements. This has given rise to a general belief that when the shore should be thoroughly explored, deposits of this precious metal would be found. This isolation and ruggedness of the region, however, have discouraged private enterprise, and the peculiar land policy of the British Government has prevented the formation of mining companies. Veins of ore have been profitably worked at the mouth of Pigeon River and on Prince's Bay, but elsewhere little or nothing has been done until within a year past. It is about a year since a Mr. McKeller, of Ontonagon, discovered indications of a silver deposit at the head of Thunder Bay. This summer other persons have prosecuted the search, with very favorable results. Two veins have been found carrying paying quantities of native silver, and several others bearing "silver lead." One of the veins with native silver also carries a notable quantity of argentiferous sulphuret.

It is said that there are three extinct volcanic craters near Red Mountain City, in Montana, which are so deep that the light is entirely excluded from their depths, and that when a stone is thrown into them, no sound can be heard of it reaching the bottom.

### 'Formation and Distribution of the Igneous Rocks.'

MESSRS. EDITORS:—I have noticed with pleasure the recent conclusion in your paper of a series of articles upon the Formation, Distribution, etc., of Igneous Rocks; and as the writer now invites comment and suggestion, with the intention of hereafter republishing the paper in another form, I am tempted to say a few words in the hope of inducing him to spare the public a useless infliction, and himself a useless expenditure. Curiosity led me to read the first of the articles to see if it contained anything new; and curiosity has since led me to glance at the others, to see if they contained anything probable or plausible. I have been able to discover neither the one nor the other. I cannot attempt to review these articles and point out their errors, for the latter are strangely numerous, and of a character which the veriest matterer in chemistry and geology should be able to detect.

The writer has endeavored, he says, to present the plan of the distribution of igneous rocks in such a manner that all may comprehend it. It is a pity that instead of this, he should only have succeeded in presenting something which neither chemist, geologist nor miner can comprehend at all, and which contains less truth and information than any other communication of equal length lately offered to the California public. I think the most valuable suggestions which can be made to the writer are: obtain a text book of chemistry and a small but reliable one of the outlines of geology. When he has really mastered the first principles of these subjects, it may be well enough for him to dip, if he likes, into the more comprehensive works of Dana, and others, and it will be time enough after that for him to elaborate new theories of the distribution of rocks and the formation of mountain chains. Long before he reaches this point, however, if he follows the course here indicated, he will have abandoned his pet theory of "erupted quartz," and some other things in connection with it.

These suggestions are made in a spirit of kindness to the writer himself, as well as to the public; and if they seem severe, it must be remembered that it is difficult to be other than severe in speaking of the presentation of absurdities to the scientific world, at the present day. CRITICUS.

**FURTHER experiments,** and on a much more extensive scale than any hitherto undertaken, are about being carried out with regard to the use of petroleum for generating steam. The steamship *Island City* is being fitted at Boston with Foote's apparatus for burning petroleum, for the purpose of making a trans-Atlantic trip to further test the merits of the invention. The *Island City* will take on board a supply of fuel for an extended trip, and will visit New York, Philadelphia, Baltimore and other Atlantic ports, and then make the ocean trip. The liquid fuel for this proposed trip will be confined in iron tanks, and the displacement in the vessel by it will be very small.

**LARGE IRON FURNACES.**—Some months since we made mention of several monster iron furnaces then in process of erection in England. Their success was considered by many as problematical. These furnaces were finally completed and have proved all that their proprietors anticipated. Player's monster furnace at Norton, produces one ton of foundry iron to one ton of coal, the ores yielding only 30 per cent. The furnace which yields such an enormous amount is 27 feet high and 103 feet high. In this country a yield of one ton of iron to two and a half tons of coal from 50 per cent. ores is often considered a good result.

**Hops.**—An Englishman at Los Angeles, engaged in the culture of hops, says that this is the best country in the world for raising them—and he has spent a lifetime in the business in Europe, Australia and America. He had some trouble in finding a purchaser in San Francisco for his first bale of hops. He finally disposed of it, and the brewer who used the hops offered five cents above the market price for all he had for sale of that quality.



## Mechanical.

## Proportions in Machinery.

Every experienced engineer—to take steam engines as a sample—has noticed frequently, or repeatedly, that while one engine developed its full amount of power, or that quota which was expected of it, another, built after the same patterns, with the same tools, and by the same workmen, failed to fulfill the design of the constructor.

Sometimes it is difficult, if not impossible, to account for these differences, but it is noticeable that they are the more marked as the machinery is the more complex, so that it is natural to suppose that there is, somewhere in the details, a difference of construction, otherwise we must impute the variation to some mysterious agency whose operations are irremediable by mechanical skill. But even when the machine or implement is simple in its parts and built after unvarying gages, the difference may occasionally be detected. The little pocket pistol which may be one of thousands built by the same machinery and workmen will, in some cases, differ widely in its execution from others of the same lot, when a careful comparison fails to detect the reason. That there must be some variation either in quality of material or construction, the mechanic is assured, but he may not be able to ascertain what it is. Sometimes, however, the cause of difference may be detected. A case in point, which we remember, was that of two locomotives running on the same road, the machinery being so nearly alike that their parts were interchangeable, yet which differed widely in their respective performances. Repeated examinations of the working parts failed to reveal the cause. The engineer of the inferior machine spent many hours in "tinkering" and "coaxing" his engine, yet still it refused to perform the work of its mate. As a last resort he measured the apertures of the exhaust pipes on both engines, and found that while those of the rival machine measured one-and-a-quarter inches, his measured one-and-three-eighths inches. The pipes being of copper, he "drew in" those of his engine one-eighth of an inch, when it performed even better than the other, owing, undoubtedly, to the better care which had been taken of it and its more perfect condition. The difference in the diameter of these pipes was but a trifle, yet no doubt it was the reason of the variation in the work of the two locomotives.

So it may be often that a slight change in the proportions or the actual dimensions of parts may insure evenness and accuracy where the divergence and uncertainty may have been remarkable and mysterious. To ascertain and remedy these points of difference is the province of the intelligent, practical, and educated mechanic. Exactness and accuracy in tools and educated skill are the true remedies for these difficulties. There is nothing about these differences which need be mysterious or undiscovered.—*Scientific American*.

**AMERICAN MACHINERY ABROAD.**—The American machinery at the Paris Exposition has attracted a great deal of attention, and a correspondent of the *London Herald* pays a high tribute to American mechanical genius. In a long letter of three columns he says, among other things:—"It is an absolute pleasure to find one's self on the American ground. The contributions from the great and powerful country formed by the United States, and transmitted across the wide Atlantic, have a refreshing originality and exhibit a prolific fertility of imagination, aptitude of application and readiness of resource, that are in agreeable contrast with the shortcomings exhibited in the previous series of courts. True, there is an abundance of novelties, which are notions rather than perfectly practical inventions; but even Yankee dodges are often marvelously useful, and at least show the talent and quick, keen acuteness of the intelligence which conceived them. The Americans have a fluency of conception beyond the English inventive genius, and a surprising readiness for making some ingenious machine out of the simplest and commonest elements. In machinery of the larger class they lack the ripe experience of the eminent British firms, but even in engines and steam-power tools there are American makers who take deservedly a very high position.

## Peculiarities of Machinery.

There are some curiosities about machines which seem to be unaccountable. Every user of a sewing machine knows that from some unknown reason the machine which yesterday performed its work so well, so almost enthusiastically, to-day refuses to do more than half its task, and does that half in a surly, indifferent manner. So with many other machines. Even the steam engine is subject to these fits. Is there some occult bond of sympathy between the operator and his machine, by which the latter is influenced by the mental condition of the former; for it is certain that these differences cannot always be attributed to atmospheric or other external influences? This matter is quite humorously and truthfully treated in the subjoined extract from an exchange:

It is perfectly well known to experienced, practical engineers, that if a dozen different locomotive engines were made at the same time, of the same power, for the same purpose, of like materials, in the same factory, each of those locomotive engines would come out with its own peculiar whims and ways, only ascertainable by experience. One engine will take a great meal of coal and water at once; another will not hear to such a thing, but will insist on being coaxed by spadesful and bucketsful. One is disposed to start off, when required, at the top of his speed; another must have a little time to warm at his work and get well into it. These peculiarities are so accurately mastered by skillful drivers, that only particular men can persuade particular engines to do their best. It would seem as if some of these "excellent monsters" declared on being brought out of the stable, "If it's Smith who is to drive me, I won't go. If it's my friend Stokes, I am agreeable to anything."

All locomotive engines are low spirited in damp and foggy weather. They have a great satisfaction in their work when the air is crisp and frosty. At such a time they are very cheerful and brisk, but they strongly object to haze and mists. These are points of character on which they are all united. It is in their peculiarities and varieties of character that they are most remarkable.

The railway company who should consign all their locomotives to one uniform standard of treatment without any allowance for varying shades of character and opinion, would soon fall as much behind-hand in the world as those greater governments are, and ever will be, who pursue the same course with the finer piece of work called Man.

**BESSEMER.**—An objection made against Bessemer steel is that the ingots on cooling are full of blow-holes. To obviate this, molds are now used which rotate slowly on their own axes after the metal is run in. The effect of this movement is to favor the escape of gas at the centre of the mass, which retains the molten condition the longest, and to produce complete consolidation. Polished sections of an ingot cast under rotation exhibit but few or none of the black specks common in other specimens, supposed to result from the air-bubbles or blow-holes, as they are called in some foundries.

**WARMING BY STEAM.**—When the external temperature is 10° below the freezing point, in order to maintain a temperature of 60°:

One superficial foot of steam-pipe is required for each six superficial feet of glass in the windows.

One superficial foot of steam-pipe is needed for every six cubic feet of air escaping for ventilation per minute.

One superficial foot of steam-pipe is sufficient for every one hundred and twenty feet of wall, roof, and ceiling.

One cubic foot of boiler is required for every two thousand cubic feet of space to be heated.

A one horse-power boiler is sufficient for fifty thousand cubic feet of space. Steam should be about 212°.—*Molesworth*.

**CAST IRON FERULES.**—Cast iron dilates permanently by repeated heatings. Cast iron ferules for boiler tubes, will remain tight when wrought iron ferules will leak, from the fact of the permanent expansion soon induced in the cast iron. Hence the preference of cast iron over wrought iron for ferules in most tubular boilers.

## Scientific Miscellany.

**PLATINUM FROM OREGON.**—At a late meeting of the Lyceum of Natural History, in N. Y., Prof. Chandler exhibited a sample of more than 100 ounces of native platinum from Oregon. Small quantities of this valuable metal have found their way from the Pacific coast from time to time for the last fifteen years; but this is the largest amount ever received at one time. The chief supply of this metal is received from the Ural mountains, which furnish about 4,000 pounds per annum. It occurs in small quantities in almost all placer gold mines, everywhere. It is generally found in very small grains; although it sometimes occurs quite massive. Humboldt obtained a lump in South America which weighed 2½ ozs.; but the Ural mountains have furnished much larger nuggets—one weighing nine pounds, another sixteen, and still another twenty-three pounds. Platinum is always found alloyed with other metals, such as indium, osmium, and iron. The California platinum is very pure, while that from Oregon is very largely alloyed—the proportions of alloy in the former is about 7 to 10 per cent., in the latter from 37 to over 40 per cent. It is considered very remarkable that such wide difference would exist in the value of this mineral in those two contiguous localities.

**A NEW METAL (?)**—In 1862, Prof. Chandler, of New York, received a small quantity of platinum from Rogue River, Oregon, for examination. In the course of this examination he detected what he considered a new metal. It was separated from the ore by hydrochloric acid, was precipitated by sulphureted hydrogen; the sulphide produced was rapidly dissolved by hydrochloric acid on addition of chlorate of potassa, and zinc produced in this solution a precipitate resembling metallic tin. This precipitate was dissolved by hydrochloric acid, but the solution did not give the usual tin reactions with chloride of mercury. On consulting the journal he found that ten years previously Dr. Gentle, of Philadelphia, had noticed among grains of platinum from California, a metal resembling tin, but differing from that metal in some of its reactions. Dr. Chandler was led to believe the two metals to be identical, but the quantity of material at his disposal was not sufficient to enable him to continue the investigation. Through the kindness of Mr. H. M. Raynor he has received a large quantity of the mineral (the 100 ounces of platinum elsewhere alluded to in the present issue), and the question of the supposed new metal will soon be determined.

**WET AND DRY GROWTH.**—There is a great difference in the specific gravity of the same species of tree whether grown in a dry or moist soil. The difference is frequently as great as seven to five; and the weights which a similar beam will support without breaking, in the two cases, are in about the ratio of five to four. Hence it is important in calculating the strength of timber to know something about the locality where it has derived its growth.

**MALLEABLE HORN.**—When horn, reduced to fine shavings, is boiled for a considerable time in a caustic lye of the strength of 25° of the alkalimeter, it is reduced to a perfect solution. After the liquid has evaporated, the horn becomes plastic—malleable—and may be modeled into any desirable form, after which it again gradually becomes indurated.

**TEST FOR PURE BENZOLE.**—If a portion of a sheet of white paper is saturated with pure benzole, it becomes temporarily transparent, as tracing paper. In a short time, however, the benzole entirely evaporates and leaves the paper opaque, as at first, without a stain. If any appearance of transparency remains permanently, a portion of fixed oil is mixed with the benzole.

**EFFECT OF PRESSURE OR FUSION.**—Experiments conducted by Hopkins and Bansen have shown that certain organic compounds, such as spermaceti, wax, stearine, etc., have the temperature of the melting and freezing points increased (but in a very irregular manner) when exposed to pressures varying from 1 to 520 atmospheres to the square inch. Mr. Hopkins further shows by experiments that in the case of sulphur its freezing point is elevated, as in the above organic compounds; but that after passing 520 atmospheres, after 793 (the highest pressure tried) the ratio of increase of temperature to pressure diminishes greatly; and it is hence inferred that this diminution would continue until the temperature of fusion in the open air was again reached, or possibly even passed in the downward scale. It is possible that silicates and other inorganic compounds may be subject to this reversible rule. Such a condition might also possibly materially effect the probable temperature of the internal heat of the earth.

**TESTING COGNAC.**—A correspondent of the *London Chemical News* states that the aroma left on slow evaporation of genuine spirits, when gently evaporated in the hollow of the hand, is so very characteristic that it is used as a criterion in the south of France to distinguish between *esprit de vin*, *esprit de marc de raisin*, and the spirituous fluids obtained from grain and beet root. It is impossible to entirely eliminate from the latter the fusel oil, but this is never present in spirits made from wine, which, on the contrary, always contain small quantities of ananthic and acetic ethers. The smell left on evaporation of spirits not made from wine is so peculiar that it may be even recognized in the ether made from this spirit. The ripeness of the wine, its age, the grapes it was made from, and the whole process of fermentation, leaves an indelible impression on the quality of the spirits obtained. Since the ravages occasioned by the grape disease it will be difficult to procure from France or Spain really genuine spirits.

**CONFINING AIR.**—In experiments made to confine air under pressure, it has been ascertained that the subtle fluid would penetrate iron, copper, gold, platinum, and all combinations of metals. The only thing which would keep the air at its original pressure, in the vessel into which it was forced, was to submerge that vessel in another entirely filled with water, the outer vessel being made perfectly water-tight. The air could not be forced through the walls of a vessel in which it was confined, when those walls were protected on their outer surface by a fixed column of water.

**ALUMINUM BRONZE.**—This alloy is now made in France by a process which is cheaper than the direct combination of aluminum and copper. An alloy of aluminum and cast iron—more easily obtained than pure aluminum—is melted with copper and well stirred in the crucible. On cooling, the aluminum bronze will be found at the bottom, and may be easily separated from the iron when cold.

**UNHEALTHY EMANATIONS.**—It is known that, under the influence of direct sunlight, the leaves of aquatic plants give off a notable quantity of carbonic oxide and carbonated hydrogen. M. Bessingault thinks that this emanation of carbonic oxide may be one of the causes of the unhealthiness of many districts.

**INTERCEPTION OF LIGHT.**—A lamp shade of the clearest glass intercepts 10.57 per cent. of the light from a gas or other flame; ground glass intercepts 29.48 per cent., or more than one quarter. White opalized glass intercepts 52.83 per cent. of the light due to the flame.

**PLATINUM,** the densest of all metals, is also the most infusible; yet, notwithstanding this fact, many of its compounds or alloys, such as with zinc, tin, arsenic, etc., are so extremely fusible as to readily melt in the flame of a candle.

**A DELICATE TEST FOR SULPHUR.**—A diluted solution of molybdate of ammonia in hydrochloric acid, possesses the property of coloring blue, if traces of sulphur be present. This test is so delicate that sulphur may be detected in a single hair.



## California Academy of Natural Sciences.

## REGULAR MEETING.

MONDAY EVENING, Dec. 16, 1867.

Vice-President Ransom in the chair.  
About forty members present.

The following gentlemen were elected resident members: D. C. Humphrey, P. B. Cornwall and Horace D. Dunn, of this city, and Prof. Rising, of Oakland.

The following gentlemen were proposed for resident membership: W. W. McFarland, George F. Allard, Dr. Isaac Rowell and A. F. Sawyer.

B. M. Hartshorne was proposed for life membership.

The Committee on a permanent building reported favorable progress, and asked further time.

**Contributions to Cabinet.**—Gregory Yale presented several specimens of ores; also a series of samples, in phials, illustrative of the chlorination process for extracting gold from sulphurets. The sulphurets were exhibited in their raw state; after being roasted; the chlorinated water containing chloride of gold in solution; the chloride of gold as a brown precipitate; the sulphate of iron employed to precipitate the gold, and a gold button obtained from the reduction of the chloride of gold, as the concluding part of the process.

**Geology of the Salt Spring Valley and the Region about Copperopolis.**—W. A. Good-year, Ph. B., read a paper entitled "Salt Spring Valley and the adjacent region, in Calaveras county, California." The region described comprises the copper mining district of Copperopolis, and the country west of it as far as the San Joaquin plain, including the belt of decomposed slates, in which the Quail Hill mine occurs. The writer, after a brief description of the topography of the country, proceeded to give in considerable detail the results of his observations respecting its geology, both general and economical. The paper contained many points of interest, not the least of which was a fuller description than has yet been published of the geological character of the auriferous belt which contains the Quail Hill and other similar mines. Its reading occupied about half an hour. We shall publish this paper in full, at an early day.

**On the Occurrence of Glauberite at Borax Lake, California.**—Prof. Silliman exhibited to the Academy several crystals of the mineral Glauberite, a species not before recognized as occurring in North America. It occurs at Borax Lake, where it has lately been obtained in blue clay, brought up from a depth of 40 feet by an artesian boring. No other crystallized species was detected in the masses of clay examined.

Glauberite is a sulphate of lime and soda, half an atom of each base in combination with an atom of sulphuric acid. It is usually associated with rock salt, as at Villa Rubia in New Castile, and also at Aussee in Bavaria, and in the salt mines of Vic in France. In the Atacama desert in Peru, it is associated with a fibrous borate of lime called Hayesine. Mr. Stretch, the State Mineralogist of Nevada, in his catalogue of minerals found in that State mentions borate of lime (Hayesine) as occurring in globular masses in layers from two to five inches thick, alternating with layers of salt in a salt marsh in the Columbus mining district, Esmeralda county. It is quite possible that a careful scrutiny would detect glauberite also in this association, so analogous to that of Atacama.

Reference was also made to the occurrence of the species *Gay Lassite*, detected by Prof. S. in 1864, at the Little Salt Lake, near Rag Town, in Nevada, as illustrating, in an interesting manner, the chemistry of these bodies of saline water. The latter species is a hydrous carbonate of lime and sodium, while glauberite is a sulphate of the same bases. Both salts undoubtedly result from the reaction of the respective elements pre-existing in solution in the saline waters.

The crystals of Glauberite from Borax Lake occur in very thin flattened tables, derived apparently from the great extension of the faces *O* of the monoclinic prism.

**Occurrence of an Entomostracous Crustacean upon the surface of Borax Lake.**—Prof. Silliman called the attention of the Academy to specimens of the remains of a species of red colored crustacean, which suddenly appeared in the latter part of June, upon the surface of the water in Borax Lake, and almost as suddenly disappeared after a few hours. He was indebted for a knowledge of the facts to Mr. Lafayette Maynard, of San Francisco, who has placed the specimens before the Academy at the disposal of Professor S.

In company with Dr. James Blake, Prof. S. has examined these remains under the microscope, which, with a low power at once

disclosed their true character as crustacean, referable to the family of Entomostraca, most probably of the genus *Daphne*. Some of the plates are elegantly fringed with long delicate hairs; but decomposition has impaired the perfectness of the specimens so that it is difficult to obtain from the mass an entire individual.

The red colored species was so abundant and brilliant as to give a striking red color to the water over some acres in extent.

At Mono Lake, and also at Little Salt Lake, Prof. S. had collected one or two species of Entomostraca which occur in those waters abundantly, but are colorless.

As it is probable that these species abound for only a very short time in the year, it becomes interesting to know if naturalists have observed their transformations and periods.

In some remarks, which followed the reading of this paper, Dr. Behr stated that he had examined similar specimens from another locality, which were obtained in a very perfect condition, and had ascertained beyond a doubt, that they were *Daphne*. Mr. Falkenau had submitted them to a chemical examination to ascertain their value in the arts. He thought they might be manufactured into a paint. Their substance is very durable, but little liable to change, even when submitted to dilute sulphuric acid.

**Entozoa in Pork.**—Dr. Gibbons called the attention of the members to the specimen of pork, which he had exhibited at the last meeting, as containing parasites which he believed to be the larva of the tape worm. Drs. Behr and Blake pronounced them a distoma, which he had not disputed at the time, though he had never heard of the distoma or fluke being found in the muscles. On further examination he had assured himself that they do belong to the tape worm family, and are a true cysticercus. He referred to Dr. Henry Gibbons, Jr., for a verification of this statement.

Dr. Gibbons, Jr., said he had fully examined the entozoa in question, and that there could be no doubt that it was the embryo of the tape worm—technically the *Cysticercus cellulosa*. He gave the following reasons for this conclusion: 1st. The distoma has never been found in the muscle of man, nor, so far as I am aware, in the muscle of any other animal. Its proper dwelling place is the liver, and in that organ it is common in the hog and sheep, causing in the latter the disease called the "rot." It has occasionally been found in the larva form in the human eye and elsewhere.

2d. The structure of the distoma and cysticercus is altogether different. The distoma is more highly organized—has an intestinal canal, vascular system, etc., which the tape worm family has not. The distoma, too, has no caudal vesicle or bladder, such as we saw in the parasite exhibited.

There are found in the human body thirty-one species of mature parasites, besides several larval forms of the same, and also some doubtful species. These are divided into three sub-classes, the Trematodes, which are flat or oval worms an inch or less in length, and inhabiting almost universally the liver. They comprise the fasciola and distoma or flukes.

Nematodes, or thread worms, similar in form to the common earth worm. They comprise most of the intestinal worms, such as the long round worm, the seat worm, the pin worm, also the lumbric worm, the *Trichina spiralis*, the renal and bronchial strongle. They are supplied with a mouth and intestinal canal, circulatory, nervous and sexual systems, etc., and are more highly organized than the other entozoa.

Cestodes, or belt like worms or tape worms. These have no mouth, but live by imbibition. The larval forms, when taken into the body, may be carried to any of its parts, and there constitute *cysticerci*, such as those presented at the last meeting, which were, however, very young, and did not exhibit the most distinct form. When a little larger they present a head and neck, invaginated in the caudal vesicle, which is filled with fluid, such as I saw in a specimen taken from the fat (suet) of a sheep, handed me by a butcher some time since, in this city. This specimen was about the size of a large marble, and I believe was the *cysticercus termicollis*, or the larval form of the *Taenia Marginata*. From these imperfect descriptions almost any one could decide as to which class the parasite under consideration belonged. As further proof, the exact representation of the entozoon may be found in Cobbold's larger treatise on entozoa.

[Parasites, either in man or animals, are not common in California. The *Trichina*

*Spiralis* has never been found here, and the cysticerci in question are the only examples of the kind that we have seen or heard of. Parasites never originate in the body—or, indeed, elsewhere—spontaneously. They are taken up in the food or drink, and in this country, where the food is generally better cooked than in many parts of Europe, or perhaps to word it better, where less rare meat is eaten, there is little chance of becoming infested with the more dangerous parasites. Thorough cooking always destroys the parasite, for its albumen is coagulated at a temperature of about 170 degrees, and in cooking, the temperature is generally much higher. Meat containing the cysticercus or *Trichina spiralis*, if thoroughly boiled or roasted, might be eaten with impunity. The reason the inhabitants of Germany suffer so seriously from these parasites, is that they use so much raw ham and other dried meats.]

**The Big Trees.**—Mr. Bloomer made some interesting remarks, with regard to the Big Trees, their nomenclature, etc., which will be given in a future issue.

**Introduction of a new Fibrous Material.**—Dr. J. M. Sharkey, exhibited to the Academy, specimens of a fibrous plant of the class *Agave* and *Yucca*, known among the natives of Nicaragua as *pita*, *caboyo* and *maneuella*. The specimens exhibited were in the dry leaf, the fibre simply separated from the tissue, and the same bleached to the color of the finest Manila. The leaf from which this fibre is extracted grows to the length of from 12 to 15 feet; it is about two inches broad and of uniform width throughout. The fibre is easily separated from its tissue, in its entire length, with scarcely a single broken thread. The specimens of fibre exhibited were bunches, each individual fibre of which was about six feet long. It seems to be quite as strong as manilla, and may be readily worked up into all the purposes for which the more expensive and less tractable manilla is applicable. A set of machinery was recently manufactured in this city, at Mr. L. P. Garsin's machine and forge shop, No. 32 Sutter street, for a company who are now putting up the same in Nicaragua, where they will grow this plant and prepare its fibre for the manufacturer, placing it in the market in much the same condition as manilla is now offered.

Mr. Sharkey said it was proposed to try the cultivation of the plant in this State, in some portions of which, it would undoubtedly flourish. If it could be raised here and made to supercede the ordinary use of hemp and Manila; it would retain among our own people a large amount of money which now goes abroad to purchase the foreign material. It is estimated that about \$3,000,000 worth of such coarse fibrous manufactured material is annually consumed on this coast.

[The proposed experiment is one of much economic importance to this city and State, and we propose to advert to it again, editorially.]

**PATENTS ALLOWED.**—We have special advices that the following applicants for patents through the MINING AND SCIENTIFIC PRESS AGENCY, have recently had their claims allowed by the Commissioner of Patents, at Washington:

D. Jones, San Francisco—Wagon Axles.  
S. Wepely, San Francisco—Spurs.

W. P. Kirkland, San Francisco—Drain and Water Pipes.

H. Donnelly, Virginia City—Ore Concentrator.

D. R. Morgan, San Francisco—Eye Medicine.

A. W. Putnam, San Francisco—Fruit and Vegetable Box.

Payne & Ayres, San Francisco—Finish for Painters.

F. Rohrer, San Francisco—Lamp Extinguisher.

J. D. Cramer, San Francisco—Sash Raiser.

Johnson & Milliken, San Francisco—Faucet.

L. P. McCarty, San Francisco—Newspaper File Holder.

J. R. Adams, Cisco—Railroad Snow Plow.

Wm. Schmobz, San Francisco—Solar and Transit Instrument.

**THAT'S SO.**—The *College Echo*, of Oakland, says it was reserved for the United States to represent all races in one nation; but for California to represent all colleges in one Republic of Letters—the "Associated Alumni of the Pacific."

**CALIFORNIA SPARKLING WINES.**—But few persons are aware of the progress made within the last three years in the production of sparkling wines or champagnes in California. It will doubtless be new to many that such improvements have recently been made in this branch of industry, that even experts or connoisseurs are put to the severest test to discriminate between the foreign and native productions. In the perfection of this branch of art, California is largely indebted to Mr. Arpad Haraszthy, and who has spent much time and money in traveling and studying in the wine regions of Europe, for the purpose of obtaining the fullest knowledge in relation to wine-making, the most important part of which is not laid down in books. How well he has succeeded is known to but few; but that his success has been most full and complete may be fully attested by any connoisseurs who will take the trouble to call on him at Mr. Landsberger's store on Jackson street, who is himself a pioneer in the business in this city, and who has done much by his capital and energy to advance the business to its present point of success. These gentlemen will take much pleasure in showing parties interested through their vaults.

**NEW QUARTZ MILLS.**—A new 20-stamp quartz mill, with hoisting works sufficient to go down 1,000 feet, engine, etc., complete, was started about the middle of last month by the Mountain View Co., near Grizzly Flat, in El Dorado county. This mill is working on very rich ore, and is doing remarkably well. The pulp from the battery is run over copper plates and distributed into eight of Hungerford's Improved Concentrators. The company are now putting in pans to work the concentrated sulphurets. The mill was planned by Mr. M. Hungerford, and the works constructed under his personal supervision. The machinery was from Goss & Lombard's Foundry, Sacramento.

Another 20-stamp mill with engine, boilers, etc., was started some three months since, by the Golden Rule Mining Co., near Piuo Station, Placer county. The engine and machinery was built by Goss & Lombard, which, together with the mill, was erected under the immediate supervision of Mr. Hungerford. Eight of Hungerford's Concentrators are also employed in this mill, together with pans for the final reduction of the concentrated sulphurets.

**UNIVERSITY COLLEGE SCHOOL OF MINES.** By an advertisement in another column it will be seen that the laboratory of this institution will be opened January 6th, for a course of lectures by Prof. Price, to continue during four months, on practical metallurgy and mining, as applied to the useful minerals of this coast. We shall allude further to the plan and object of the lectures next week.

**ANOTHER GOLD MILL** is being put up at Lisbon, N. H., a further evidence of the success of these mines. It will be a 20-stamp mill.

**MARKET STREET HOMESTEAD ASSOCIATION.**—J. S. LUTY, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

**BUSINESS NOTICE.**—Mr. A. T. Dewey, of this Journal, contemplates a visit of several months in the Atlantic States, a portion of which time he will spend in Washington, New York and Boston. Any of our Eastern friends who wish to communicate with him, for business or other purposes, will address their letters to "Westfield, Mass."

JACOB SHAW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street,) takes all kinds of Photographs in the best style of the Art. He would invite special attention to the new "Cabinet Photographs," which he is taking to perfection. 10v14t

**SECRETARYSHIP FOR MINING COMPANIES.**—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15t

**CO-OPERATIVE UNION STORE.**—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions twenty per cent. cheaper than ever before, and the very best articles in market. The store is located at 115 Satter street, Lick House Block. 2v16t



Weekly Stock Circular.

Of Associated Brokers of the S. F. Stock and Exchange Board.

SAN FRANCISCO, SATURDAY MORNING, December 24, 1867.

City Stocks.

City Stocks have been remarkably quiet during the period under review, and the transactions have been few. We notice the very unusual sale of a few shares of the Bank of California at \$117 50 @ 152 50 s 30.

Mining Share Market.

Since our last reference, the mining share market has been active and very firm, fully verifying our prediction of an improvement, and the tendency seems to be still better prices.

The bullion receipts of the Imperial, Gold Hill Quartz, Savage, Hale & Norcross, Kentuck, Crown Point, Chollar-Potosi, Empire and Overman during the month of November, as per statement of official records, amounted to \$761,224 against \$857,054 in October.

GOULD & CURRY—has been more active, rising from \$300 to \$370, and closing at \$340. At the annual meeting of this company, on the 16th inst., the following gentlemen were elected Trustees: Alphens Bull, M. Morgenthau, Abraham Seligman, L. Cunningham, John H. Dall, Thos. Bell and Thos. Sunderland.

On the 16th inst., the assets and liabilities were as follows:

Table with columns for Receipts and Disbursements, listing various financial items and their values.

At San Francisco and Virginia office \$4,908 08

The mine produced 21,940 tons of ore, and 26,480 tons were reduced, showing an average value of \$24 66, and \$3 81 per ton less than in 1866.

EMPIRE—sold more freely than usual, at \$165 @ 182 50, then at \$167 50, and at the close \$165 is hid.

Table with columns for Receipts and Disbursements, listing various financial items and their values.

Table with columns for Disbursements, listing various financial items and their values.

The assets of the company November 30, 1867, were as follows: Cash on hand, \$1,838 32; bank accounts, \$68 08; mill and mine supplies, \$14,056 48—total, \$15,962 88.

OHM—improved from \$50 to \$80, and closed at \$67 50. At the annual meeting of the stockholders, on the 18th inst., Edward Martin, Jesse Holladay, Solomon Heydenfeldt, Robert F. Morrow, George Treat, L. W. Coe and Frank Livingston were elected Trustees for the ensuing year.

Table with columns for Disbursements, listing various financial items and their values.

The product of the mine from 1860 to date of report amounted to \$5,286,639, and during the same period the dividends foot up \$1,394,400, and the assessments \$425,600.

SAVAGE—has improved very materially, advancing from \$111 to \$120, receding to \$113 50, and closing at \$121. During the week ending December 14th this mine yielded 1,813 tons of ore, showing an approximate value of \$34 98 per ton.

CROWN POINT—is in better favor, advancing from \$640 to \$700, then selling at \$690 @ 699, and closing at \$690 s 3.

KENTUCK—sold to a large extent, gradually rising from \$160 to \$215, and closing yesterday at \$226.

HALE & NORCROSS—rose from \$1,150 to \$1,300, and closed to \$1,140, improved to \$1,170, and receded to \$1,160.

CHOLLAR-POTOSI—sold within a range of \$130 @ 135, then at \$130, and closed at \$132. During the week ending December 14th, this mine yielded 1,442 tons of ore.

GOLD HILL QUARTZ—opened at \$95, then sold at \$75 ex-dividend, and closed yesterday at \$76.

The aggregate sales of Stocks, Legal Tender Notes, etc., at the regular sessions of the Board since Saturday last, amounted to \$1,302,415.

VIOLENT VS. MODERATE EXERCISE.—Quite a sharp controversy is going on in the English press pro and con on the question of violent exercise, as at gymnasiums, etc.

A MARVELOUS sleeping car has been turned out of the Chattanooga Railroad shops. It has velvet carpets, black walnut casings, gold and silver plated ornaments, heaters, gorgeous lamps and mirrors, and a fine Burdett organ.

MINING SHAREHOLDERS' DIRECTORY.

[Compiled for every issue, from advertisements in the Mining and Scientific Press and other San Francisco Journals.]

Comprising the Names of Companies, District or County of Location; Amount and Date of Assessment; Date of Meeting; Day of Delinquent Sale; and Amount and Time of Payment of Dividends.

Large table listing mining companies, their locations, assessment dates, and dividend information.

\* Those marked with an asterisk (\*) are advertised in this journal.

Latest Stock Prices Bid and Asked.

Table listing various stock prices, including United States Bonds, California State Bonds, and other securities.

Table listing Gas Companies and their stock prices.

Table listing Railroads and their stock prices.

Table listing Banking Institutions and their stock prices.

Table listing Insurance Companies and their stock prices.

Table listing Mining Stocks—Washoe District.

Table listing San Francisco Market Rates, including Wholesale Prices for various commodities.

Table listing San Francisco Market Rates, including Wholesale Prices for various commodities.

Table listing various goods and their prices, including Coffee, Tea, and other commodities.

Retail Prices.

Table listing retail prices for various goods, including Butter, Eggs, and other food items.

ARTIFICIAL ICE FOR SAN FRANCISCO.

The machinery for the artificial manufacture of ice in this city is now in course of construction by the Ames Manufacturing Co., at Chicopee, Mass.

NEW INCORPORATIONS.

Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

CALIFORNIA CHICORY CO.—San Francisco, co. Dec. 17th. Capital stock, \$100,000; 100 shares, \$1,000 each.

VIRGINIA CITY GAS CO.—San Francisco, Dec. 17th. Capital stock, \$150,000; 1,500 shares, \$100 each.

PACIFIC SHIP BUILDER'S ASSOCIATION.—San Francisco, Dec. 19th. Capital stock, \$50,000; 2,500 shares \$20 each.

PACIFIC UNION EXPRESS CO.—San Francisco, Dec. 18th. Capital stock, \$300,000; 100 shares, \$3,000 each.

EMPIRE M. & M. CO.—San Francisco, Dec. 18th. Trustees: Chas. Mayne, Robt. Sherwood, John A. Stanly, A. E. Head, W. G. Wagman.

CALIFORNIA CHICORY COMPANY.—We notice that a company has been formed, having its headquarters in this city, to engage in the manufacture of chicory.



## Mining Summary.

Tax following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

## CALIFORNIA.

## Alpine County.

*Miner*, Dec. 7th: The ore now found in the bottom of the Tarshish mine, is finer and more evenly distributed through the rock, than any heretofore found.

Native copper in metallic granules has been found in the Léviathan mine. It is found in a brown ore, or oxide of copper, and is easily smelted.

The tunnel of the Illinois and California Co. is fast approaching the Sacramento lode.

*Chronicle*, Dec. 7th: The work on the shaft of the Pittsburg mine progresses night and day. Everything about the mine appears to be convenient for working. The Wide West claim has been purchased by the Pittsburg Co. but no work has yet been done on it.

On Monday last we were shown a large piece of ore from the George Washington claim in this town. It was a beautiful specimen of gray quartz, 130 pounds in weight, and rich in silver. It was taken from the bottom of the 50 foot shaft, and is considered one of the finest specimens of silver ore ever taken out of any mine on this side of the Sierra Nevada.

On Monday last another cow was slaughtered in this town, and another gold mine struck. A few scales of gold, a large number of tacks and a hant nail were found in her stomach. This cow has also been grazing on the Norwegian ranch on Wolf creek.

## Amador County.

*Ledger*, Dec. 14th: One half of the Union mine, near Pine Grove, was sold last week to a capitalist of San Francisco, and work will be pushed ahead vigorously on it.

## Calaveras County.

*Chronicle*, Dec. 14th: The rock which Mitchell & Co. hauled from their lead near the Junction to the French mill in Rich Gulch, netted them \$7 per ton. They are now engaged in hauling a lot of rock to Prindle & Co's mill in Chili Gulch, which will probably yield larger returns. The shaft sunk on their claim has developed a solid, well defined vein of quartz, four feet in width, every pound of which will pay at the rate of from \$7 to \$10 per ton.

Staples & Co., are progressing rapidly with the erection of their mill in old Rich Gulch. The company expect to commence crushing on the first of January.

Alexander, Seavers & Co. are "pounding" out the precious metal as fast as the capacity of a 10-stamp mill will permit.

Wesson & Co., are obtaining encouraging prospects.

Bates & Co., are also hnsly employed in prospecting a promising vein.

Quite a number of capitalists are at present in town for the purpose of inspecting the quartz ledges in this vicinity.

Sixty tons of an inferior grade of ore taken from the "Potocot lead" at Railroad Flat yielded \$20 per ton. The rock had been assorted, the first quality paying \$60 per ton. There are a large number of claims at Railroad which are paying handsome dividends, keeping Hepburn & Co's mill constantly employed crushing.

San Andreas *Register*, Dec. 14th: Water was introduced into Frankfort early this week. The ditch and reservoir are in fine condition, and will soon supply an abundance of water. The owners of three of the claims have commenced washing, but have not yet "cleaned up."

## Mariposa County.

*Mail*, Dec. 14th: The flood in the Merced River, caused by the late heavy rain, carried away the Mariposa Co's costly dam at the Benton Mill. The dam was approaching completion, and had cost about \$17,000. Its destruction at this time involves a general suspension on the Co's works at that point, until the water falls next summer.

The new and splendid mill of Robinson & Co., working the ore of the Potts mine, in Hunter's Valley, was cleaned up on Tuesday last, after the first month's run, and yielded about half a bushel of amalgam.

## Nevada County.

*Transcript*, Dec. 13th: The mining prospects in Nevada county were never better than now. Already we have had twenty-five inches of rain and very little snow in any part of the county. The hydraulic mines have an abundance of water, and there is no interruption of work on account of cold weather. Quartz prospecting continues to develop rich leads and the yield from this source continues to increase.

The late storm has done considerable damage to the Union claim at Relief Hill. The heavy blasts, one of which consisted of 450 kegs of powder, and another of 300, so loosened the banks that they crumbled down,

during the heavy rain, and filled up the shaft. The damage will only delay them a few weeks in opening the mine. This company have been taking out large amounts of money. The Eagle Co. is washing, using four large streams on the bank, and tearing down an immense quantity of dirt. They will clean up about the last of the month. The North Star and What Cheer Cos. are also washing on the hill. The Eagle Co. is running 500 inches at the present time. A tunnel is being run north of the Union Co., for drift diggings, and they have a fine prospect of striking the gravel lead.

Dec. 14th: A considerable amount of prospecting is being done for quartz in the vicinity of Diamond Creek. The Salathiel quartz mill was started up for the first time on last Saturday. The company are working what was formerly known as the Mary Etta ledge. They have 150 tons of rock out, upon which the mill is now at work. The Enterprise Co. are running a tunnel for the purpose of opening their lead. Last spring five tons of rock from this claim was packed to Grass Valley upon mules, and the yield was \$44 per ton. Several companies are also engaged in working gravel claims in this locality, with fine prospects. There is a large range of country about Omoga entirely unprospected, which abounds in quartz and gravel, which will pay. The companies have not yet cleaned up on Diamond Creek, but they have excellent prospects.

Dec. 17th: Prospecting for quartz on Grizzly Ridge is not so active as it was a year ago. Hubbard and others have recently commenced work upon a ledge, the rock of which is peculiar, and gives evidence of being exceedingly rich, assaying \$1,800 to the ton. The rock contains a large amount of dark sulphurets, and looks as though it held considerable iron. Although these sulphurets the small particles of bright gold is embedded, showing that much of the gold contained in the rock may be saved by ordinary mill process.

*Gazette*, Dec. 12th: The Eureka Co. has disbursed \$20,000 among the owners, and the North Star Co. \$10,000—earnings for the month of November.

Dec. 16th: The new 10-stamp quartz mill of Clark & Poquillon, at Graniteville, Eureka district, was started up on Friday last. The mill is run by water power, the wheel having first been erected to run arastras, which are still connected with the mill as amalgamators. The first crushing will be a lot of 100 tons of rock from the Sweet ledge.

Grass Valley *National*, Dec. 16th: The Illinois and Wisconsin Co. are having 200 loads of Quartz from their mine crushed at the Sebastopol mill, which from present prospects will pay from \$50 to \$70 a ton.

EXCELSIOR.—*Gazette*, Dec. 17th: Snow at Meadow Lake is from a foot to 18 inches deep, and from two to three feet in depth at the Summit.

## Placer County.

*Herald*, Dec. 16th: The famous Green Emigrant claim on Bald Hill, which was sold about a year ago, has reverted back into the hands of the original owners, the purchasing parties having failed to make pecuniary connection. A large amount of gold has been taken from the claim, but no dividends have yet been made.

The rich quartz claim of Perry, McGonigle & Co., on the Black Ledge, which had been yielding from \$20 to \$500 to the pan, has during the recent rains been caving, but it is now completely timbered and ready for work.

The You Bet correspondent of the Dutch Flat *Enquirer* of Dec. 14th, gives the following items:

Water is plenty since the late rains. Edward Williams is the first to start up his hydraulic mines on Brown's Hill. Last year his claim paid well, and the prospects are good to do even better this season. Quite a number of hydraulic claims are in full blast. On Saturday of last week, Mulloy & Co. cleaned up \$750 from the coppers alone, after running the mill 20 hours and not more than one-half of the gold passes out of the battery on the coppers. The best pay in the claim is found about one foot from the bed rock, the rock itself scarcely paying the men's wages who are employed to clean it up. Immediately over the bed rock is a layer of sand soft and easy to work, and from one foot to 15 inches in thickness, over which is found a strata of gravel which contains the gold.

Judge Brown has taken out of his claim lately, as high as \$5,000 in five and a half days' run, and at no time less than \$4,000 a week. The Judge is taking out dirt about four feet high, and finds gold in more or less quantities through all of it; and always where the most gold is found they find the heaviest strata of sand.

## Plumas County.

Quincy *National*, Dec. 7th: The Dutch Hill correspondent writes: The mines in this vicinity continue to roll out some of the precious ore, notwithstanding the stormy weather. The Bamboo Co. still continue to work their river claim, and are taking out good pay. The old Dutch Hill Co. are working better ground than they have worked for many months. Waggoner & Ferguson are doing well in the Zeiring claim. Mr. Zeiring left a few days ago for the Atlantic States with over \$8,000, the proceeds of last summer's work.

Bly & Benham have completed their tunnel in the Grey Eagle claim on Barker Hill, and are getting excellent prospects. Bryan & Co's claim is paying from a half ounce to an ounce to the cart load, and J. J. Mcchling is doing tolerably well in his claim on the same hill.

From the Crescent Mills a correspondent writes: The Crescent Mill is running 16 stamps under the management of Mr. Thos. Peard, and to-day cleaned up 250 ounces of amalgam, the result of a week's run.

## San Bernardino County.

*Guardian*, Dec. 7th: The mining claims of Green & Cameron in Tehachap Valley, are clearing \$3 per day to the hand, after paying expenses.

## Shasta County.

*Courier*, Dec. 14th: McPherson & Co. are hard at work on the bed rock flume through which they expect to wash several acres of gold yielding gravel near Piety Hill. This flume is being cut three feet wide, and will be several hundred yards in length. Ludwig & Froshlee have contracted to furnish 1,000 inches of water to work this claim.

But little is going on at South Fork at present. The recent rains caused the Bullion shaft and tunnel to cave in considerably, and the owners are engaged in clearing away the debris. Only a few persons remain at the mines this winter.

## Sierra County.

*Mountain Messenger*, Dec. 14th: The Good Hope Co. have let a contract for running a new tunnel to their ledge, which is calculated to open the mine a long distance below the present working.

The Montpelier Mill has been running for several days upon quartz taken from the Sailor ledge. The intention is to crush 100 tons of rock. Work has been temporarily suspended by the drift brought down by high water.

Larrieu & Co., while running a tunnel in gravel in Slate Castle Ravine, struck a ledge of decomposed quartz in which gold is visible to the naked eye. Excellent prospects are obtained by panning out the decomposed rock. The owners have already received a proposal to erect an arastra to be paid for out of the ledge.

Mr. Wehe is still engaged in developing his ledge, with prospects as good as ever. Great confidence is felt of its permanence.

The Gold Bluff Co. are steadily pushing in their tunnel, and it is expected that they will be ready to work in the Spring.

## Sierraville County.

Yreka *Union*, Dec. 7th: Gregory, Miller & Co. are doing well in their claim on Grouse Creek. They have taken out some days as high as 12 or 13 oz. to three hands. Their success establishes the fact that Grouse Creek is a good mining stream, and as it is several miles in length it will furnish claims for a large number of miners.

## Tulare County.

*Visalia Delta*, Dec. 11th: J. T. Carter & Son of the Philadelphia Co., at White River, passed down on Friday, having discontinued running their mill for a few weeks, while their mine is being properly opened. They have been crushing a very fine quality of rock, and Mr. Carter had with him the evidence of its richness in the shape of a large quantity of bullion.

Mr. Keeney, agent of the Olanche Co., has conditionally purchased a very rich lode at Sage Land.

## Yuba County.

*Marysville Appeal*, Dec. 11th: At the annual meeting of the Pennsylvania Co. held on the 9th inst., the treasurer and secretary's reports, showed that the company took out in 1867, during eight crushing months \$70,000, against \$29,000 in 1866. The mill is now running its full battery of 16 stamps, and the President stated at the meeting that he had several good paying chimneys, instead of one, as was the case last year; and that sufficient quartz was in sight to supply 16 stamps regularly for more than a year.

## ARIZONA.

The Wickenburg correspondent of the San Bernardino *Guardian*, of Dec. 7th, says: Mr. P. W. Smith, owner of the adjoining claim to the discovery on the Vulture lode, has commenced operations. He has sent out a number of men to get out rock which

is intended to be crushed in the Wickonburg mill.

The Vulture Co's mill runs with great regularity. The weekly yield of gold from it for several months did not vary over \$200, although the rock had been taken from various parts and depths on the vein.

Los Angeles *News*, Dec. 6th: Capt. Cattick, who has just arrived from Vulture City, Arizona, brought some specimens from the Vulture mine, that exceed anything in richness we have ever seen in California. Mining prospects are reported to be good.

## COLORADO.

Georgetown *Miner*, Nov. 28th: Garrott, Martine & Co., lately run two tons of unselected ore from the Junction lode, on Democrat Mountain, that yielded 163 ozs. of silver; hullion, value, \$173. The yield per ton was \$86.50.

Five tons of ore, from a greater depth, is now being transported to the reduction works for treatment.

At the surface the ore from the Terrihlo lode assayed less than \$100 per ton; at 20 ft. this assay was doubled, and now at the depth of 46 ft., the assays run as high as \$7,000 per ton.

Mr. Dennison is getting a nugget of silver out of ore from the Mexican lode.

A fine body of ore is being disclosed on the Herkimer lode.

Dr. Johnson, of the Smelting Works, reports 3,914 ozs. of silver bullion, worth in currency, \$6,869.07, as the result of three weeks run.

Gen. Marshall is developing the John J. Roe and Hercules lodes, on Brown Mountain. The ore from these lodes is argentiferous galena and sulphurets of silver, assaying 1,050 ozs. silver per ton.

The L. M. Hartwell lode, on Sherman Mountain, yields a sulphuret ore that runs, in quantity, \$274 per ton, in silver.

Martine & Co. have erected a small revolving barrel, for the purpose of thoroughly cleaning the amalgam before retorting. The process is Wm. Brückner's patent, and has the reputation of being the cheapest and most efficacious mode of extracting the base metals from amalgam.

Garrott, Martine & Co. have reduced one ton of unselected ore from the Silver Eagle lode, the yield of which was 194 ozs., with a currency value of \$295.70.

*Register*, Nov. 26th: In the Keith shaft, on the Mammoth lode, the vein of pure copper and iron pyrites is six feet wide, and the ore yields from \$50 to \$60 per ton. The Cheney Hill shaft yields ore, paying from \$20 to \$35 per ton.

We saw Mr. Cheney and Mr. Miley meet at Hussey's counter yesterday, one with 37, the other with 45 ozs. of gold from the Bob, tail Co's rock.

Mr. Fry, agent of the Montgomery Co., recently picked up some ordinary looking rock that had been thrown out as refuse, and hauled it to Kimber's mill in Eureka. The plates appearing well, he took more of the same, 17 tons in all, from which he got \$462 worth of gold—at the rate of \$27 per ton. The very choice ore from this lot of rock, to the amount of three tons, had been reduced at the California Works, yielding \$104 in gold, at \$51.87 a ton.

Langford & Co. have finished the Dodge crusher and ball pulverizer for the Kenyon mill, and are nearly ready to run.

Denver *News*, Nov. 27th: The First National Bank shipped yesterday two bars of gold bullion, valued at \$2,600. They had on their counters this morning a bar valued at \$1,000.

At the United States Mint this morning, was a bar of gold bullion whose weight was 102 51-100 ounces, fineness .843, value \$1,806.79. Three bars were paid out to Hussey & Co., whose combined value was \$2,040.12, and one bar to the Colorado National valued at \$148.85.

Dec. 3d: Messrs. Carpenter & Simmons took off another button of silver, weighing 149 lbs., at the Georgetown Smelting Works, a day or two since. It is from their Equator ore.

*Times*, Nov. 28th: Wells, Fargo & Co. shipped from this city during the week ending the 20th inst., hullion valued at \$27,840.

## IDAHO.

Owyhee *Avalanche*, Dec. 7th: The richness of the Oro Fino ore increases with depth of working. Gold is visible in a large portion of the quartz in the vein. The Morning Star mill is kept constantly at work on ore from the mine.

The ore from the Ida Elmore is now being taken from the depth of 80 ft. Steam hoisting works have been erected at the mine.

The main body or rich streak of quartz in the Golden Chariot, shows a width of about two ft., the remainder being composed of horses of granite and veins of quartz a few inches wide. The ore is of the same quality



of richness as that of the Ida Elmore. The gold can be seen in almost any of it.

*World*, Nov. 23d: Ore from the King ledge at Summit Flat yields by working process all the way from \$10 to \$55 per ton. Ore from the Specimen lode pays not lower than \$30, and as high as \$100 per ton. Other ledges in that region are also prospering, and Summit Flat promises to become one of the best quartz districts in the country.

The Elk Horn Co. have declared a dividend of \$3 per share. The last clean up yielded \$9,000 in gold bars.

We were shown yesterday the product of 28 tons of ore from a ledge recently discovered by Channel & Thatcher, which averaged over \$47 in bars per ton.

**MONTANA.**

*Post*, Nov. 30th: Mr. E. R. Collins has placed on exhibition at the office of the Montana *Post*, a fine lot of sapphires and other gems, from El Dorado Bar, which are pronounced by lapidaries and gem dealers at the East, to be as fine as any sapphires ever found.

The work of digging the El Dorado ditch is completed, and a great portion of the fluming done.

Quite a number of miners are wintering at Cow Creek. The mines will give employment and good wages to a large number of persons in the spring.

The Bannock correspondent writes: The New Jersey Co. is now running their astrata. At a trial of seven-eighths of a cord from the Cherokee lode, the result was 22 ozs. Clark & Kirby run 16 cords of the same through their stamp mill and cleaned up \$1,200. Mr. Trask is going down on No. 9 Dakota, with the most flattering results—plenty of rich gold bearing rock and every stroke of the pick makes money. Mr. Jagger's company is still sluicing, taking pay dirt out of the head of the creek.

**NEVADA.**

**Black Rock.**

*Amador Ledger*, Dec. 7th: Tozier, of the Onida mine has returned from a visit to the Black Rock mines. He has no doubt as to their richness, but is doubtful as to whether the ore can be successfully manipulated, owing to its peculiarly intractable nature.

*Sage Brush*, Dec. 7th: Mr. Cheatham has gone to Black Rock to manipulate the ores that will be brought to Atchison & Co's mill for treatment. Mr. Hiskey, the foreman at the mill of Dall & Co., in Washoe, the only man who has worked any quantity of Black Rock ore successfully, speaks in high terms of Mr. Cheatham. The country is rich beyond question and its development is only a question of time.

The following is an extract from Hiskey's letter, dated Franktown, Nov. 29th:

It may be of interest to you and some of your readers who are interested in Black Rock, to know that another lot of Black Rock ore has been worked here, and that enough of the precious metal has been obtained from it to excite curiosity if not admiration. From 2 1800,2000 tons of ore worked in new harrels and with clean quicksilver, I have just extracted a bar weighing 30.16 ozs., worth \$48.25.

**Humboldt.**

*Unionville Register*, Dec. 7th: The antimonial dross from the Oreana furnaces is now shipped to San Francisco to be used for type metal.

The excitement concerning the developments in the Fall & Co's mine continues. Already sales of feet have been made. Buena Vista cañon promises to resume its former life and activity.

Satisfactory gold prospects have been discovered in Independence Valley.

Ore from the Cumberland mine in Gold Run is now being worked at Holt's Mill, with favorable results.

There are now piled up at the Oreana furnaces over 400 tons of pig metal, awaiting the process of refining.

**Reese River.**

*Reville*, Dec. 5th: The Smoky Co., in Smoky Valley district, at the depth of 200 feet, have developed the full proportions of the vein. Twenty feet of the vein are composed of ore that will yield from \$60 to \$150 per ton. The Co. is engaged in erecting a 20-stamp mill near the mouth of Geneva Cañon. Other veins in the district are large, and some of them exhibit themselves for great distances upon the surface, and although they show ore of a low grade, an improved and cheap mode of reduction will render them valuable.

Dec. 6th: Yesterday 5,000 ozs. of crude bullion were taken to the assay office of the Manhattan mill for melting. The bullion was produced by the mill of the Centenary Co. in the Newark district.

On the Belmont stage which arrived last evening, there were two bars of bullion from the mill of the Belmont Co.

Dec. 11th: The stage to-day, brought 1,600

ozs. of bullion from the Social and Steptoe mill at Egan cañon.

We saw this morning at the assay office of J. R. Murphy a box containing 75 lbs. of ore from the Silver Champion mine, Silver Bend district. The samples are not only beautiful in appearance but they are rich in silver. The Silver Champion is one of the earliest locations in the district. It produced rich ore from the day of its discovery, but the ledge was fractured and crumbled to a considerable depth below the surface. But at last it appears to be well defined and exhibits clean head and foot walls. In the shaft, the ledge is four feet thick, and holds good mineral. The rich stratum from which the samples were obtained lies in the center and is somewhat broken. The developments of the shaft have removed every doubt respecting the character of the Silver Champion, which is now believed to be a true, strong, and permanent vein. Five or six tons of the selected ore are to be brought for reduction at Murphy's California mill.

Dec. 13th: Last evening two bars of bullion the value of \$3,000, arrived from the Knickerbocker mill, near Iono.

The workmen in the Lane and Fuller mine are at work erecting hoisting machinery over the mine.

Very beautiful specimens of fluor spar were recently brought into this city from the American Flag mine, Mammoth district. It is said to occur in great abundance in the veinstone of that mine. The specimens furnished present a variety of colors, the most common of which are white, yellow, and very light green and rose. The crystals are in cubes and modifications, and are generally small, none of them having faces greater than three-fourths of an inch.

*Silver Bend Reporter*, Dec. 7th: Work progresses finely on the tunnel of the Northumberland mine in Northumberland district, it having been already run 180 feet. Parties in the district have recently discovered some small veins that carry an exceedingly rich quality of ore which they are engaged in extracting for reduction. It is estimated that it will yield from \$500 to \$1,000 per ton.

A small mill is now in course of erection at Columbus district. There is a large amount of rich ore visible upon the surface at Columbus, and the mill will be kept constantly employed, and if the mines develop as well as surface indications promise, the present affair will be superseded by more extensive works.

On the 30th ultimo, a lot of bullion was received at Austin from the Knickerbocker mill, near Iono, of the value of \$6,397.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

*Virginia Enterprise*, Dec. 11th: The flood in Carson River, caused by the late rains, carried away the dams of the Mexican, Brunswick and Merrimac mills.

The new incline of the Bowers and Plato mine is now down 70 feet, and is being driven ahead night and day. Ore is still being mined in the old chambers.

The Gold Hill M. and Co. have just declared a dividend of \$7.50 per share. Their prospects are not excelled by any mine on the Comstock range.

Pembroke, Murray and others have contracted to work the Lawson and McMeans mine, on American Flat. Many assays of ore from various parts of the vein, indicate that it will pay for working.

Dec. 14th: Wells, Fargo & Co. shipped from this city and Gold Hill, during the past week, 8,035 lbs. of assayed bullion, valued at \$193,928.

Dec. 15th: The Bowers mill has been thoroughly renovated, and is now reducing ore from the Bowers mine, of which there is a large quantity on hand.

Nearly all the miners employed in the Hale & Norcross have been discharged for the present; only a sufficient number have been retained to push forward the drift which is now being run for the lead from the bottom of the shaft.

**OREGON.**

*Dalles Mountaineer*, Nov. 30th: The Canyon City correspondent writes that five tons of ore from the National ledge, retorted \$97, or about \$20 per ton, free gold, without working the sulphurets.

The I. X. L. Co., at Prairie Diggings, struck the vein in their tunnel last Saturday, with prospects more flattering than they anticipated, having run 600 ft.

Jacksonville *Sentinel*, Dec. 7th: Colonel Drew, with two others, are still driving their tunnel on Jackson Creek. The Colonel has overhauled his mill and is putting in the latest improved condensing or saving apparatus.

"You may talk to me of Baltimore and Philadelphia and New York, and their railroads and the trade of the Atlantic—let me tell you that the Pacific Coast is already beginning to revolutionize the world."—Speech of Hon. Wm. H. Seward to the people of Annapolis, Maryland, June, 1867.

**ADDRESS**

To the Permanent Citizens of the Pacific States and Territories.

Citizens:—We enjoy the finest country that the sun shines on, the most varied and fertile soil, the most extensive seaboard, and the greatest breadth of land having the richest metallic deposits possessed by any one nation of the earth, a land affording all the most varied material for manufactures, wool, hides, cotton, silk, metals, coal, fiber, gums, wood, and, above all, abundance of every kind of food.

We are only a million of people, and yet have more land and sea than Russia with sixty millions—more land than France and Germany, with their hundred millions of people. In the face of these vast resources, there are towns crumbling to decay, men seeking without finding employment. Something wrong here, or this would not be happening. Let us consider.

The instructed mind of the population is mostly devoted to political office-seeking. Their ambition is misdirected. The rising youth is trained to idleness. This mode of thinking and training must be reversed if we would hold this magnificent country against the incoming barbarian.

We must teach our youth the glories of manufactures, of commerce, of industry. We must nourish every effort, however rude, at manufacturing what we require. By devoting some of our capital and our young people to manufactures and general industries we shall soon become busy, get rich, bring more and more people into the country, create new wants, build up new factories and new villages around them; cultivate more land, build more ships, generate more commerce, and thereby create profitable employment for all who want work.

Now, fellow citizens, some money capital is required to help on this industrial movement. Where shall we get it? There is a considerable fund which we may divert from its present bed and channel, viz: the Insurance Fund.

Consider The people of the Pacific States pay two hundred thousand dollars a month to the Insurance Companies for assuring their against losses from fire and shipwreck.

There are some fifteen of those insurance offices in this city, each paying for its share of this large fund. Each office pays a heavy rent, a half dozen officers and clerks, besides printing and advertising; the lowest cost is a thousand dollars a month on each office, and with some it is double that. There are too many persons employed in the business; too much dozing over newspapers; too much red tape and circumlocution; too high salaries and too little work. Think of two hundred thousand dollars a month! two millions and a half a year!! paid to those sleepy gentlemen for what little they do. This must be reformed. Three or four insurance offices are quite enough for the million of scattered inhabitants of the Pacific States. A dozen of them may be abolished with great benefit to the community; some one or two have already withdrawn. This change would liberate some fifty men of education, whose business capacity would be of much greater service to the community in other branches of industry, such as manufactures, agriculture, commerce, the fisheries, the forests and the mines. This change would also divert a million or two of dollars to other and more useful industries, whereby a thousand fold more of national capital and employment would be generated than by the present dry system.

The managers of the Builders' Insurance propose, with the co-operation of the people, that this vast monthly amount of wealth shall be arrested and diverted to the aid of home manufactures, to effect a great reform and remove from the people's shoulders the expense of supporting a small army of insurance clerks and agents. The Builders' Insurance Company has passed through its first year (the most trying) with singular success. It has gathered a hundred thousand dollars, paid promptly all its losses, and established a business income of fully twenty thousand dollars a month! This has been done while we were yet but an experiment, and enjoying the confidence of only a portion of the public. We now appeal to the entire people. We ask them to send their insurance business to us on the following conditions, and soon we shall have an income of ONE HUNDRED THOUSAND DOLLARS A MONTH, and here is what we shall do with the money.

First, we calculate, from our past experience, that we shall lose by fire and marine disasters half our monthly income (on our first year's experience our losses were but one-third of our income).

Suppose, then, that our income shall be worked up to one hundred thousand dollars a month, and suppose that we shall pay out losses to the extent of fifty thousand dollars a month, we shall still have fifty thousand dollars a month to bank up, (or half a million a year.) We propose to make two parts of this sum—one part (a quarter of a million a year) to be invested in City Bonds, to protect the assured, and one part (about a quarter of a million a year) we propose to convert into a

**MANUFACTURERS' LOAN FUND,**

Which shall be lent exclusively to manufacturers on mortgage of their premises and machinery, at as low rate of interest and on as long time as is generally current on real estate.

By the aid of this fund the budding industries of the Pacific States may be nourished into active life; more and varied employments can be originated for the people; immigration may be welcomed and not feared; the farmer will have got a market at his own door for the produce of his land; the manufacturer will find a lively home demand from the farmer for the products of his machines.

All this, good people, can be achieved, by your own votes at your own free will, without the aid of Congress or the Legis-

lature—it is simply to vote that your insurance shall go to the Builders, by which vote you shall enable us to plant factories all over the country. You shall fill the rivers and harbors with busy ships; you shall send out upon the distant waves fishing expeditions that will bring back wealth to your cities; you shall form a nursery of seamen around your own shores—the oars of a future commerce and a protective navy; you will create the hum of busy workmen in every desirable locality on the Pacific Coast; you will bring from neglected fields produce of the utmost value; all of which will most certainly multiply a thousand fold the wealth of the country in which your lot is cast, making a worthy home for yourself and a future country for your offspring.

People of the Pacific States and Territories! We pledge ourselves to you to effect, with your co-operation, some of those things. We have kept all our pledges so far, and have uttered nothing that was not true. Already have we helped to move the shuttle and the loom, which others, with more means, have passed by and neglected. Already have we helped to build and rig ships in our own dock-yards, and sent them over the wide waves in search of riches for the city. Already have we given many liberal bounties and donations to the deserving institutions of the city. Give your vote to the Builders, and we shall share its profits with every useful charity and every honest industry, and help along every enterprise that promises benefit to the people.

We call for the yeas and nays.

THOMAS MOONEY, President.

EDWARD MACCANN,

WM. B. COOKE,

W. O. WEIR,

J. D. CONNELL,

J. W. McCORMICK,

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OUR FRIENDS can do much in aid of our paper and the cause of practical knowledge and science, by assisting our Agents in their labors of canvassing, by lending their influence and encouraging favors. We shall send none but worthy men.

Mr. A. C. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. C. T. Raney is our duly authorized agent for Sacramento County. Nov. 29, 1867.

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Mr. H. C. Northrop, is our duly authorized agent for Oregon, Washington, Idaho, and Montana. Aug. 17.

## San Francisco:

Saturday Morning, Dec. 21, 1867.

## Notices to Correspondents.

**VULCAN.**—The largest locomotive machines in the world are employed in Belgium and France, more particularly the latter country. Perhaps one of the most titanic proportions is that recently exhibited at the lately closed Paris Exhibition. It consisted of a tank-engine, intended for the goods traffic of the Aurillac and Murat section of the Paris and Orleans Railway, on which there are gradients of 1 in 33, and curves of fifteen radius. It has ten wheels, all coupled, and divided into groups of two pairs each, before and behind the central driving wheels. Wheel base, 14 feet 10½ inches; weight, loaded, 59 tons 12 cwt.; empty, 46 tons (of 2240 lbs.) 15 cwt. The boiler, tires and piston-rods are of cast steel, the frames, axles and springs of Bessemer steel.

**PHILO.**—Goreham is not derived from Gotham; the one means the home or dwelling of the Gore, or wedge-shaped field; the other signifies the dwelling of the Goth. The term gore is only now used by ladies' in shaping their garments by the aid of triangular slips, as we understand is now the fashion in forming ladies dresses, and also by plowmen who, in forming their ridges occasionally find themselves compelled to make one or more in the form of a gore, in order to produce uniformity among the remainder. Ham is an abbreviation of the Teutonic word "heim," as Annaheim and the Lowland Scotch and North of England word "hame." As an illustration, we may give the words of Burns' Tam O'Shanter:

"Na'e thinking a' the lang Scots miles,  
The mosses, waters, slanes, and stiles,  
That lie between us and our hame,  
Where sits our sullen sulky dame,  
Gathering her broos' like gathering storm;  
Nursing her wrath to keep it warm."

**GLUCONE.**—The most violent explosive substance known is the chloride of nitrogen, a grain and a half producing, when ignited, an explosion which yields a report louder than a common gun. The preparation and handling of this body require the greatest caution. The glass jar in which it is prepared should be treated with caustic potash or soda in order to free it from every trace of fat, as even grease from the fingers has been known to cause an explosion, which, however, sometimes takes place spontaneously without any apparent cause.

**BRINE.**—A combination of chloride and water known to chemists under the denomination of hydrate of chlorine, is composed of one atom of chlorine (35.4) added to 10 atoms (90) of water. It is formed by exposing a vessel filled with chlorine gas and a quantity of water less than will be sufficient to absorb all the chlorine when exposed to a temperature below the freezing point for some days, when an arborescent, crystalline pale yellow translucent mass is formed. When exposed to the air, and gently warmed, it effervesces, gaseous chlorine is evolved and water impregnated with chlorine remains.

**B. G.**—By-Laws were originally so called in consequence of their being laws and customs of a limited locality, such as a village; the term being derived from two Danish words, *By*, a village or small town, and *Lage*, law, a by-path or way originally meant the path or way to a small assemblage of houses in contradistinction to the main or highway.

CONTINENTAL Life Insurance Company,  
302 Montgomery street, corner of Pine.

## A New Mining Bill.

Mr. Rollins, of Nevada County, has introduced Assembly Bill No. 43, entitled "An Act for the Encouragement of Mining." This Bill repeals the present law in relation to partnerships for mining purposes, and substitutes a more summary mode of extinguishing the title of non-acting or non-paying claim owners, for the benefit of those who are copartners or tenants in common with them, and who desire to develop their claims. The law proposed to be repealed is certainly one which needs material alteration to avoid the delays incident to a strict compliance with its provisions; but it would be a serious mistake in the Legislature to repeal a law applicable to both corporations and simple partnerships, for the collection of assessments and extinguishment of delinquent interests, by a substitute which applies only to corporations; thus compelling all mining companies to incorporate to avail themselves of the facilities for the extinguishment of the title of non-paying partners. There is a strong objection among miners generally, and not without good foundation, against incorporating, and it is not right that they should be forced to incorporate to secure protection against non-paying partners.

This bill provides that—"when three or more persons owning or claiming as joint tenants, tenants in common, or copartners, a majority of the number of feet, shares or interests in any mining claim in this State, shall have formed or shall hereafter form themselves into a corporation or organized association for the purpose of working or developing such mining claim, and shall actually proceed to work and develop the same, such corporation or association may, without demand, except by commencement of action, institute a suit in any Court of competent jurisdiction, in its corporate or associate name, as upon an implied contract for the payment of money, against any person not a stockholder in or member of such corporation, owning or claiming to own in such mining claim as joint tenants, etc., for his or her proportion of the money actually expended or indebtedness assumed by such corporation or association, in the actual and necessary working and development of said mining claim."

It further provides that defendants shall have three weeks' notice prior to the institution of suit, either personally or by publication in the usual way, whether the defendants be residents or non-residents; and that the summons shall be served as in other cases, except that thirty days' publication shall be sufficient in any case. It also provides that the interest of the defendant in said claim shall be the *only property* belonging to him subject to levy and sale on the execution upon the judgment rendered, and that the sale shall be absolute, leaving no right of redemption.

Some such modification of the law now in force is needed, and if the interests of those companies who do not wish to incorporate are protected, we see no reason why the present bill, so amended, should not pass.

THE PACIFIC MAIL STEAMSHIP ELECTION, which took place in New York on the 18th inst., resulted substantially in the re-election of the present Board of Managers—six out of nine being retained. The stormy opposition which had been gotten up with, apparently, no other object than to secure, for an untried set of men, the management of this great commercial enterprise, had elicited much interest in the result. Business men everywhere, and especially in California, as well as the traveling public, are highly pleased to see the present tried and experienced managers retained in their places. We would mention, in this connection, that the last mail brought intelligence of the successful launching of another magnificent steamer for this line on the Atlantic side—the *Alaska*. Another, the fourth ship, has also been commenced for the China line. No other steamship company in the world has ever made so splendid or successful a record as the P. M. S. Co. Its affairs will never be entrusted to able or more fitting managers than those which are now at its head.

## Young Peoples' Social and Literary Societies in San Francisco.

Among the most pleasant, profitable and useful institutions in this city, may be mentioned the social and literary societies connected with most of our metropolitan churches. The young people of high moral and liberal religious proclivities in this city, have banded themselves together for the double purpose of social enjoyment and improvement among themselves, and to bring under social and home-like influences the hundreds of young men who are constantly arriving in this city as strangers, from almost all parts of the world. These societies are becoming quite a feature among our institutions; a fact which is abundantly attested by their rapid growth and increased popularity. The need of such organizations in a city like San Francisco is only too apparent, while the real good they accomplish, and the pleasant associations they engender, are evident to all who take an active interest in their progress. Our population is continually changing, and the constant arrival of new comers makes it necessary that extra efforts should be exerted to bring within the refining influences of a home-like circle the many young men who, having left behind, in the Eastern States and elsewhere, the pleasant associations of home and kindred, sadly long for a kind reception in this land of their adoption.

If such young men are introduced into some one of these societies, and feel once more the pleasant influences of social gatherings, they are at once led to choose their companions from among the good and virtuous, and are thus saved from the snares which constantly beset the youth in large cities. Then, too, those who have long lived here, and have sighed for the opportunity to spend an evening in visiting some family circle, as they were accustomed to in their Eastern homes, find in these gatherings the friends they need so much, and are prevented from seeking among scenes of dissipation and vice the gratification of this long yearning which must be satisfied in one way or another.

Another object of these organizations is to bring together in social intercourse the young people of the different churches for mutual introduction and acquaintance. The so-called "sociables" which used to be held semi-occasionally, have almost entirely been superseded by these pleasant gatherings.

Although sociability is the leading purpose and design of these meetings, musical and literary exercises contribute largely to the attractiveness of the entertainment. Instrumental and vocal music form a prominent part of the programme, while the instructive addresses, recitations, interesting essays and select readings, with the contents of their spicy journals, complete a performance highly creditable to the societies, and always appreciated by their friends.

There is no reason why this auspicious tri-partite alliance between sociality, literary improvement and the church, for the promotion of virtue, knowledge and religion, should not be established in every important city and town in the State. Our neighboring city of Oakland has already established an association of this kind, and possibly some other localities may have done the same. Wherever they may be found, if properly conducted, they will not fail to bear good fruit. We desire to mention each one in this city separately by name, as eminently worthy of consideration. There are in all eight, as follows:

**The First Congregational.**—The Young People's Social and Literary Society of the First Congregational Church, is the pioneer society established here, having been organized July 21st, 1864. It is in a most flourishing condition. The first entertainment was given on the evening of Sept. 1st following, and proved, beyond a doubt, the success of such societies. At first the meetings were held in private houses; but the Society increased so rapidly that even the most commodious parlors were found to be

quite too small to accommodate all who wished to attend these gatherings; and since June, 1865, the meetings have been held in the lecture-room of the church, on the corner of Dupont and California streets, on the third Thursday evening of every month. There are altogether about 200 members. The expenses of the Society are paid by the gentlemen; the pleasure of the ladies' presence at the meetings being considered more than sufficient remuneration to the organization. These meetings are always well attended, and the exercises are highly interesting, evincing a degree of talent of which societies of greater pretensions might well feel proud.

This Society has shown considerable enterprise in the publication of a monthly journal, entitled the *Social Voices*, which consists of eight pages. The *Social Voices* is published by Messrs. Truesdell, Dewey & Co., at the office of the MINING AND SCIENTIFIC PRESS, and its typographical appearance and contents, every article of which is original, make it a perfect little gem in its way. There are few papers of its size which contain so much readable matter. This, we believe, is the only society of its kind in the United States (or in the world beside, for that matter), which publishes a printed paper; showing in this respect more enterprise than those in the more favored parts of our country.

**The Second Congregational.**—This Society was organized in December, 1865. The total number of members is about 45. The meetings are held in the church on the second Tuesday evening of every month. *Our Ideas* is the name of the paper published by the Society, which is written, but not printed.

**The Fourth Congregational** was organized December, 1866; number of members about 30. The meetings are held at private residences, on the second Thursday evening of each month. Their written journal is called the *Monthly Portfolio*.

**The Howard Social and Literary Society** was organized April 5th, 1866. It numbers 155 members. The meetings are held on the first Thursday evening of each month, at private residences. This Society issues a quarterly publication in magazine form; best selections from their monthly (written) journal, *The Social Circle*, being published in this edition.

**The First Presbyterian Social and Literary Society** was organized June 10th, 1867; number of members 60. The meetings are held at private residences on the first Tuesday evening of each month. In this Society, and this one only, the ladies insist on paying dues, voting in the meetings, and enjoying the inalienable rights and privileges allowed the sterner sex. The name of their (written) monthly journal is *The Gem*.

**The Calvary Literary Society** was organized May 20th, 1867, and numbers 100 members. The pastor of Calvary Church is Honorary President, while among its members it numbers the Governor of the State, the Ex-Mayor, and ex-candidate for Mayor, who did not get elected, besides prominent merchants of the city. The meetings are held in the church on the first Monday evening of each month.

**The Baptist Union**, composed of the First, Second and Tabernacle Baptist Churches, was organized April 16th, 1867, and numbers about 50 members; but few of the ladies being enrolled as members, though many attend the meetings and take part in the exercises. Besides the social and literary labors of the Society, they combine city missionary work, and appoint their committees, who report at stated times to the Society. The meetings are held in the church on the Tuesday evening following the second Sabbath of each month.

**The Powell Street Literary Society** was organized April, 1867, and numbers about 40 members. The meetings are held every alternate Friday evening. The secretaryship is filled by a lady member.

It will be seen from the foregoing that these societies are in a flourishing condition, and one would be more than repaid in attending any of the several meetings, held at the various times and localities mentioned.

**MR. KUSTEL'S NEW BOOK**—The Concentration of Ores, the Chlorination Process, etc.—will be ready for sale and delivery by the first of January. We give this general answer to numerous inquiries, which we are constantly receiving with regard to the time when that work will appear.

**ANOTHER OIL MILL.**—O. H. Allen has just erected an oil mill in Los Angeles, for the manufacture of castor oil. His mill is of a capacity of forty gallons per day.



**THE COLLEGE ECHO.**—We have received the first number of a publication bearing the above title, to be published monthly as the literary organ of the graduates and undergraduates of the College of California, of Oakland, and as a vehicle for College news generally. The paper is a small, neatly printed folio, and has grown out of a weekly written paper, which has been read weekly for some years before a literary society connected with the College, and which has now culminated in the present printed sheet. The custom of issuing weekly or monthly printed papers at the various literary institutions is becoming quite general throughout the country. Such journals, properly conducted, may be made both useful and interesting. Judging from the character of the initial number of the *Echo*, we venture the prediction that it will not fail to accomplish the proper object of its mission.

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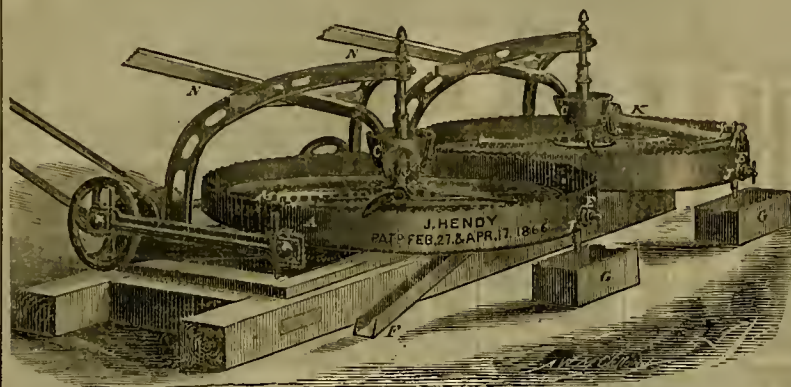
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**Improved Concentrators.**  
MR. HUNGERFORD, having been absent in the Interior during the summer months, and engaged in the construction of several Quartz Mills, which have also been supplied with his CONCENTRATORS, has now returned to this city, and is prepared to answer all orders for his Concentrators, which are built either at the Miners' Foundry, in this city, or at Ooss & Lombard's, in Sacramento.  
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25v15tr MORGAN HUNGERFORD.

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**CONCENTRATOR.**



**FOR GOLD AND SILVER ORES,**  
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**Directions for Operating Hendy's Concentrators:**  
The sulphurets are drawn off while the Concentrator is in motion, in the following manner:  
FIRST—In setting up, set the pan, A, level by the inner rim, near its center.  
SECOND—While in operation, keep the Pan, A, about half full of sulphurets.  
THIRD—Open the gate, E, sufficiently to discharge the sulphurets as they accumulate over the amount above mentioned.  
FOURTH—The crank shaft to make 200 to 220 revolutions per minute.

**References:**  
Reference is made to the following mills, which have HENDY'S CONCENTRATORS in use:  
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NORTH STAR M. & M. CO. (4 Concentrators)..... Grass Valley, Nevada County.  
NORRIDGEWOCK MILL. (2 Concentrators)..... Grass Valley, Nevada County.  
VALENTINE & CO., Commercial Mill (3 Concentrators)..... Nevada County.  
HUMBOLDT CANAL CO. (1 Concentrator)..... Humboldt County, Nevada.  
ROBINSON & McALLISTER M. & M. CO. (3 Concentrators) Hunter's Valley, Mariposa County.  
PLYMOUTH ROCK MILL CO. (2 Concentrators)..... Calaveras County.  
MIDAS MILL CO. (4 Concentrators)..... Virginia, Montana.  
GOULD & CURRY G. & S. M. CO. (4 Concentrators)..... Virginia City, Nevada.  
VULTURE CO. (8 Concentrators)..... Prescott, Arizona.  
NOYES & CO'S MILL. (2 Concentrators)..... Prescott, Arizona.  
LUCY MINING CO. (3 Concentrators)..... Owyhee District, Idaho.  
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B. F. BROWN (1 Concentrator)..... Melbourne, Australia.  
And in use in many other parts of this coast.

The following give additional proof of the increasing popularity of the machine:  
SAN FRANCISCO, October 10th, 1867.  
J. HENDY, ESQ.—Dear Sir:—To your request for an expression, in writing, of my opinion in regard to the merits of your Concentrator, I reply, that I consider it the best machine for saving quicksilver and amalgam, and for concentrating sulphurets, that I have ever used, or seen used. I may add, that I could give you no stronger proof of this than to order, as I did, six more of them, after a trial of one for several months. I shall take pleasure in showing the machine in operation to any one interested, who will call at the mill of the Empire Company, in Grass Valley. Yours,  
S. W. LEE, Supt.

SUPERINTENDENT'S OFFICE, GOULD & CURRY S. M. Co.,  
VIRGINIA CITY, Nev., Sept. 17, 1867.  
JOSHUA HENDY, Esq., San Francisco:—Dear Sir:—According to the terms under which I secured from you four (4) of your Concentrators, namely—that they were to be paid for only after a thorough trial had demonstrated their value—I desire to inform you that I have tried them, and have found them to work very satisfactorily, and that they will now be accepted by the Company. You will please present the bill for said Concentrators, say \$1,200, at the office of the Gould & Curry Company in San Francisco.  
Yours, very truly,  
LOUIS JANIN, Jr.  
The bill was presented in accordance with the above request, and duly paid.

Four Concentrators have been forwarded to the Vulture mine, in Arizona, which makes eight for that mill. The additional order for four machines was made after a thorough trial, which proved their superiority over all others. [See Mining and Scientific Press of Dec. 14th.]

**CAUTION.**  
All of HENDY'S PATENT CONCENTRATORS are marked thus:  
"J. HENDY, Patented February 27th and April 17th, 1866."  
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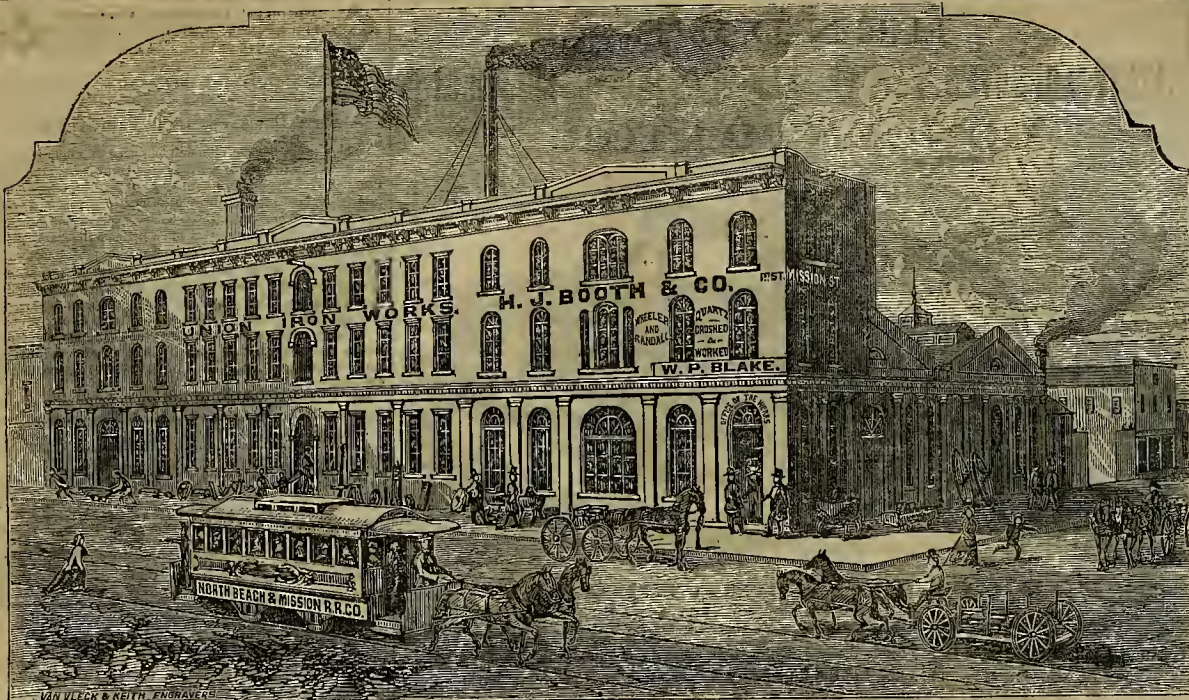
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Self-Adjusting Piston Packing,  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

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NEW GRINDER AND AMALGAMATOR  
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AMALGAMATOR AND SEPARATOR,  
Knox's Amalgamators,  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
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Steam Engines, Boilers,  
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Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
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Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
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MACHINERY OF ALL DESCRIPTIONS Bought, sold, or exchanged. Bolt, Cutting and Castings at the lowest market rates.  
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THE only exclusively Boiler Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.  
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

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All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
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Old Boilers Repaired  
D. CAMERON.  
6v12-ly

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STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive  
HOISTING AND PUMPING ENGINES, PORTABLE ENGINES, OF ALL SIZES, DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the  
Superior Workmanship

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Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular  
25v12-5m  
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Near corner of King and Third streets, San Francisco.  
MARINE ENGINES, AND ALL KINDS OF MACHINERY FORGING.  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done warranted.  
18v14-1y  
ELECTROTYPE CUTS, ENGRAVINGS, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, of name-cards and other embellishments to suit the various branches of industry in this State.

THE LARGEST WAR VESSEL afloat is said to be the steam frigate Wampagoag, which will soon make a trial trip from the Brooklyn Navy Yard. She is 354 feet long. Her engines and boilers occupy 160 feet of this length; her engines are in the aggregate of 5,000-horse power, having two 100-inch cylinders, eight main boilers, and two super-heaters. She carries ten 9-inch Dahlgren, two 100-pound Parrots forward, and two howitzers aft. Her full complement of men is about 500, and of these she has now on board 418, all told. The engineer's department alone calls for 160 men, and 120 are now at work.

THE SNOW LINE.—The Nevada Gazette of Tuesday last says: "The snow line at present commences a short distance above Graniteville. A few days since it was a foot to eighteen inches in depth in the Meadow Lake region and from two to three feet in depth at the summit." If the rain storm, which set in last evening continues, we may look for high water again.

A COIN of Philip of Macedon is on exhibition in Washington. It is about the size of a half eagle, and is twenty-two hundred years old.

**Rates of Postage on Printed Matter to Europe and Asia.**

The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter. It is a singular fact, unknown probably to most persons who have not occasion to learn it by unpleasant experience, that there was a considerable region in the civilized world where an American traveler might not receive a newspaper directly from home.  
Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—but are now included in the delivery by way of Hamburg and Bremen:  
Kates of postage on newspapers and other printed matter (periodicals, etc.) sent from the United States to countries in Europe and Asia, by Bremen or Hamburg mail—prepayment compulsory:  
NEWSPAPERS—MAILED AS FOLLOWS:  
Bremen, by Bremen mail—2 cents each.  
Hamburg, by Hamburg mail—2 cents each.  
Prussia, Austria and German States, by Bremen and Hamburg mail—3 cents each.  
Lunenburg, by Bremen mail—3 cents each.  
Lunenburg, by Hamburg mail—3 cents each and 1 cent per 1/2 ounce.  
Schleswig Holstein and Denmark, by Bremen or Hamburg mail—3 cents each and 1 cent per 1/2 ounce.  
Sweden, by Bremen or Hamburg—3 cents each, and 1/2 cent per 1/2 ounce.  
Norway, by Bremen or Hamburg—3 cents each, and 3/4 cent per 1/2 ounce.  
Holland, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce.  
Russia, by Bremen or Hamburg—3 cents each, and 1 cent per 1/2 ounce.  
Switzerland, by Bremen or Hamburg—4 cents each.  
Italy, by Bremen or Hamburg—5 cents each.  
Turkey, by Bremen or Hamburg—3 cents each, and 6 1/2 cents per 1/2 ounce.  
Greece, by Bremen or Hamburg—3 cents each, and 6 1/2 cents per 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—3 cents each, and 2 1/2 cents per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail via Marseilles—3 cents each, and 9 cents per 1/2 ounce.  
Austria, India and China, by Bremen and Hamburg mails, via Trieste—3 cents each, and 2 cents per 1/2 ounce.

PERIODICALS, ETC.  
Bremen, by Bremen mail—1 cent per ounce.  
Hamburg, by Hamburg mail—1 cent per ounce.  
Prussia, Austria and German States, by Bremen or Hamburg—1/2 cent per ounce.  
Lunenburg, by Bremen mail—1 1/2 cent per ounce, and 1/2 cent per 1/2 ounce.  
Lunenburg, by Hamburg mail—1 1/2 cent per ounce, and 1/2 cent per 1/2 ounce.  
Schleswig Holstein and Denmark, by Bremen or Hamburg—1 1/2 cent per ounce and 1/2 cent per 1/2 ounce.  
Sweden, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/2 ounce.  
Norway, by Bremen or Hamburg—1 1/2 cent per ounce, and 4 cents per 1/2 ounce.  
Holland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1/2 ounce.  
Russia, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/2 ounce.  
Switzerland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 cent per 1/2 ounce.  
Italy, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1/2 ounce.  
Turkey, by Bremen or Hamburg—1 1/2 cent per ounce, and 5 1/2 cents per 1/2 ounce.  
Greece, by Bremen or Hamburg—1 1/2 cent per ounce, and 6 1/2 cents per 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 1/2 cents per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Marseilles—1 1/2 cent per ounce, and 9 cents per 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Trieste—1 1/2 cent per ounce, and 2 cents per 1/2 ounce.

**CALIFORNIA TOOL AND FILE FACTORY.**

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Job Ording and Polishing done at shortest notice.  
Special premium awarded at the last State Fair, Sacramento.  
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STEAM ENGINES,  
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.  
Particular attention paid to repairing Reynold's Cut-off  
5v15-4y



**GOLD IN ALASKA.**—A correspondent of the *Alta*, of this city, writing from Sitka, says that gold is known to exist in paying quantities on the Stikeen river, where mining has been carried on to a considerable extent for the last five or six years. It has also been found on several other streams in the southern part of Alaska, but not in large quantities. In 1860, a French trapper, found at "Bucks Bar," 190 miles from the mouth of the Stikeen, a placer which paid him an ounce per day. Several paying bars were also discovered in 1861 in the vicinity of Shakes Creek. The average yield with a common rocker, is \$3 per day. There is no bedrock on the Stikeen, the gold being found in a stratum three ft. below the surface.

On Copper river, which empties into the Pacific, west of Mount St. Elias, native copper is found in large masses. Copper is also found in some of the western Kurilo islands.

**OPPOSED TO POSTAGE STAMPS.**—It is said that the use of postage stamps is to be discouraged by the P. O. Department, which will in future issue only stamped envelopes. These will be issued of all sizes and of all rates of postage; and, to encourage their general use, they will be sent to any address, when 500 are ordered, with the printed notifications on the back to return to the writer, if not called for at a specified time. This remaining, also, will be done free of postage. The change is no doubt made in consequence of the facilities offered for cleaning and using our old stamps; or, perhaps, somebody wants a big contract for the manufacture of envelopes.

**NEWSPAPER POSTAGE TO AUSTRALIA.**—Postage on newspapers to Australia and New Zealand has been reduced to four cents per copy.

**All About Sending Money by Mail.**

**RATES OF COMMISSION.**—The following are the rates charged (in currency) for transmitting money to any part of the United States:

On Orders not exceeding \$20, ..... 10 cents.  
Over \$20 and not exceeding \$50, ..... 25 cents.  
No fractions of cents to be introduced in an Order. United States Treasury Notes, or National Bank Notes only received or paid.

To send over \$50, additional Orders must be obtained. Post Offices where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out: No. .... Amount .... Date, .... 186 ..

**MONEY ORDER.**

Required for the sum of \$.... Payable at ..... State of ..... Payable to ..... Residing at ..... State of ..... Sent by ..... Residing at ..... State of ..... Entered in Register: ..... Postmaster.

The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands. For example: Mrs. Mary Brown must not be described as Mrs. William Brown.

Sums of parties and places, and the sums, to be written in the plainest possible manner. As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will initiate himself, before writing out the order, that the place indicated is the one intended.

List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867.

**CALIFORNIA.**

Office.	County.	Office.	County.
Albany	Alameda	Napa	Napa
Buena Vista	Alameda	Nevada City	Nevada
Contra Costa	Contra Costa	Oakland	Alameda
Yuba	Yuba	Oroville	Butte
Butte	Butte	Petaluma	Sonoma
Colusa	Colusa	Pacerville	El Dorado
Sierra	Sierra	Red Bluff	Tobacco
Dutch Flat	Placer	Sacramento	Sacramento
Carroll	Yuba	San Rafael	Marin
Folsom	Sacramento	San Francisco	San Francisco
Forest Hill	Placer	Santa Cruz	Santa Cruz
Georgetown	El Dorado	San Jose	Santa Clara
Gibsonville	Sierra	Santa Rosa	Sonoma
Gilroy	Santa Clara	Shasta	Shasta
Grass Valley	Nevada	St. Helena	St. Helena
Headstern	Yuba	Stockton	San Joaquin
Iron Valley	Sonoma	Suisun City	Solano
Jackson	Amador	Sussexville	Yassen
La Porte	Plumas	Vacaville	Solano
Los Angeles	Los Angeles	Village	Solano
Mariposa	Mariposa	Visalia	Tulare
Markleville	Alpine	Watsonville	Santa Cruz
Marysville	Yuba	Waverly	Trinity
Martinez	Contra Costa	Wilmington	Los Angeles
Mokelumne Hill	Calaveras	Yreka	Siskiyou
Monterey	Monterey		

**NEVADA.**

Office.	County.	Office.	County.
Virginia City	Storey	Antioch	Lander
Carson	Ormsby	Aurora	Esmeralda

**OREGON.**

Office.	County.	Office.	County.
Albany	Union	La Grando	Union
Canyon City	Grant	Oregon City	Clackamas
Corvallis	Benton	Portland	Multnomah
Dallas	Polk	Roseburg	Douglas
Eugene City	Lano	Salem	Marion
Jacksonville	Jackson	The Dalles	Wasco
Lafayette	Yam Hill	Umatilla	Umatilla

**IDAHO TERRITORY.**

Office.	County.	Office.	County.
Boise City	Ada	Ruby City	Owyhee
Idaho City	Boise	Lewisston	Ney Perco

**MONTANA TERRITORY.**

Office.	County.	Office.	County.
Holmen	Edgerton	Virginia City	Madison

**WASHINGTON TERRITORY.**

Office.	County.	Office.	County.
Olympia	Thurston	Vancouver	Clark
Stellacooma City	Pierce	Walla-Walla	Walla-Walla

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15v14-ly



**Office Pacific Business College and Telegraphic Institute.**  
Mechanics' Institute Building, Post Street. [Exterior View.]  
A. de LEO de LAGUNA. [7v15-Sm] JAMES VINSONHALER.

**THE GOLDEN ERA.**  
Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

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11v15

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13v14-qr

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FINE BATH HOUSE and BARBER SHOP ATTACHED TO THE HOUSE.

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19v15-1w

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ESTABLISHED [MAY, 1860.]  
**VOLUME SIXTEEN**  
 -OF THE-

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 FOLLOWING DATES, FOR PANAMA, connecting via Panama Rail-  
 road, with one of the Company's splendid steamers from  
 ASPENWALL for NEW YORK.  
 On the 10th, 15th and 30th of each month that has  
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 31 days.  
 On the 10th, 19th and 30th fall on Sunday, they will  
 leave on Saturday preceding; when the 18th falls on Sun-  
 day, they will leave on Monday following.  
 Steamer leaving San Francisco on the 10th touches at  
 Manzanillo. All touch at Acapulco.  
 Departures of 18th or 19th connect with French Trans-  
 Atlantic Co.'s steamer for St. Nazaire, and English steamer  
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 Departure of 10th is expected to connect with English  
 steamer for Southampton and South America, and Austral-  
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 Through tickets can be obtained.

The following Steamships will be dispatched on dates as  
 given below:  
 December 10th—SACRAMENTO.....Capt. Wm. H. Parker,  
 Connecting with HENRY CHAUNCEY, Capt. Gray.  
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 December 30th—MONTANA.....Capt. E. S. Farnsworth  
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 An experienced Surgeon on board. Medicine and attend-  
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 These steamers will positively sail at 11 o'clock. Passen-  
 gers are requested to have their baggage on board before 10  
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 Through Tickets for Liverpool by the Cunard, Inman and  
 National Steamship Lines, can be obtained at the office of  
 the P. M. S. Co., San Francisco, where may also be ob-  
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 The Steamship CHINA, Capt. E. W. Smith, will be  
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 The following is a sample of the generous acknowledgments  
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 knowledge receipt of your letter of the 21st instant, trans-  
 mitting to me "Letters Patent" on my application for  
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 It came to hand safely, and I am pleased to tender you my  
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 Very truly yours,  
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New Mining Advertisements.

Hope Gravel Mining Company.—Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of December, 1867, an assessment (No. 19) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to David Wilder, Secretary, at No. 613 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento, San Francisco, California. dec21

I. X. L. Gold and Silver Mining Company.—Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth (12th) day of December, 1867, an assessment of one dollar and fifty cents (\$1.50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Silver, at Silver Mountain, California.

Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the sixth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. dec21

Old Colony Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, No. 523 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twelfth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco. dec21

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain Mining District, Alpine County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 87 Stevenson street, between First and Second streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 87 Stevenson street, between First and Second, San Francisco. dec21

Mining Notices—Continued.

Adella Gold Mining Company, Rock Creek, Sierra County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the second (2d) day of November, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Wm Ireland, Wm Ireland, L G Brown, L G Brown.

And in accordance with law, and an order of the Board of Trustees, made on the second day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Olney & Co., auctioneers, 418 Montgomery street, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

A. C. TAYLOR, Secretary.

Office, 423 Pacific street, San Francisco, Cal. dec7

Ancient River Channel Blue Gravel Company. Location of Works: Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-second day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the twenty-seventh day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. RUFFINGTON, Secretary.

Office, No. 5 Government House, corner Washington and Sansone streets. no23

Chiptonena Mining Company.—District of Ures, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twelfth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, up-stairs, San Francisco. no30

Hansen Copper Mining Company. Location: Low Divide District, Del Norte County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the first day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Byersdorf, John, Delano, A. S., Elmsman, Cbar W., Kersey, J. D., Thompson, M. J., Whitney, Geo S.

And in accordance with law, and an order of the Board of Trustees, made on the first day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 609 Market street, on Tuesday, the twenty-fourth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco. dec17

Hansen Copper Mining Company, Low Divide District, Del Norte County, California.

Notice.—The Fourth Annual Meeting of the stockholders of the above named Company, will be held at their office, 609 Market street, San Francisco, California, on SATURDAY, the twenty-first day of December, 1867, at 7 o'clock P. M., for the purpose of electing Trustees to serve for the ensuing year, and for the transaction of such other business as may properly come before them.

S. S. SWEET, Secretary.

San Francisco, November 15, 1867. no16

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of October, 1867, an assessment of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his Office, No. 523 Kearny street, San Francisco, or to O. Tanner, Treasurer of the Company, at Silver Mountain, Alpine County.

Any stock upon which said assessment shall remain unpaid on the sixteenth (16th) day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

R. THOMPSON, Secretary.

Office, No. 523 Kearny street, San Francisco, Cal. no16

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like G W Fellows, G W Fellows, O W Fellows, F Conrades, Gavin Raiston, D F Richards, D F Richards, D F Richards, B Austin, O Jackson.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the salesroom of Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Monday, the sixteenth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary.

Office, 618 Market street, San Francisco, Cal. no30

POSTPONEMENT.—The above sale is hereby postponed until Monday, the 30th day of December, 1867, at the same hour and place. By order of the Board of Trustees.

B. P. WILKINS, Secretary.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the seventeenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. RUFFINGTON, Secretary.

Office, No. 5 Government House, corner Washington and Sansone streets, San Francisco, California. no30

OLNEY & CO., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 318 Montgomery street, San Francisco. no10

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice.—There are delinquent, upon the following described stock, on account of assessment levied on the eighth day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Rorel, F. A., Rorel, F. A., Bell, Thomas, Cunningham, Lewis, Cunningham, Lewis, Falkner, Bell & Co, Gunther, F., Gordon, John, Gallacher, James, Olmsted, Frank, Hearst, George, Hears, George, Herbold, Adam, Macpherson, A. W., Macpherson, A. W., Peck, David, Vandervoort, J. C., Wentzell, Justus, Wany.

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 327 Montgomery street, San Francisco, Cal., on Tuesday, the thirty-first day of December, 1867, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary.

Office, 428 Montgomery street, San Francisco. dec14

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, Nevada.

Notice is hereby given, that the postponed Annual Meeting of the shareholders of the above named Company, will be held at the office of the Company, 428 Montgomery street, San Francisco, the SECOND DAY OF JANUARY, 1868, at 10 o'clock, P. M. for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.

Office 420 Montgomery street, San Francisco.

Nuestra Senora de Guadalupe Silver Mining Company. Location of Works: Tayollita, San Dimas District, Durango, Mexico.

Notice.—There are delinquent upon the following described stock, on account of assessment (No. 29) levied on the twenty-first day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Cosmos Darmm, Val, Gassner, Joseph O Myself, F. Mueller, C Steinhilber, J J Correll, J J Correll, F Stant, John Greif.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-first day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Messrs. Badger & Chapman, auctioneers, N. W. corner of Kearny and California streets, San Francisco, Cal., on Monday, the twenty-third day of December, 1867, at the hour of 1 1/2 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

E. J. PFEIFER, Secretary.

Office, No. 210 Poststreet, San Francisco, Cal. dec7

Neagle and Corcoran Silver Mining Company, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eleventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINOARD, Secretary.

Office, 408 California street, San Francisco. no30

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice.—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with 4 columns: Names, No. Certificate, No. Shares, Amount. Lists shareholders like Oliver Ames, Cyrus Ames, Jerome W Tyler, Jos C Tyler, Danl Rlaidell, John S Keyes, J Z Goedrich, Thos Dalby, Wendell Phillips, Clark O Walworth, J H Stephenson, M S Scudder, O O Scudder, G W Warren, Geo R Neal, W T Reynolds, Geo H Faulkner, John Kurtz, Curtis B Raymond, Jacob Burtz, T W Tuttle, Geo H Vincent.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Company, No. 423 Front street, San Francisco, California, on Saturday, the seventh day of December, 1867, at the hour of 2 o'clock P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEOBGE H. FAULKNER, Secretary.

Office, 423 Front street, San Francisco, Cal. no23

POSTPONEMENT.—The above sale is hereby postponed until Thursday, the second day of January, 1868, at the same hour and place. By order of the Board of Trustees.

GEO. H. FAULKNER, Secretary.

POSTPONEMENT AND ALTERATIONS.—Secretaries are requested to advise the names of postponements or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1867, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the thirteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

GEO. H. PECK, Secretary.

Office, 212 Clay street, San Francisco. no23

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of November, 1867, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of this Company, No. 705 Sansone street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

F. S. SPRINO, Secretary.

Office, No. 705 Sansone street. dec7

San Francisco and Castle Dome Mining Company, Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of November, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, A. L. Glendling, No. 330 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventh day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R. SMITH, Secretary.

Office, Room No. 40 Morebanis' Exchange, California street, San Francisco. dec7

Siempra Viva Silver Mining Company, District of Zaragoza, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1867, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, 318 California street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOHSE, Secretary.

Office, 318 California street, San Francisco, Cal. dec7

Senton Mining Company.—Location of Works: Drytown Mining District, Amador County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-first day of November, 1867, an assessment of one hundred and fifty dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to the Secretary, at the office of the Company, No. 60 Exchange Building, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the twenty-eighth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on the eighth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOSEF E. LIEBOWITZ, Secretary.

Office, No. 60 Exchange Building, N.W. corner Washington and Montgomery streets, San Francisco, Cal. no23

Sophia Consolidated Gold and Silver Mining Company, Tuolumne County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his Office, No. 61 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-fifth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPH, Secretary.

Office, 611 Washington street, San Francisco. dec14

U. S. Grant Mining Company.—Location of Works and Mine: Excelsior District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of December, 1867, an assessment of five dollars per share (\$10 per foot) was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to T. L. Raker, 405 Front street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. L. RAKER, Secretary.

Office, 405 Front street, San Francisco. dec14

Whitman Gold and Silver Mining Company. Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately in United States gold and silver coin, to the Secretary, at his office, (room No. 10, 2d floor) No. 405 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of December, 1867, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10, 2d floor, No. 405 Montgomery street, San Francisco, Cal. no2

POSTPONEMENT.—The day for meeting stock delinquent on the above assessment is hereby postponed until Wednesday, the first day of January, 1868, and the sale thereon until Wednesday, the twenty-second day of January, 1868. By order of the Board of Trustees.

T. W. COLBURN, Secretary. no30



Machinery.

**VARNEY'S PATENT AMALGAMATOR.**

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows:

The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Setters made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and setters for themselves, at the **PACIFIC FOUNDRY,** 171 San Francisco.

**Hunt's Double-Action Pump**



cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 23 Second street, and 103 Jessie street. 12v15tr

**E. O. HUNT, Prop'r.**

**E. T. STEEN,**

Commission Agent for the purchase and sale of

**Engines, Boilers, Castings,**

AND ALL KINDS OF MACHINERY.

No. 537 Washington, and 532 Merchant st., San Francisco.

HAS FOR SALE

- One Engine, 5-Horse Power, . . . \$100
- One Engine with Roller, 7-Horse, . . . 600
- One Engine, Link for Hoisting, 15-Horse, 800
- Two Engines, Boilers, Port., 16-Horse, 1,200
- One Engine, 40-Horse, . . . 1,200
- One 30-Horse Roller . . . 300

Also, a great variety of

**Boilers and Machinery,**

CASINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15tr

**Steam Pumps,**

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

**PICKERING'S GOVERNORS**

For Steam Engines.

**Giffard's Injectors,**

For Feeding Boilers.

**STODDART'S IRON WORKS,**

Beale Street, San Francisco.

23v12 3m

**PATTINSON'S**

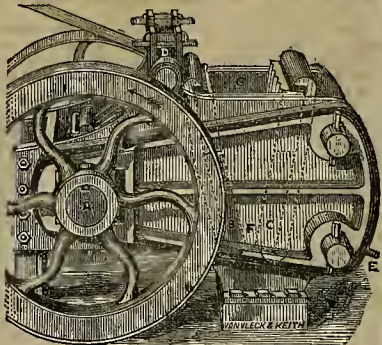
**HURDY-GURDY WATER-WHEEL.**

The inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among millers as the "hurdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-4y

**THOMAS PATTINSON.**

**Brodie's Patented Improvements**



FOR THE TREATMENT OF

**Gold and Silver Ores.**

**BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER.**

The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms:

- No. 1—Or 8-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price . . . \$600
- No. 2—Or 15-inch Crusher, capable of similarly putting through two to six tons per hour. . . . 850
- No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour. . . . 1,200

EXPLANATION OF THE ABOVE ENGRAVING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening, F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, G, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size.

The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake Ostrander, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the "Rawhide Ranch" Mine, in Tuolumne County:

**RAWHIDE RANCH, Tuolumne Co., Sept. 28, 1866.**  
JAMES BRODIE, Esq., San Francisco.—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your Crushers in operation at my mine in use, at the Rawhide Ranch Mining Company's Mill, which is entirely met my expectations; and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly preparing quartz for the stamps. Yours truly,  
R. P. JOHNSON,  
Supt. Rawhide Ranch Quartz Mill.

**BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.**—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of compromising, without having recourse to legal proceedings, for past infringements or destruction of property, of this machine for the limited period named, are requested to address as below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 29th, 1866.

**BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.**—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. JAMES BRODIE, Fulton Foundry, or CHAS. B. RAOULT, Express Building, 402 Montgomery street, San Francisco.

12v13tr

**E. O. HUNT,**

Manufacturer of

**Windmills, Horse-Powers, Pumps, Pumping Frames and Gearing.**



HUNT'S ADJUSTABLE WIND MILLS to have all the sails arranged as turn edgewise to the wind when the mill is stopped. The sails can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at the foot of the mill, by any person.

HUNT'S SELF REGULATING MILL is strong, durable and cheap. It is provided with a self-regulating top, in the most violent winds, this mill is well known throughout the State.

Tread Horse-Powers, Saw-Power Horse-Powers, Pumps in great variety, Single and Double-acting. Frames and Gearing for running pumps, from steam or other power, constantly on hand and built to order. Water Tanks built to order. No. 28 Second St., and 103 and 110 Jessie St. 2v15y3

**DR. BEERS' PATENT WIRE GAUZE AMALGAMATOR.**

THE ATTENTION OF QUARTZ, HYDRAULIC AND Placer Miners, is called to this new invention for saving Fine Gold. It is designed for forcing the miner with a cheap and simple apparatus by which the finest free gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For Circulars, and further particulars, address  
Dr. J. B. BEERS, San Francisco, 1v15 6m  
Per Wells, Fargo & Co's Express.

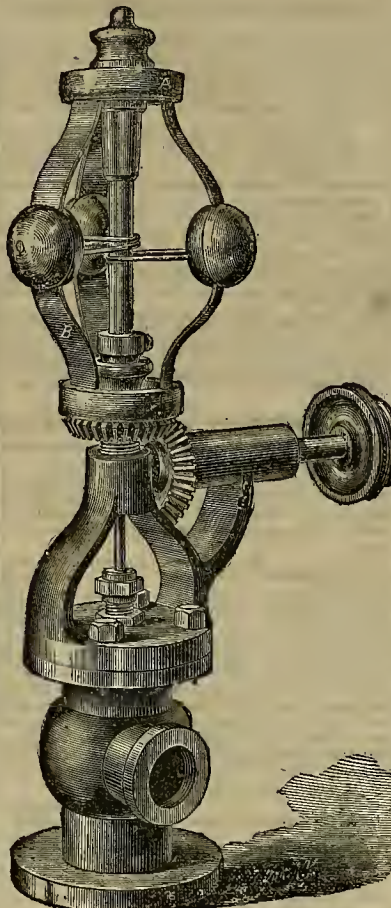
**NELSON & DOBLE,**

AGENTS FOR

**Thomas Firth & Sons' Cast Steel Files,** Etc., Shear, Spring, Gorman, Plow, Blister and Tool Calk Steel; manufacturers of

**Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools,** 319 and 321 Pine Street, Between Montgomery and Sansome, (San Francisco); 10v14y3

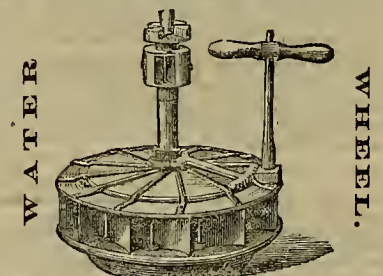
**PICKERING'S ENGINE REGULATOR,**



Warranted the Best in Existence.

Cheap and easy to attach to any Engine, old or new. Send for a Circular, to DAVID STODDART, 114 Beale street, San Francisco. 12v15-2am1q

**LEFFEL'S American Double Turbine**



THESE WHEELS, UNEQUALED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFEREES.—E. Steetson, Folsom; O. Simmons, Oakland, (Mill at Clear Lake); Morgan Coyville, Lexington, Santa Clara County; J. Y. McMillan, Lexington Santa Clara County. Send for Circular, to **KNAPP & GRANT,** Agents for California, 310 Washington street, San Francisco. 25v13-lyq

**SUPERIOR CUT-OFF ENGINES,**

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated

**Hartford Engine,**

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

**Fuel-Saving Engine,**

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation.

**GODDARD & CO.,**

Pacific Iron Works, San Francisco, Aug. 29, 1867. 9v15tr

**BLAKE'S QUARTZ BREAKER!**

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

BY

**WM. P. BLAKE,**

Corner First and Mission streets, or Box 2,077 3v13r SAN FRANCISCO.

**Mechanical Drawings.**

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office.

[Written for the Mining and Scientific Press.]

**Mining in Sierra County.**

ALLEGHANY.—Quartz in this vicinity is looking up remarkably, and making times comparatively lively. There are a large number of fine looking veins that evidently would pay well, with sufficient capital to properly develop and work them. The Union mine has been very rich, and would probably continue to pay, were it not for some disagreement among the present owners. As it is, work has been stopped for some time, and the property remains idle, waiting for a settlement of difficulties. The Oak Flat ledge has the appearance of being the best developed lead in the vicinity. It is owned by Dnnkin & Co., who have really got a large and clearly defined vein of ore, well opened for inspection. Parties wishing to purchase a good vein of low grade ore, would do well to pay this mine a visit.

**A VALUABLE DISCOVERY.**

There are several other leads that promise well, and apparently only want a little means, properly applied, to prove them valuable. But what has caused considerable excitement, and apparently given a new impetus to quartz enterprise generally hereabouts, is the mining discovery, made about a year ago by Messrs. Fessler, Lewis and two others—styled the Docile Co. This most remarkable and peculiar ledge of gold hearing rock is located about one and a half miles from town, on the South Fork of Kanaka Creek by the above named parties, who, mining in the creek, took out very good pay until they arrived at a certain point, when their pay gave out, and they then left the creek and commenced prospecting the bank immediately opposite where the pay had ceased; here, to their astonishment, they found the top dirt even richer than it had been in the creek, and in a very short time they were rewarded by finding the vein from whence the precious metal had emanated. This vein, at the point of discovery, shows no quartz whatever, but instead, a very large strata of talcose slate, and soap stone, partially decomposed, and workable in a rocker from which they averaged \$15 to the man, until more recently they have traced their lead up the bank or divide, where at the distance of 300 feet from the point of discovery, the vein merges into a large ledge of quartz. From this point they trace it up the mountain some 200 feet, where, running a cross-cut, they find the lode to be forty feet in width, of good pay ore. From hence a further trace is made to a distance of 800 feet from the point of discovery, where an incline is sunk to the depth of thirty feet. From this incline the company have panned out of decomposed sulphures, and pounded out in a hand mortar, \$20,000 of gold, worth \$19 per ounce, besides a pile of ore yet to be crushed (when a mill is erected), and which is estimated to yield \$10,000 more—making \$30,000 taken from a thirty foot incline. Mr. Frank Smith, of North San Juan, and Harry Sears, of San Francisco, have purchased one-fourth interest of this claim, for which they are to erect a 10-stamp mill. Mr. Smith has also since purchased another one-fourth interest (250 feet) on his own account, for \$15,000.

Messrs. Bovee & Co. have a claim on the same ledge, commencing just above the Docile Co's incline, and extending up the mountain 1,000 feet, which is supposed to be equally as rich as the Docile, from the fact that the latter company found their richest pay nearly at the division stake. They will commence work next season. This lead can be worked as cheap or cheaper than any other known mine in the State—as their rock requires no blasting, and timber and water abounds plentifully close at hand. It is estimated that mining and milling will not cost to exceed \$1.50 per ton. The Johnson Co., near by, have also found excellent rock from which they make wages in a hand mortar.

FOREST CITY.—Some few claims in this place are still washing out handsome dividends, the most prominent of which are the Live Yankee and Young America.

BRUSH CREEK, four miles below Forest City now, affords a mine unsurpassed for richness by any in the State. It is styled the Brush Creek mine, and is owned by N. A. Watson, of Camptonville, and S. F. Lord, of San Francisco. They have a shaft over 250 feet deep, with from four to six foot vein, yielding tons of ore sufficiently rich for jewel settings, much of it being apparently half gold. Mr. Watson has owned



this mine for a long while; it once closed up on him—pinched entirely out; but observing that the casings continued in the form of a seam, he followed down until the quartz again appeared more abundant and richer than ever. It is now conceded by good judges to be a first class vein. Mr. W. has only hoisting and pumping machinery at present, but will erect, during the coming season, a 20-stamp mill. Success to his efforts.

GOODYEARS' BAR still exists in the geography of Sierra. From this point to Downieville, and far above on the Yuba, considerable mining is being done; to what extent cannot be known, as it is principally in the hands of Celestials.

DOWNEVILLE.—This place, owing to its being the outlet of a vast scope of mining country, presents a comparatively lively appearance. Quartz is beginning to attract considerable attention, although as yet but little is done except to make a start in the matter. There are some twelve or fifteen veins in the immediate vicinity, sufficiently prospected to establish a value, some of which afford high expectations to their owners. The Gold Bluff ledge (Stumph & Co., proprietors), situated one and a half miles above town, is a well defined vein from four to seven feet in width, paying from \$18 to \$22 per ton. The company have a tunnel in 1,050 feet, and expect to strike the ledge inside of an additional 100 feet, some time during the coming winter, when they will tap the vein at least 700 feet below the surface. As soon as this is done, they will start their 12-stamp mill situated on the vein about 200 yards below the mouth of the tunnel. The Good Hope (Dr. Jump, McKinsey and others, proprietors), one mile from town, and finely located for working by means of tunnel, is a clearly defined three foot vein of decomposed gold bearing quartz, all of which prospects well, and from several mill tests, yields \$21 per ton. They are down 100 feet, finding gradual improvement in both quantity and quality as they go down. Intend running a tunnel this winter to strike the ledge 300 feet below the surface. More next week. B.

INDIA RUBBER which is ordinarily cut with so much difficulty by a knife, may be quite readily severed if the operation is performed under water.

A LATE Boston notion is to generate steam with the aid of waste coal dust, very fine, injected by a current of compressed air into the space over the fire, where it is said to burn with an intensely hot flame, greatly increasing the production of steam.

A. T. DEWEY. C. W. M. SMITH. W. B. EWER. THE BEST IN AMERICA.

The Mining and Scientific Press, is the Largest and Best MINING AND MECHANICAL Newspaper issued in the United States.

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THE MINING AND SCIENTIFIC PRESS is published every Saturday. Each issue comprises sixteen pages (64 columns), and furnishes more valuable reading matter than any other weekly journal in California.

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SAVING PRECIOUS METALS, All progressive information, in fact, transpiring with the times—which cannot be obtained from books.

The Mining and Scientific Press is now in its FIFTY-SEVENTH VOLUME, and enjoys a large circulation. It received the following hearty endorsement of the California Miners' State Convention, held at Sacramento, January 17th, 1886:

RESOLVED, That we regard a mining paper or journal of great importance to the mining interests of California, and recommend the Mining and Scientific Press, of San Francisco, to the consideration and support of the miners of the Pacific coast.

Terms of Subscription.—One year, \$5; six months, \$3—in advance. Send for sample copies. Remittances may be made by mail at our risk, if parties sending will register their letters, or send money order.

AS AN ADVERTISING MEDIUM throughout the whole Pacific States and Territories, the Press is unsurpassed. Rates moderate.

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July 1st, 1887. Mining Secretary.

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out. Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, when purchasing goods are employed, to send their orders to the undersigned.

J. M. BUFFINGTON, 17y15-4f No. 5 Government House, San Francisco.

BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA. Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN. Price, \$5.—For sale at the office of the Mining and Scientific Press, San Francisco 13v151t

SULPHURETS; What they are; How Assayed; How Concentrated; And How Worked; With a Chapter on the BLOW-PIPE ASSAY OF MINERALS.

By WM. BARSTOW, M. D. Published by A. Roman & Co., San Francisco. For sale at this Office.—Price, One Dollar.

With the aid of this Book, the miner can assay his own ores, requiring but few materials, etc., except such as are generally to be found in the interior towns. 21v151f

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A GENTLEMAN WELL VERSED IN ASSAYING AND Analytical Chemistry, is desirous of securing a position in some assaying establishment, or would take charge of the assaying and amalgamating department of either a gold or silver mine. Steady employment, rather than high wages, is desirable. The advertiser would take his own laboratory to the mine if desired. Proper references given inquirers at this office. 3v151f

To Quartz Miners.

Two Quartz Mills for Sale at very Low Rates. PARTIES WISHING TO PURCHASE WILL SAVE 50 PER CENT by calling at HOWLAND'S SAMPLE MILLS, No. 24 California street, San Francisco. 24v15-3m

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HAYWARD & COLEMAN, IMPORTERS AND REFINERS OF ILLUMINATING, LUBRICATING, PAINT OILS! CONSISTING OF KEROSENE, LARD, SPERM, ELEPHANT, POLAR, TANNERS', NEATSFOOT, BOILED AND RAW LINSEED, CASTOR AND CHINA NUT.

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Machinery. NOTICE TO MERCHANTS AND MANUFACTURERS. Moore's Patent Friction Hoist. Now in successful operation in the principal stores in San Francisco, possesses many advantages over the common Hoist—viz: Greater strength; less danger in working, as goods require no slinging or landing, consequently make fewer breakages; requires one man less to operate it; stops with the load at any point, without any fastening or attention from the operator. The undersigned take this opportunity to notify all whom it may concern that they have secured, by letters patent, the application of a friction pawl, or stop, to hoisting machines, and that they will prosecute any party making or using any machine infringing upon the same. VULCAN IRON WORKS CO., By Joseph Moore, President. JOSEPH MOORE.

BLAKE'S PATENT QUARTZ CRUSHER. CAUTION! The owners of the Patent for this valuable machine, in order to facilitate the protection of their rights against numerous infringers, procured, some time since, a reissue of the Patent, bearing date January 9th, 1866.

This Patent secures the exclusive right to employ in Stone-Breaking Machines Up-right Convergent Jaws, actuated by a Revolving Shaft. All persons who are violating the Patent by the unauthorized making, selling or using machines in which quartz other material is crushed between upright convergent jaws, actuated by a revolving shaft, are hereby warned that they are appropriating the property of others, and they will be held responsible in law and in damages.

Noticé to Miners, Well-Borers and Water Companies. M. PRAG IS NOW PREPARED TO MANUFACTURE Hydraulic and Artesian Well Pipes in the best workmanlike manner, and at the lowest market rates. Having made large additions to my stock of machinery for that branch of business, I am prepared to fill all orders with dispatch, and guarantee entire satisfaction. I also manufacture Mississippi Stoves, of the latest improved pattern, for vessels of all classes. Also, Ship Plumbing done. M. PRAG, 8v13-1y Stove Store, No. 125 Clay street, below Davis.

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New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand New and Important Inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent Issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

PATENTS RECENTLY ISSUED.

70,628.—ADJUSTABLE PROP-JOINTS FOR CARRIAGES.—Anson Searle, San Francisco, Cal.:

I claim, 1st, An adjustable or extension prop-joint.

2d, A socket, pivoted, or center joint, all substantially as described, and for the purposes set forth.

70,763.—FAN-BLOWERS.—Warren P. Miller, of San Francisco, Cal.:

I claim the blower, consisting of two or more wheels, constructed and operated in manner as described.

70,781.—SEEDING MACHINES.—Robert Baxter, of French Camp, Cal.:

I claim, 1st, The seed-hox, constructed as described, and provided with a rod and prongs, so located that a part of the several prongs only are in the box, and that at the front side thereof, as and for the purpose described.

2d, The elbow-lever, operated by a pin on the plow-wheel, and operating the rod with its prongs, in combination with said rod, in the manner and for the object set forth.

70,804.—LEVELING ATTACHMENT TO AGRICULTURAL IMPLEMENTS MOUNTED ON WHEELS.—Benjamin F. Cook, of Olema, Cal.:

I claim the application of a wheel, F, provided with a rim, a, beveled so as to form inclined planes, and interposed between the rear axle and bolster of the machine, substantially as and for the purpose set forth.

I also claim the combination of the wheel, F, and the capstan or winch, H, substantially as and for the purpose specified.

I further claim the rake, e, arranged in relation with the drum d of the capstan or winch, H, and connected to the lever, Gx, when said parts are used in combination with the wheel, F, for the purpose set forth.

70,839.—AMALGAMATOR.—Fred. G. Hesse, of San Francisco, Cal.:

I claim, 1st, The narrow annular amalgamating-chamber, A, formed by a revolving cylinder, D, and an inner cylinder, either stationary or revolving with D, constructed for very high speed, and in combination with a hydraulic device to cause a current of water to pass through said chamber, for the purpose substantially as described.

2d, The use of an extra current within the chamber, A, for the purpose of discharging pulp without interfering with the amalgamating current, substantially as described.

4d, The manner of producing this current by means of a centrifugal head and guide-blades, substantially as described.

70,914.—GOLD SEPARATOR.—William C. Stiles, of Nevada City, Cal.:

I claim, 1st, The arrangement of the openings, o, o, protected by screens, s, s, and ledges, l, l, upon an inclined vibrating table, T, having a series of transverse ledges, l, l, for the purpose of separating the gold dust from dirt, substantially in the manner described.

2d, The combination and arrangement of a series of foraminated water troughs, w, w, with an inclined vibrating table, T, having openings, o, o, and ledges, l, l, substantially as and for the purpose set forth.

70,959.—IMPROVEMENT IN CHURNS.—Chas. Colby, San Francisco, Cal., assignor to himself and Michael O'Neil, of same place.

I claim the combination and arrangement of the driving-shaft, B, gears, C and E, with gears, D and F, at the opposite end of the churn, with the dashers, H and K, and barrel L, all as described for the purpose set forth.

This invention consists in providing a more efficacious method of dividing and agitating the particles of cream by a system of rotary dashes or arms operating in contrary directions, the one within the other. This is done by constructing a churn with a circular barrel having a shaft passing longitudinally through its center, at one end of which is a pinion operated by a gear-wheel on the driving-shaft. This central axis carries a set of arms or dashers. Another set of dashers is carried in a contrary direction by a gear and pinion at the other end, their supporting arms being so long that they revolve outside the first mentioned dashers.

CHALLENGE FOR TWO THOUSAND DOLLARS,

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THE EXCELSIOR PUMP COMPANY

Hereby challenge Mr. THOMAS HANSBROW in the above amount, to a Mechanical Trial between his "Challenge Pump" and the "Excelsior Pump," the trial to take place in San Francisco, before a

COMMITTEE OF MECHANICS,

Each Pump to be constructed in accordance with its patent, and to be tested from their least to their greatest capacity, together with the power required by each Pump. A meeting for settling arrangements for the trial may be had at the office of the MINING AND SCIENTIFIC PRESS. This Challenge open for sixty days.

The "Excelsior Pump"

Was NOT entered for the GOLD MEDAL, at the recent State Fair, as it was verbally agreed, by Mr. Hansbrow and Mr. Hooker, that they would not enter their Pumps for the Medal, as no means were provided for testing machinery, and believing that

Policy, not Merit of Machines,

Was to govern the award of prizes. The inference is clear—hence the above Challenge.

CUSHING & HOOKER, Prop'rs.

23v151c

71,011.—IMPROVEMENT IN AMALGAMATORS. Alfred Horn, Silver City, Nev.:

I claim, 1st, The application of a scraper or distributor, C, to an amalgamating machine or pan, for the purpose of distributing the mercury through the pulp, substantially as described.

2d, Arranging the said distributor to an amalgamating machine, so that it may be easily adjusted to the wear of the shoes and dies, substantially as described.

The nature of this improvement is to provide means for constantly enlivening the mercury employed for amalgamating the precious metals, and consists of a scraper or distributor, having an arm attached to it, the end of the scraper operating in a groove, in which the quicksilver is placed around the bottom of the pan, the whole being attached to the muller-frame to be carried around with it. In most amalgamating pans, says the inventor, there is a space between the inner end of the mullers and the cone that is recessed for the purpose of holding mercury, and which large body of mercury has no means whereby it may be distributed in the pulp, except by the friction of the pulp or ore passing over its surface; and in many instances the surface of the mercury becomes covered with a film or coating, which render it wholly inactive and ineffective for taking up the precious metals, the friction of the pulp being insufficient for removing the scum or coating.

71,056.—IMPROVED ROCK DRILLING MACHINE.—Walter Pierce, Union Valley, Cal.:

1st, I claim the adjustable ways, C, having the drill, D, and the slotted hammer, F, moving upon them, substantially as and for the purpose described.

2d, The levers, J, I, and G, operating upon each other, and upon the hammer, F, substantially as and for the purpose described.

3d, I claim in connection, as an improved drilling machine, the levers, J, I, and G, the hammer, F, operating upon the drill, D, together with the adjustable ways, C, C, the whole constructed substantially as and for the purpose described.

The object of this invention is to provide an improved horizontal drilling machine, which can be operated in tunnels, or in any place where it is difficult to swing a sledge, and with greatly increased power and efficiency, the direction of the drill being determined by the angle of the ways in which it and the hammer move. The hammer is moved backward and forward by a lever or system of levers so arranged as to be worked with the greatest facility.

71,085.—WRITING APPARATUS FOR THE BLIND.—John Synnot, San Francisco, Cal.:

I claim, 1st, The tablet with pins, b, b, and the hinged frame, B, with notches or slots, a, a, substantially as described.

2d, The bars, E, F, and the measuring block, H, with the pin, I, together with the following-block, G, with its projections, c, and lug, d, substantially as described.

The nature of the invention is to provide a machine, such as will enable that class of persons who have become prematurely blind or near-sighted to write letters and direct them, as well as to perform any correspondence or manuscript writing. In order to accomplish this object, the inventor employs an inclined tablet or desk, having an inclined drawer for stationery. On this tablet is placed a hinged frame, upon the sides of which are placed slots, about one-half of an inch apart, in which are placed two rods or bars, the upper one of which acts as a guide to obtain the width of the line, and is curved at both ends. Upon the lower bar or rod are placed two blocks, one of which fits closely upon it, and is for the purpose of a measure; the other one acts as a guide, and moves easily along the bar. Pins are placed in one corner of the tablet for the purpose of a guide to the sheet of paper and envelope.

REISSUES.

FUSIBLE DISKS FOR STEAM BOILERS.—William Burnett, of San Francisco, and John Absterdam, of New York city, having petitioned for the extension of a patent granted to them the 28th day of February, 1854, for an improvement in the use of fusible disks in steam boilers, for seven years from the expiration of said patent, which takes place on the 28th day of February, 1868, it is ordered that the said petition be heard at the Patent Office on Monday, the 10th day of February next.

GANG PLOW.—William B. Ready, of Sacramento, Cal., has petitioned for an extension of a patent granted to him Dec. 3d, 1861. The claims for the same are as follows: I claim, 1st, The curved beams, A, when used in connection with a gang plow, or a series of plows connected together by cross-bars, B, B, constructed and operating as and for the purposes herein set forth.

2d, The arrangement of the arms, G, wheels, I, and lever, J, when attached to the right-hand arms, G, and connected to the central beam, A, as and for the purpose set forth.

3d, The arrangement and application of the draught at any point or place below the top of the standard of the plow, as specified and described and for the purposes set forth.

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26v14n16p

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SIXTH INDUSTRIAL EXHIBITION

UNDER THE AUSPICES OF THE

MECHANICS' INSTITUTE, SAN FRANCISCO.

The undersigned, acting under authority from the Mechanics' Institute of the City of San Francisco, take pleasure in announcing to the public that they have resolved upon holding an Industrial Exhibition in the month of August, 1868, on a much larger scale than was ever before attempted on this coast; and they make this early announcement of their intention, that all who may desire to participate shall have ample time for preparation.

A programme, embracing rules and regulations for the government of participants, with list of Premiums to be awarded, etc., is receiving such earnest and careful attention as the importance of the enterprise demands and in due season the same will be made public by circulars widely distributed, and by advertisements in the leading journals of this coast.

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SAN FRANCISCO, SATURDAY, DECEMBER 28, 1867.

VOLUME XV.  
Number 26.

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## Close of the Year.

With this number we close the year 1867. The year's list of the distinguished dead, so far as their names have reached us, is recorded in another column; but as we have not yet quite reached the point where the "down grade" commences, the sad tidings of the departure of others may yet come in. But these constitute a mere moiety of the mighty procession which has crossed the dark river during the year just drawing to a close. More than thirty millions of human beings have gone down into the shoreless ocean since last wo, who are left, exchanged New Year's greetings! What a terrible "dead march" is that of this mournful column,—moving along,—tramp, tramp,—on its way to the silent shades of "the evermore!"

Men fall everywhere. From the throne, from classic shades, from the lofty seats of science, from the pulpit and from the forum,—they fall;—high or low, at home and abroad, they die. In how many home circles are missed to-day some who so happily commenced the year with us! The absence of father, mother, brother, sister,—some dear little child, or some favorite friend,—brings heartfelt sorrow to thousands. The quick tear starts to the eye as the vacant seat at the festive board is noted; and those who remain instinctively draw together in closer communion, as if to close the gap.

All things material bear the legend, "Passing away." Even the solid earth will, in its turn, cease to be. Not Revelation only, but Science, has thus declared. Its elements will recombine in changed forms, as will those which constitute the material part of man. Does nothing, then, remain unchanged? Yes! that which has had a single glimpse at the Infinite; that which has had, for one instant, a conception, however vague, of something beyond itself; that which feels within itself a dependence upon a personal Deity! This consciousness of Infinity, is itself infinity. What some men call Nature, and recognize as the only God, will die; and as man, when dead, is laid in the grave by those who remain, Nature herself will, in her turn, be buried and forgotten, so to speak, by the Eternal and his angels.

**MINING AND SCIENTIFIC PRESS PATENT AGENCY.**—Twelve patents were issued to inventors in this State from the U. S. Patent Office at Washington, for the week ending Nov. 19th. Of this number ten were obtained through the **MINING AND SCIENTIFIC PRESS PATENT AGENCY.** Inventors on this coast appear to have a due appreciation of the advantages of obtaining their patents through us. Having a regular established agency at Washington, where personal attention is given to every application through this office, gives us a most important advantage in securing an early, and the fullest and most favorable attention to our business. Inventors will always find it to their advantage to transact their business through a well established and responsible firm, whose interests are permanently and closely identified with the prosperity of this coast, to say nothing of the advantages of having their inventions fully set before the public through the columns of the **MINING AND SCIENTIFIC PRESS.**

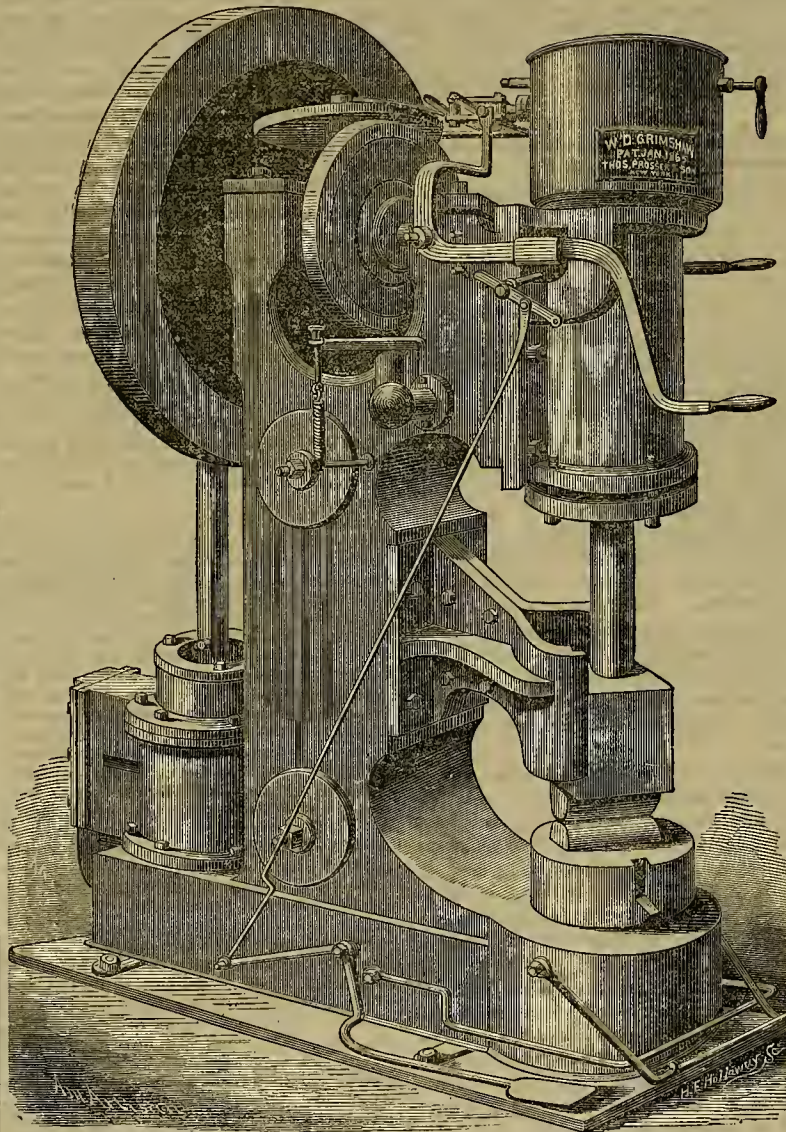
## An Improved Compressed Air Hammer.

The invention herewith illustrated exhibits another form of the Compressed Air Hammer, illustrated and described in our issue of October 5th, 1867. The object of hammers of this description are to obtain a great range of force, coupled with any required rapidity of blows, so as to be suitable

for the blows beyond the speed of revolution of the driving-pulley.

An efficient hammer worked by compressed air is found very advantageous in many situations, such as where there would be a material loss of power by condensation in bringing steam from a great distance. It also meets the cases where water-power or other power than steam is alone available;

in the valve-chest, by which the air is drawn into the reservoir by inlet-valves, and there retained by suitable delivery-valves. The pressure of the compressed air is regulated by the safety-valve, E. F is the hammer-rod and piston; the air is admitted above and below the piston alternately by the valve, G, at the top of the cylinder, and escapes by an exhaust port at one side of the cylinder. The pressure of the air admitted from the reservoir, D, is regulated by the throttle-valve, I, worked by the foot-treadle, K. The slide-valve, G, is worked by a crank-pin on the horizontal disk, M, and this is driven by contact with the vertical wheel, N, on the shaft of the driving-pulley, B. The disk, M, is pressed down by a spiral spring on the lower end of its spindle, and the wheel, N, slides along the driving-shaft on a feather, and is shifted by a lever, P, varying the speed of driving the disk, M, by acting upon it at different distances from its center, and thereby giving a range of speed for driving the slide-valve up to more than double the rate of the revolution of the main driving-pulley, B. By means of the lever, P, the number of blows of the hammer can be changed without stopping from one hundred and fifty to four hundred and twenty per minute, with a working speed of the driving-wheel of one hundred and fifty to two hundred revolutions per minute. The valve-spindle is connected with the crank-pin on the driving disk, M, by a connecting-rod, which can be disconnected at pleasure, and the slide-valve can then be worked by hand or foot by means of the lever, T, when the hammer is required to be used for stamping. L, L are two screws, which pass through the side of the valve-box and serve to hold the cut-off slides stationary in any desired position. The force of the blow is regulated by shifting the safety-valve weight, E, or by means of the throttle-valve, I, altering the pressure of air upon the top of the hammer-piston, and the slide-valve motion admits of altering the rapidity of the blow instantaneously, giving also the means of obtaining a very high speed without involving any destructive tappet-motion as the small slide-valve, G, is alone required to be worked at the high speed; by the use of the hand or foot lever, T, the hammer is readily and conveniently worked as a simple stamp. When the hammer is at rest, the pump and air chamber may be employed as a blast or blower for the furnace with considerable advantage and economy.



GRIMSHAW'S PATENT IMPROVED COMPRESSED-AIR HAMMER.

for any description of forging, light or heavy, for tilting or for planishing. These machines are also capable of being worked by hand, with heavy blows, for stamping.

The machine herewith illustrated consists of a force-pump, supplying compressed air to a reservoir, and a working cylinder and piston with hammer similar to those of a steam-hammer, but worked with compressed air instead of steam, and having arrangements for varying the action of the hammer as required, and increasing the rapidity of

and has an advantage in being always ready for work, not having any accumulation of condensed water in the cylinder and passages as in the steam-hammer. It also possesses many other advantages which we have no space to enumerate.

In the illustration, the double-acting air-pump, A, is worked by a crank-pin on the driving-wheel, B. The interior of the hammer-frame, D, is hollow and air-tight, and forms a reservoir into which the compressed air is delivered by the pump. C is a port

This hammer is the invention of Wm. D. Grimshaw, of Birmingham, England, an illustrated description of which first appeared in the United States in the *American Artisan* of January 30th, 1867. The United States patent is owned by Thomas Prosser & Son, of No. 15 Gold street, New York, who manufacture the hammers, and on whose premises one may be seen in operation.

The amount paid for Russian America is about 2½ cents for each acre contained in the ceded territory.



## Communications.

IN THIS DEPARTMENT we invite the FREE DISCUSSION of all practical subjects—correspondents alone being responsible for the ideas and theories they advance.

[Written for the Mining and Scientific Press.]

### The Freiberg, or Barrel Process, for the Reduction of Gold and Silver Ores.

BY PROF. ROWLANDSON, F. G. S. L.

NUMBER SIX.

#### THE CHLORINE AND BRINE MODE.

An article by Dr. Lanzweert, which appeared in the *MINING PRESS* of the 14th instant, has induced me to return to this subject at greater length than I originally intended when commencing this series. In the first place, I wish to observe that it was my intention to confine my observations, in a great measure, to actual working trials, not to mere experiments, such as those quoted by Dr. L. appear to be, as I shall show hereafter.

In order to arrive at a proper understanding in relation to this process, it is requisite to become acquainted with the respective properties of chlorine as a solvent of gold, and a solution of common salt as a solvent of chloride of silver, before a rational conclusion can be arrived at, whether the process now under investigation is the most economical, or otherwise, for the reduction of any particular variety of ores containing an admixture of the above-named metals.

As Dr. L. states that "he is not aware as to the amount of chlorine gas capable of being held in a *hot solution* of common salt," I will endeavor to supply the necessary information of which he states that he is deficient, and respecting which it cannot therefore be expected that chemically uneducated men could be better informed.

Chlorine, at ordinary temperatures and barometrical pressures, is a greenish-yellow gas, having a specific gravity, as compared with atmospheric air, of 2.470, so that 100 cubic inches will weigh within a minute fraction of 77 grains. This high specific gravity forms one of its most useful properties in obtaining gold from its ores, as it is easily applied by displacement. At the temperature of 60° water holds in solution twice its volume of chlorine. At the freezing point it can be further condensed, in combination with water, into crystals—the hydrate of chlorine—composed of one atom of chlorine (28.23 per cent.) added to ten atoms of water (71.77 per cent.). There are other interesting properties associated with this compound as well as the one which will be next noticed, which in the hands of a skilled expert could, not unfrequently, be economically taken advantage of in a cold country, or one possessing great diurnal as well as seasonal alterations of temperature like the State of Nevada, to particularize which, however, would require more space and time to describe than can at present be afforded.

Chlorine water, or aqueous solution of chlorine, may be formed by saturating water at 60° with chlorine gas, which gas at this temperature, becomes absorbed by pure water to the extent of double its volume. The mixture will freeze at 32°, when the compound will resolve itself into crystals of hydrate of chlorine and ice, the latter being free from chlorine. The crystals so formed, however, gradually decompose into aqueous hydro-chloric (muriatic) acid, and oxygen, particularly, if exposed to light.\* The maximum absorption of chlorine by water takes place at a temperature of about 48° from which, up to the boiling point (212°), this absorption property gradually diminishes as the temperature increases, so that when boiling heat is reached it may be regarded as nil. In a saturated solution of common salt the absorption of chlorine is slightly more than one-third less than what takes place when pure water is employed; a saturated solution of common salt, therefore, in place of absorbing 154 grains of chlorine in

every 100 cubic inches of liquid, will only absorb 103 grains, on which scale are based many of the succeeding calculations.

The temperature of lixiviation assigned by Rivot\* when a solution of common salt is employed as the solvent for extracting chloride of silver is stated to be 131°, at which temperature a solution of common salt, such as is ordinarily employed, would be capable of holding in solution, even at that temperature (131°), a volume of chlorine equal to that of the space occupied by the leaching liquid.

With a ton of prepared ore this could not amount in any case to less than 1,000 lbs. of such saturated solution, or 16 cubic feet, which, at 1,330 grains of chlorine for each cubic foot of liquid, would amount to 21,280 grains in 16 cubic feet (1,000 lbs). The combining properties of chlorine is 35.4, that of gold, 199; as, however, the ordinary chloride of gold is a ternary compound, the former figures have to be multiplied by three, by which it will be seen that 44.33 troy ounces (21,280 grains) chlorine will combine with and render soluble 83.66 troy ounces of gold, which, as fine gold, may be estimated as worth \$20 per ounce, or a sum total of \$1,773.20. From the statement just made, it is quite apparent that at a temperature of 131°, a solution will be hot enough to scald Dr. Lanzweert's fingers or feet, if he should ever attempt their immersion in such a calorific bath; and chlorine will be present at this temperature sufficient to abstract in solution more than \$1,500 worth of gold per ton even when employing a minimum of solution to cover the ore. Such an ore would not be placed in the category of poor ores, at all events at the present day, whatever it might have been considered in the wild insane excitement of 1859-60. In conclusion, it may be observed that a *hot solution* does not necessarily mean "boiling hot."

The Solubility of Chloride of Silver in Solutions of Common Salt will be considered next week.

\* Which will hereafter be quoted more at length.

[Written for the Mining and Scientific Press.]

### Mining in Sierra County.

[Continued from page 393.]

#### AN EXTENSIVE MINING CLAIM.

The Downieville Buttes, thirteen miles up the river from Downieville, are located and are now being worked successfully. There are several leads here that will rank as first class. First and foremost, is the "Reis" mine, owned by the Reis Bros., proprietors of the Cosmopolitan Hotel of this city, and superintended by F. Reis. Unlike ninety-nine out of a hundred, this mine has paid from its earliest history—having never made a "clean up" without declaring a dividend. This mine embraces three ledges, varying in width from six to twenty feet, all merging into one main trunk near or within 300 feet of the head or upper end of the Reis claim. At the junction of the three veins, is an immense chimney from twenty to forty feet in width—all pay rock. Chimneys also exist and are being worked, in either of the branch veins below. The mine is thoroughly opened by a series of tunnels showing from one to two years' supply of rock ahead. The ore is let down the face of the mountain by car and double track—the loaded car hauling up the empty one. The ore averages fourteen dollars per ton, saves easily, using no process except copper plate. There are two mills placed a short distance below the lower tunnel, the upper one driving twelve and the lower sixteen stamps. Immediately below are erected and in operation, twenty-one arastras, griding tailings; these are contracted out to three separate companies, the whole three employing a force of twelve men, who build their own arastras and do all the work with nothing furnished except (water) power—paying twenty-five per cent. of gross receipts to the mill company. The latter receive a clear profit of \$3,000 per annum from the tailings alone. The gross receipts of the mill company for 1866, was \$226,000. Whole cost of milling and milling does not exceed five dollars per ton. All the machinery, including twenty-eight stamps and twenty-one arastras, is driven by water power, using less than 150 inches. The company give constant employ to an average of sixty men, paying from \$50 to \$65, per

month, with board. Mr. Reis is emphatically, a shrewd manager, devoting his whole time and energies to his business, and is rewarded, as his balance sheet will show, with perfect success.

"Independence Mine," or "Independence Quartz Co.," H. F. Wood, President, and Superintendent. This enormous vein, ranging from 40 to 60 feet in width, is a continuation of the main trunk of the Reis mine. The pay strata varies from four to twenty-two feet in width, averaging \$13 per ton. The company employ sixty hands; have a fine 24-stamp mill, hoisting and pump machinery for working lower level, raising to the tunnel that leads to the mill. There are also four arastras that nett to the company \$1,200 per annum. The gross proceeds of the mine from July 1866 to '67, were \$114,000, and will increase handsomely the coming year. All the machinery is driven by water power taken from a flume, built and owned jointly by the two adjoining companies at a cost of \$50,000. Mr. Wood has evidently had great experience in mining, and although this mine was heavily embarrassed when the reins of management were assumed by him, he is now nearly out of debt, and will very shortly be beyond the dictation and control of creditors.

The "Chips" ledge, Higgins & Vander-walker, proprietors, is a beautiful six foot vein of dark brown gold-bearing quartz, and situated about two miles or more from the Reis mine, on the opposite side of the Yuba, and a little above Sierra City. This mine is well prospected by 275 feet of tunnel, tapping the ledge 200 feet below the surface. From this point they have tunneled north 125 feet and south 50 feet, making 175 feet in all at the same depth on the line of the ledge. They have found quite an extensive chimney of good average \$16 ore, and occasionally showing some very rich specimens. The present owners have recently come into possession of this mine, together with an old fashioned 4-stamp water mill. They will erect another eight stamp mill the present winter or spring following. Also drive another tunnel, striking the ledge 400 feet down. Mr. V. is old in the business of amalgamating, and thinks the question of "success" only a matter of time.

"Hawkeye," (Beard & Co.) This is an astonishingly rich vein situated on the summit of Downieville Buttes. This vein is very narrow on top, but has increased to thirteen inches at the depth of twenty-five feet. It was discovered during the past summer, and to give an idea of its richness, the company were offered a quartz mill for the first twelve sacks of rock taken out! They refused the offer and have built a 5-stamp mill themselves, to be used principally for crushing ore from the "Phoenix," another lead partly owned by the same company, and situated about 400 yards below the Hawkeye. This latter vein is from eighteen inches to two feet in width, and appears to be a fair quality of rock. Their mill is located on the river at the foot of the mountain, distance about one and a half miles from the mine; whole cost ready for running \$4,500. The writer has since learned that this company has suspended operations for the winter.

"Keystone" (Scammon & Co.) R. J. Jones, Superintendent, situated three and a half miles south of the Buttes on the opposite side of the river; ledge from two to six feet in width, averaging from \$15 to \$18 per ton. This company have a hoisting engine in their present working tunnel, placed 900 feet from the entrance, and 400 feet below the surface. At this point they have a shaft down 200 feet below the above mentioned tunnel, and are to sink 100 feet further to connect with their lower tunnel, which taps the ledge 700 feet below the surface. The mine will soon be well opened and in a condition to be a steady paying property. They have a fine 12-stamp mill driven by steam, 30-horse power engine. They employ 28 hands—wages \$60 per month and board. This property is spoken of in the highest terms, and is now running in "full blast," taking out "big pay."

#### EUREKA NORTH.

Although many have left this locality with their fortunes, and gone back to their native homes, there yet remains here a vast range of unwashed gravel, a portion of which is or will eventually be proven to be equal in richness to any yet worked. The recent rich "strike" at Fir Cap Mountain,

only one and a half miles from town, where they have taken out as high as \$800 to the man [per day?] is evidence, unquestionable that but a fraction of the precious metal has yet been found. The Fir Cap discovery is evidently a new channel, ranging through from the place of discovery to a point immediately east of Howland Flat. The gold is of a different quality from any yet found in this vicinity, is worth only \$16 per oz.; while that of Monte Christo and Eureka ranges from \$18 to \$18.50. Other appearances and indications also go to show to the close observer that an unknown channel bearing a new quality of gold is but just barely tapped. Miners hereabouts are all busy putting their claims in order for another season, for there is yet a great amount of money to be taken from known claims that are only partially worked.

#### HOWLAND FLAT.

Mining at this place is carried on quite extensively. All the different companies are engaged trying to scrape the bottom out from Table Mountain. The poorest of them appear to obtain enough to keep up expenses and still prosecute their search for richer placers, and some of them, particularly the Union company, are doing a heavy paying business. This mine is owned by E. A. Stroh & Bro., and Moyle & Bro., four partners. They have a drain tunnel over thirty-five hundred feet in length, and hoist all their pay dirt up an incline of 375 feet. Hoisting works are driven by water power ingeniously and economically applied, using the water over again in washing. This they own themselves, and have a constant supply sufficient for their own use. By invitation, the writer was present to witness a "clean up" from four days' run. Only about fifty feet of the upper end of the sluice was taken up, and inside of two hours' time a clean batch of over \$3,000 was panned out and ready to be deposited in the safe, no quicksilver being used except in the lower part of the sluices, which they clean up only once a month. The gold is coarse and easily saved.

The "Sierra" and "Fashion" companies, on the opposite side of the mountain, are evidently doing a fine paying business. Mr. Foss of the former and Mr. Chase of the latter are chiefs-in-command. Mr. Tabor, of the "Monumental" company, is striving diligently, and rumor has it that he has got a "good thing."

The "St. Louis" is not yet worked out, and apparently has a chance to exist for a long term of years. The town itself has only to slide over the bank and a new set of claims opened as good as any yet worked.

#### GIBSONVILLE.

Drift mining is being carried on quite largely in this district. Some rich and extensive mines are being worked with marked success. The writer hopes that upon his next visit he will be enabled to make a longer stay, and acquaint myself with more particulars.

#### PORT WINE.

Considerable is done here, evidently. All are making a good living and investing their surplus funds developing their claims.

#### MORRISTOWN.

The American company, Thomas Smith & Co. owners, are doing exceedingly well, realizing \$18 to the man during the water season, which lasts generally from six to eight months. Several other claims are supposed to be doing nearly as well. All are busily engaged fitting up to commence "playing" their pipes now very soon. B.

COAL in abundance has been discovered on the route of the U. P. R. R., west of Dale creek. Beds have been found equaling in extent those of England, and capable of supplying the whole country even if thickly settled to the Missouri river. Prof. Hayden, the U. P. R. R. Geologist, has examined it and pronounced it fit for locomotive purposes. So says the *Colorado Times*.

INSTANTANEOUS LIGHTING OF CANDLES.—At the Royal Palace at Berlin, 40,000 wax candles are instantaneously lighted by one match. The mode of proceeding is simple enough, the wicks being all previously connected by a thread spun out of gun cotton, on lighting one end of which all the candles are lighted simultaneously, and thus the whole of the 700 apartments are illuminated at once. In Russia the same ingenious method is employed for lighting up the churches on grand occasions.

TO BLEACH PETROLEUM.—Petroleum is bleached by shaking it successively and repeatedly with oil of vitriol, and then with a strong solution of caustic soda, allowing the oil to separate each time. A subsequent distillation will also greatly improve it.

\* It was in reference to this circumstance, that muriatic acid is formed in aqueous solutions of chlorine, that I considered the so-called Calvert invention inferior to the use of gaseous chlorine, that has been purified from muriatic acid by passing through water prior to use.



## Mechanical.

## Necessity of Further Methods for Producing Steel.

The growing necessity for the production of steel in large quantities, and to serve many purposes hitherto fulfilled only by iron, is calling loudly for a converting process which does not entail the very heavy cost incident to the adoption of the Bessemer process. Great as has been the benefits derived from the discovery of the Bessemer principle of conversion, in the possibility which has thereby been created for the more wide application of steel in the industrial arts; the want of a still more general application of this most valuable condition of iron, is perhaps more sensibly felt at the present time than ever before. As a consequence, researches in this direction, which seem to be almost exclusively confined to our English cousins, is constantly being applied to efforts to satisfy this great and growing want. At this particular time the attention of English ironmasters is being particularly directed to the process recently invented by Mr. Heaton, of the Langley Mills, Nottingham, for purifying pig iron, and converting it into a kind of steel, a brief description of which is given in *The Ironmonger*, as follows:

The mode of procedure is to place from seven to nine pounds of nitrate of soda in a movable bottom, which, with a perforated iron plate over the salt, is clamped to a cylindrical converter lined with fire bricks, and having an upright funnel to carry off the products of combustion. A charge of about fourteen hundred weight is run into this converter from a cupola. Rapid combustion takes place for about two minutes and a half. The flame then becomes bluish, and finally dark colored, after which a series of sharp explosions follows in rapid succession, and brilliant sparks are given off, something similar to the scintillations observable in the Bessemer process. When the action has subsided, the molten metal is run into ingots.

It is said that a substance closely resembling steel has been made by this process, but the experiments do not seem to have been yet conducted with that systematic accuracy which is desirable before the results can be relied on unhesitatingly. The trade will await with interest the further experiments in progress, and also the publication of analyses showing the nature of the products obtained by this chemical process. Already several Staffordshire firms have taken up the matter, and are said to be satisfied of the value of the discovery. They intend to apply it especially to the production of the cinder iron produced extensively there.

**TRINITY CHURCH SPIRE** of Brooklyn, N. Y., is being built of stone to the very summit. The topmost stone will be a cap completely covering the spire, but surmounted with a cross 11 feet high, the top of which will be 275 feet above the pavement of the foot walk—the spire for 18 feet below and including the cap stone, will be solid masonry, below that point it will be hollow and intersected with floors and strongly anchored with iron cross bars and braces. The mason work is all laid in hydraulic cement, which will render the structure so firm and compact, that were it to topple over it would be quite as likely to break in sections through the stone as through the mortar seams. It will be the highest spire in the country. It is built very slender; but is said to be very strong.

With a view of ascertaining the degree of penetration, when the rifling is carried to an extreme, Mr. Whitworth made a rifled barrel twenty inches in length, giving twenty turns to the rifling, or one in every inch, so that the velocity of rotation at the surface greatly exceeded that of progression. In firing it drove a bullet composed of lead and tin through seven inches of elm.

A DAM has just been built at Marseilles, Ill., on the Illinois river, which is 936 feet in length. It contains 618,000 feet of plank, and 21 1/4 tons of bolts and spikes.

**THE ENGLISH CHANNEL BRIDGE.**—The project of connecting England and France by a tunnel or bridge, seems to be followed up by a persistence which is full of promise for something which shall eventually become practical. Mr. Boulet, the engineer, who seems to have set all his heart and the energies of his life on the enterprise, is now getting up a company for the purpose of making experiments on a large scale, and half the capital required has already been subscribed. The bridge is to be constructed in metal, and supported upon piles carried down to the bottom of the Channel, the enormous weight to be alleviated by a series of gigantic bnoys. The wish of the inventor is now to construct a large model across some river or other, all the proportions being carefully observed.

**LARGE MINING PUMP.**—The proprietors of the Walla Walla Foundry, in Oregon, are building a pump with a cylinder five feet long by 16 inches in diameter. It will raise 72,000 gallons of water per hour, which would be an ample supply for a city of 200,000 inhabitants. The pump is for a gold mining company working a bar on the Columbia River.

A STATIONARY high-pressure steam engine was exhibited in Brooklyn recently, which is said to be the largest ever built in this country. The frame is a hollow tower of cast iron and weighs 33,000 pounds. On the top of this is the cylinder, 46 inches in diameter, and weighing 10,000 pounds. This cylinder is calculated for 1,200 horse power at half stroke, or 2,000 at full stroke. When the engine is in operation, the principal bearings are covered with cold water from a pipe which runs through.

AN ingenious arrangement for the artificial raising of water to supply power for a flour mill in Virginia, is briefly described as follows: "The process is nothing more or less than to introduce steam—the exhaust of a non-condensing engine is sufficient—into a reservoir connected by a pipe with a supply of water below, and then by a jet of water, to condense the steam, creating a vacuum, which is instantly filled with water to be discharged into a flume or reservoir, from which it is carried to the water wheel.

**AN IRON BRIDGE ON THE PACIFIC RAILROAD.**—It has been decided to throw an iron bridge across a deep ravine on that part of the Union Pacific line now being built. The length of the bridge will be 650 feet, in three spans, and it will be carried about 150 feet above the water. It was intended at first to fill the ravine, but it was found that it would take a year's time, and the cost would be greater than to build a wooden bridge.

A GERMAN engineer states that oxide of chromium is the best substance for polishing steel. The article can easily be prepared by heating bi-chromate of potash to redness. It is also used for painting on porcelain. One equivalent of chromic acid is reduced to oxide of chromium, and on well washing the residue of the ignition, neutral chromate of potash, is washed away and the ignition is left behind.

A NEW mode of testing armor plates for ships has been introduced and tried at Chatham Dockyard, England, in which the detection of interior and unseen flaws is made by means of a magnetic electric current. The results are described as satisfactory and conclusive, whether in plates or bars, the smallest defects even having been discovered.

A NICE MECHANICAL WORK.—It is stated that Mr. S. F. Gold, of Cornwall, Conn., an amateur millwright, has built and put in operation a water wheel thirty one feet in diameter, which he claims runs absolutely true, and can be kept in motion by the water through a two inch pipe.

It is said that the number of patents annually issued by the United States is three times greater than that of Europe. More than 200 patents a week have been issued at Washington for the last six months.

The first sleigh bell manufactured in America was made at Chatham, Conn. That town still enjoys a monopoly of this species of manufacturing, having seven factories within its limits that are devoted to it.

THE hardness of silver, so often experienced in carving it, is not so much owing to the presence of tin or lead as it is to the high temperature at which the silver is cast.

## Scientific Miscellany.

## Natural Crystallized Terpin.

Crystallized pitch, or as it is technically called "terpin," is well known in the laboratory; but its occurrence in nature was never met with until some time during the summer of 1866, when Mr. Charles Voy, of this city, a persevering and industrious amateur collector of mineralogical and fossiliferous specimens, and other matters of scientific interest, discovered its existence in Sierra county in this State. While Mr. V. was passing through that county his attention was called to the occurrence of a crystallized substance that was adhering to the fiber of a partially decomposed pine log, which had recently been dug up from beneath three or four feet of loam. The crevices and cavities of the wood were plentifully covered with these crystals, varying in size from a mere point to some three-eighths of an inch in length. They were of brilliant luster, and save in their form of crystallization, resembled small crystals of quartz. Supposing them to be crystallized pitch or "terpin," he collected some of the wood to which they adhered, brought it to this city and submitted them to Mr. Wm. M. Gabb, of the Geological Survey, who forwarded them for examination to Prof. S. W. Johnson, of the Sheffield Scientific School, at New Haven, Conn. Mr. Johnson communicated the result of his examinations to the *Journal of Science* for March, 1867, from which we condense as follows:

The crystals were colorless and transparent; the largest individual was three-eighths of an inch long, one-eighth of an inch wide and one-sixteenth of an inch thick. They were of brilliant luster and well terminated at the free ends. From their occurrence in buried pine wood and from their general appearance, it was at once suspected they might be identical with crystallized terpin. Their faint resinous taste and odor, not to be distinguished from that of the artificial substance, confirmed this view. On application of heat, the substance swelled and afterwards vaporized completely, without blackening and without leaving a weighable residue. On the cold parts of the tube silky crystals of anhydrous terpin condensed. This deposit is characteristic of terpin.

The amount of substance burned was but 0.0975 gm. The increase in weight of the potash bulbs and tube was 0.225 gm. This gives carbon 62.93 per cent. The calculated quantity was 63.16 per cent. The hydrogen determination was lost by the fracture of the tube employed in the examination.

The substance is therefore hydrated terpin or crystallized turpentine camphor  $C_{10}H_{16}O_2 + 2aq$ . Perhaps we should say it is one of the terpins, since, according to Berthelot, the oils of turpentine, on hydration, yield crystals of different degrees of solubility.

The formation of this substance in the buried tree presents no difficulties, since we know on the authority of Dumas, Deville and others, that oil of turpentine in contact with water, combines with the latter in absence of acids or other powerful agents of chemical change.

Prof. Brewer, who is familiar with the timber of California, is of the opinion that the wood to which the crystals were attached is that of a pitch pine, *Pinus ponderosa*. This appears to be the first recorded instance of the occurrence of crystallized terpin, native.

To obtain full information regarding the crystallometrical character of the substance, a portion of the same was submitted to Mr. John M. Blake, of New Haven, who also communicated the result of his examination to the *Journal of Science* of same date, from which we collate as follows:

A comparison of these crystals with terpin of artificial preparation leaves no doubt that the natural substance is hydrated turpentine camphor. The natural and artificial crystals agree closely in their angles, and have the same cleavage. The position and separation of the optical axes is alike in both.

Certain observations made at first, suggested that the two specimens might not be absolutely identical, but rather isomeric hydrates, such as were supposed by Berthelot to result from isomeric oils, derived from the same or different trees. Thus, hemihedrism constantly occurred on the natura-

crystals, which has not been observed on the artificial. The proportional development of the planes was strikingly different. The two specimens manifested opposite pyroelectric characters, in so far that the free-growing extremities of the natural crystals were antilogous poles, (developed negative electricity on heating,) while those of the artificial crystals, first examined, were the reverse, or analogue poles.

On further investigation, these points of difference disappeared. By recrystallizing from alcohol and other solvents, much variation was produced in the planes. On recrystallizing from alcohol, natural terpin lost its hemihedral character, and in case of crystals grown radiating from a support, presented the analogous pole to the solution, like the artificial substance when deposited from the same solvent. Crystals of each, when free-growing in alcoholic solution, had the same development of the planes, and with each there was the same perceptible difference in the proportions of the planes at the two ends of a crystal, by which the poles could be distinguished; but no corresponding difference could be detected in the angles of these terminal planes.

The crystals were found in Sierra county, and not in Shasta, as reported in the *Journal of Science*.

## GENERATION OF STEAM BY HEATED METAL.

Carefully conducted experiments made by immersing iron raised to different temperatures in boiling water, show that more steam is generated, in a given time, by iron of a red heat, just visible in daylight, than by the same piece of iron heated to a white heat. This of course arises from the greater quantity of steam-atmosphere formed around the white hot iron. It has also been further ascertained that the steam generated bears a strict relation to the weight of the metal—being about one pound of water, evaporated from the boiling point, to every nine pounds of red hot iron immersed therein.

The most singular development in connection with these experiments, is the fact that cast iron, raised to the same temperature, generates more steam than wrought iron, the former generating one pound of steam for every eight pounds of iron; while it requires 8 1/2 pounds of wrought iron to generate one pound of steam.

**THE HONEY ANTS OF MEXICO.**—A most curious species of ants is found in Southern Mexico, known as the "honey ant." Among these curious insects a portion of the community secrete honey in the abdominal cavity, until they swell up to the shape of small grapes. These individuals form the storehouse for the balance of the community, and during the winter they are dispatched in succession, to furnish food for the other members of the colony. They also bear much relation to the workers among the honey bees, and, like them, do not possess the power of fecundity. It is a puzzling question among the inquirers into the "origin of species" from a scientific stand point, to comprehend how the sterility of the working ants and bees was ever introduced through the medium of modified descent—the Darwinian theory—or how it is kept up from generation to generation among those individuals who have no posterity to inherit their peculiarity of structure. How, by modified descent, is the honey-making capacity of the "honey ant" transmitted, when those who possess it are year after year, systematically destroyed? These facts seem to point, with almost irresistible logic, to the theory of "special creation."

**CHEAP SUBSTITUTE FOR ANILINE.**—A substance having all the properties of a compound of aniline, has been found to exist in the bodies of a cephalopod of the Mediterranean, known to naturalists under the name of *Aplysies Depilans*. It is estimated that the cost of this substance, after all expenses of fishing and extraction had been included, would be only about \$5 per pound.

The first employment of electricity for firing gunpowder dates as far back as 1751, and is due to Franklin; and in 1767 Priestley turned his attention successfully in the same direction.



## New Patents and Inventions.

Under this heading we shall mention, from week to week as occasion may demand new and important inventions; also, the List of Patent Claims recently issued from the U. S. Patent Office to inventors on the Pacific Coast, and other Patent issues which we deem of local interest to readers on this side of the Continent. Most Patents on this coast are secured through the MINING AND SCIENTIFIC PRESS PATENT AGENCY. We are prepared to obtain from Washington, with despatch, copies of any Patent issued.

## PATENTS RECENTLY ISSUED.

70,995.—IMPROVEMENT IN FURNACES FOR ROASTING ORES, HENRY GOLDING, SILVER CITY, NEVADA.:

I claim, 1st, The working of ores in molds or chambers, substantially as described.

2d, The arrangement of molds containing ores to be roasted, so that they can be gradually brought nearer the fire or removed from it.

3d, Removing the molds containing ores from the fire, while undergoing the process, so that the decomposition may be conducted without additional heat, by the placing of a freshly filled mold containing unroasted ore upon the top of a mold that has been removed from the fire, for the purpose of utilizing the excess of heat.

5th, The arrangement of furnace, cooler and crane as described.

6th, The conducting of the flue through water, or its equivalent, for the purpose of condensing the volatile matter, when and in connection with ores roasted in molds.

The object of this invention is to provide a furnace for roasting ores containing the precious metals, and consists in placing the ore, pulp or tailings in a plastic or wet state in cylindrical molds, having vertical pipes or plugs through them, which form flues for the heat and flames of the furnace to pass up through, which roasts and dries the ore, rendering it fit for easy amalgamation. The base of the molds are provided with plates, either separate or attached to them, and are furnished with lugs with which to raise or lower the molds, changing their position from top to bottom of the furnace, or transferring them to a cooler place at one side of the furnace by means of a crane. The object of the cooler is for the purpose of utilizing the waste heat, and when the lower mold in the furnace is roasted, it is removed by means of the crane into the cooler, and a freshly-filled mold or molds are placed upon it, so that it may become partially dry before being placed in the furnace. A pipe is placed on the top of the furnace for conducting away the gases and volatile matter from the ore, which passes through a horizontal water tank, which condenses the volatile parts and saves the quicksilver, as in case of working tailings.

71,141.—FURNACE FOR SOLDERING.—Lewis Cnting, San Francisco, Cal.

I claim a soldering-furnace, having heaters G G, provided with plates H H, for utilizing the heat of the surface, substantially as described, and in combination with the heaters provided with plates H H.

I claim filling the center of the heater with gypsum, fire-brick, or some slow conductor of heat.

I also claim, in combination with the heaters G G, the top cover of the furnace, formed of gypsum, fire-brick, or other slow conductor of heat, substantially as described and for the purposes set forth.

71,167.—HORSE HAY FORK.—Isaac J. Hatbough, Santa Clara County, Cal.

I claim the slotted ring hinge B D, or its equivalent, and the claw-shaped teeth c c c c c c c, in combination with the rake-heads C C and levers E E, all arranged and operating substantially as above set forth.

71,195.—IMPROVED GATE FASTENING.—Geo. McCoy, Antioch, Cal.

I claim a gate-fastening, having the holt, a, operated by the lever, B, and spring, c, together with the securing-lock, g, or its equivalent, constructed and operated substantially as and for the purpose described.

This invention consists in providing an improved gate-fastening, which shall be at once secure, simple and easily operated. This is attained by constructing a case of metal or other substance, through which a holt passes. This case is fastened to the gate, so that the end of the holt enters the post and holds the gate securely closed, there being a spring which keeps it always in place. A small lock, of ordinary construction is placed inside the case, so that when the main bolt is in place, the bolt of the lock can be entered into a slot in it which keeps it from moving. A convenient handle is attached to the main holt, by which to operate it.

71,221.—IMPROVEMENT IN LAMP-EXTINGUISHERS.—Fred. Rohrer, San Francisco, Cal.

I claim a lamp-extinguisher, constructed and arranged substantially as described, as a new article of manufacture.

The object of this invention, as its name imports, is to provide a device which may be applied to any kind of a lamp, but chiefly to be used on lamps employed in burning fluids from which explosive compounds may be generated, and from which danger may be apprehended in suddenly turning down the wick or blowing out the light. This device consists in providing a means by which two thin plates of tin or other metal are so arranged as to be thrown up by the side of the lamp-tube by means of a lever so as to close over the wick and effect an instantaneous extinguishment of the flame, without turning the wick down or blowing into the chimney. When the lever is released, these plates drop back to their former position, without disturbing the oil or wick—the lamp being left in condition to be lighted again. These extinguishers may be made to emit any shape of wick tube, and are applicable to any lamp now in use at a trifling expense.

71,228.—CARRIAGE TOP PROP.—Anson Searls, San Francisco, Cal.

I claim, 1, The tubular joint-bar standard B.

2, The clamp or claw, or equivalent.

3, The screw-bolt C that passes through the joint-bar standard B, and a part of the clamp, holding them firmly together and in position.

4, The combination of the joint-bar standard B with the clamp A, in combination with the screw C, for the purposes substantially as described.

71,267.—IMPROVEMENT IN STEAM ROTARY VALVES.—Louis Begon, San Francisco, Cal.

I claim the arrangement of the openings b b, and two exhaust-passages, B B, in the conical valve, A, in combination with the posts, F F, G G, and exhaust posts H and H, in the case, C, substantially as described.

The object of this invention is to provide a valve for steam-engines, which shall be so constructed as to be exactly balanced, and move with the least possible friction. It also relates to cutting off the steam at any desired point, so that it may be expansively used for a greater or less portion of the stroke. In order to accomplish this, the inventor constructs a valve, formed like the frustum of a cone, which is placed in a case into which it fits steam-tight, and which has flanges, by which it is bolted to the steam chest; the case in which the valve moves being entirely surrounded by steam. The valve and case have openings at the side, so as to allow the steam to circulate freely through it; and the valve, which is supported at each end, may be moved by an ordinary eccentric, or by a cam, by which it is made to revolve so far as to admit steam to the passages connecting with one end of the cylinder from opposite sides of the valve at the same time; while the ports which open to the other end of the cylinder, also on the opposite of the valve, are closed, thereby making the pressure on one side of the valve counteract that on the other. The valve has an arm which allows the end of the eccentric-rod to be moved to a greater or less distance from the center of oscillation, thus opening the parts to a greater or less degree, as may be required. When a cam is used to move the valve, it is placed on the shaft in such a position that by its motion the valve will be completely opened at once; and by a second cam, it will be closed at any point at which it is desired to cut off steam from the cylinder, these quick motions being rendered possible by the perfect balance of the valve. When the valve is in position so as to cover all the ports and admit no steam to the cylinder, the pressure exerted by the steam from its interior will be equal upon every side, so that the valve will not be pressed against the case in any direction, any more than if it were a plain hollow cone, with a pressure exerted from the interior. As the valve moves about its center, so as to admit steam to the ports connecting with one end of the cylinder, the pressure is removed from two points diagonally opposite in the valve, at the same time, while the pressure in the direction of the receiving ports and the exhaust-passage remains; but, being at the opposite points, still it is neutralized and is of no effect.

71,528.—IMPROVEMENT IN CHURNS.—Andrew N. Elzy, Placerville, Cal.

I claim a churn-dasher, with a central revolving shaft, B, carrying oblique arms E, and square arms G, alternating with each other, and specially arranged upon the shaft.

To accomplish this the inventor contrives

a cylindrical barrel to hold the cream, through the center of which a shaft passes, standing upright, and turning in a step at the bottom. This shaft is revolved by a crank, and may have gearing to give it any desirable speed. On the shaft, and radiating from it, are arms so placed that they form a sort of screw, the tendency of which is to force the cream to the bottom of the churn, in the center, where it passes to the sides to again undergo the same process. Two posts are placed at opposite sides of the cream would otherwise require.

CALIFORNIA BLACKING.—Several ineffectual attempts have been made to introduce the manufacture of blacking into this city, but without success until quite recently. After surmounting many difficulties, chief among which were the cost of the boxes, and the difficulty of making an article that would not mold, a party has finally met with the fullest success, and the production of "Austin's Brilliant Paste Blacking," may now be considered one of the permanent industries of San Francisco. The oil, hone black, acid, boxes, and everything connected with the manufacture, is of California production. The factory is able to supply the entire demand of the coast, the total importation of which has heretofore been about 400 gross per month. In addition to the home market, a foreign demand has already sprung up, as the proprietors have received an order for twenty-three gross from Yokohama; so that the Japanese will soon be made to shine with California "brilliant."

NEW INCORPORATIONS.—Articles of incorporation have recently been filed in the County Clerk's office in this city as follows:

GREEK RUSSIAN SCLAVONIAN ORTHODOX EASTERN CHURCH AND BENEVOLENT SOCIETY. San Francisco. Dec. 26th. Trustees: Semlovich T. Franetta, M. Cheriari, N. Davovich, P. Zenovich, S. Chielovich, T. Constantin, G. Tankovich, S. Maztinovich, N. Makrie, G. Lazarovich, P. Aristotle, P. Radovich, and Charles Baum.

ELECTION OF OFFICERS.—CONCORDIA ASSOCIATION.—San Francisco. Dec. 27th. President, Jules Cerf; Vice President, H. Robitschek; Recording Secretary, D. E. Speyer; Corresponding Secretary, Theodore Liberman; Treasurer, M. Toklas; Directors; Levi Strauss, D. S. Bachman and Jos. Naphtaly; Local Directors: Benj. Price, L. Hildberghauser and H. Oppenheimer.

PENNSYLVANIA furnishes 73½ per cent. of all the coal produced in the United States.

MARKET STREET HOMESTEAD ASSOCIATION.—J. S. Lutz, Secretary. Office, 305 Montgomery street, corner of Pine, San Francisco. 2v15

ANOTHER CALIFORNIA ENTERPRISE.—A factory has been started in this city for the manufacture of AUSTIN'S CELEBRATED BRILLIANT PASTE BLACKING. This preparation not only produces a most brilliant polish; but, unlike imported blacking, it is pronounced the best LEATHER PRESERVATIVE ever introduced. Trade supplied twenty per cent. less than any imported article. Factory, No. 1 Montgomery Court, near the corner of Broadway. 26v15-3m

JACOB SNEW, Pioneer Photographer, 612 Clay street, north side, four doors above Montgomery, (late 315 Montgomery street), takes all kinds of Photographs in the best style of the Art. He would invite especial attention to the new "Cabinet Photographs," which he is taking to perfection. 16v14f

SECRETARYSHIP FOR MINING COMPANIES.—A gentleman of education, ability and experience, is desirous of procuring a position as Secretary, or Assistant Secretary, in some good Mining Company. Has most unexceptionable references. Address "SECRETARY," at this office. 6v15f

Save Your Teeth.—Do not have them extracted without first consulting a good Dentist. The loss is irreparable, and, in many instances, unnecessary. DR. BEERS, corner of Montgomery and Sutter streets, over Tucker's Jewelry Store, makes a specialty of filling the fangs of dead Teeth, and building up broken crowns with pearl gold—thus restoring them to their original usefulness and beauty.

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CO-OPERATIVE UNION STORE.—This is becoming one of the most useful institutions in the city, and the Mechanic and Laboring Man fully appreciate it. They are now enabled to buy their Groceries and Provisions twenty per cent. cheaper than ever before, and the very best articles in market. The store is located at 115 Sutter street, Lick House Block. 2v15f

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The Work has lately been approved and authorized by the State Board of Education for use in the Public Schools. To further illustrate the varied and popular endorsement the book has so rapidly received, we quote the following

## RECOMMENDATIONS:

It is simple, concise, and well arranged. It seems to be a work of great value.—John Seelt.

I am prepared to concur in the recommendation of the Honorable Superintendent of Public Instruction.—J. C. Felton.

After a careful and thorough perusal of the same as it was in my power to give, I came to the conclusion that, for conciseness, correctness, and precision of definition, as well as for completeness and simplicity of style, it was, and would be, without a rival. I regard your work as the best of its kind. I know of but few men in any profession who would not be benefited by its careful study.—Wm. H. Hull.

I regard it as one of the best treatises upon these important branches—perhaps the only one obtainable, possessing equal advantages—combining comprehensiveness with conciseness, and of such simplicity in its arrangement as to be readily understood by the advanced pupil.—F. W. Hulch.

It is admirably arranged to develop the correct idea of the analysis and synthesis of language, and the amplification of ideas into sentences and periods. The style is clear, terse and pleasing. I do not hesitate to recommend it as a great acquisition to our text books.—James Denman.

I am happy to express my conviction of the value of the whole treatise. It would give me much gratification to see so thorough and excellent a treatise emanate from young California.—Martin Kellogg.

I recommend it to all those who wish to obtain a book that will give them definite ideas on this subject, and teach them to express their thoughts and feelings in a clear, simple, and forcible manner.—Caroline L. Atwood.

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I believe the work will be a valuable and much needed addition to our school text-books.—Herman Perry.

You have brought the results of a profound analysis, and made them available, in a practical form.—J. H. Brynton.

I can recommend it particularly to my young friends of the legal profession, as a source from which they may be able to learn much of value as special pleaders and advocates at the forum.—John Curry.

The subjects upon which you treat have heretofore been too much neglected in the education of young men in America. Exactly calculated to interest. It will soon become a necessity in every lawyer's library.—Charles A. Tuttle.

Its clearness and comprehensiveness make it easy.—G. W. Boite.

A gentleman of varied learning and ripe culture, who has half a dozen languages at his tongue's end. He seeks to teach the student not only how to take sentences apart, but how to construct them. His system has the merit of simplicity. We know of no work in which can be obtained so lucid an exposition of the elements of composition, and such valuable assistance in learning how to put his ideas into language. Prof. Layres has done the cause of popular education good service.—S. F. Dutton.

This is a San Francisco book by a San Francisco author. It contains 166 pages, and is altogether creditable to San Francisco. It meets a public want, and meets it in a form and size cheap and convenient, and in reach of the humblest.—Alta California.

The writer, the lawyer, the minister, or the statesman, may study its rules and definitions with profit. Nothing conduces more to the purity of a national literary taste than a general and thorough knowledge of the rules by which the construction of language is governed.—S. F. Times

Prof. Layres plunges at once "in medias res." He seizes a sentence (which is the unit in composition, whether written or spoken) holds it up before you; tears it to pieces before your eyes—or rather, we should say, neatly and skillfully dissects it—displays one by one its several parts; makes you thoroughly acquainted with each, in its entirety; and then shows you how to put them together again. A series of such exercises, presented in a complexly so gradually that you do not feel the difficulty, and the thing is done; you are master of the subject.—Mining and Scientific Press.

Its design is to show that ideas can be so arranged as to increase their power; in short, to teach the mechanism of composition, eloquence and oratory. A desideratum long felt is supplied.—S. F. Examiner.

This is an age in which the occasions now rapidly multiplying, when educated men, and women, too, are called upon to express their views in writing, either for public or private inspection and criticism.—Stockton Independent.

The most eminent educators in California give it their hearty approval, and we concur.—Marysville Appeal.

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Table listing various goods and their prices, including coffee, tea, and other commodities.

Table listing various goods and their prices, including butter, cheese, and other food items.

San Francisco Prices of Copper Ores.

SAN FRANCISCO, Dec. 27, 1867.

We give the following as an approximate price at which copper ores can now be sold in this city.

Table showing copper ore prices: 12 per cent. ore, 13 per cent. ore, etc., with prices per ton.

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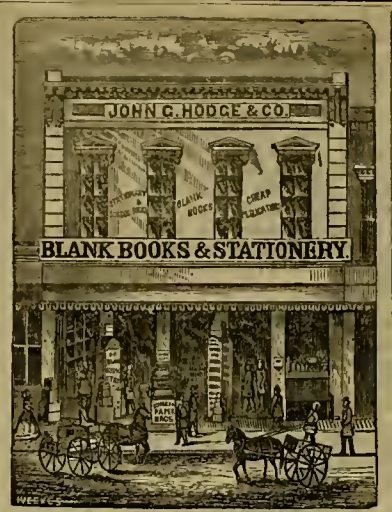
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## Mining Summary.

The following information is gleaned mostly from journals published in the interior, in close proximity to the mines mentioned.

OWING to the late storm which prevailed, so far as heard from, over the entire State, our mails have failed to come to time. Our readers will, therefore, have to be content with a slight summary this week. However, from what we have, we should judge that wherever the weather permits mines are doing well, especially those working placers. There can certainly be no want of water after such a "Noah's deluge" as we have been having during the past week.

## CALIFORNIA.

## Alpine County.

*Miner*, Dec. 14th: The Silver Creek Mill is grinding up Tarshish ore, preparatory to turning out a batch of silver bricks next week.

The drift south from the shaft of the Tarshish, 75 ft. below the tunnel, is encountering large quantities of first and second class ore.

This week we have nothing of special note to chronicle in regard to new enterprises here, though there are one or two in process of incubation which we believe will, at no distant day, revolutionize the present mode of mining in Alpine.

## Amador County.

*Ledger*, Dec. 21st: Last week, the owners of the Kennedy mine cleaned up a "run" of 110 tons of rock, worked at the Tubbs' mill, and received \$3,500—an average of about \$32 dollars per ton, pure gold, while the sulphurets, which are known to be rich, are not taken into account.

## Calaveras County.

*Chronicle*, Dec. 21st: The long-expected water has at last reached Cat Camp, and miners have commenced operations in earnest. We are informed that the returns received by the companies which commenced work are flattering in the extreme—the claims yielding from \$6 to \$8 per day to the hand. There is no abatement in the excitement regarding that section of the county, and the rush in that direction continues as great as ever.

*San Andreas Register*, April 21st: While the hands at work in the mine of Bovee & Co., at Angels, were away from the shaft, at dinner, a huge cave occurred in the shaft, which disclosed an entirely new vein of fabulous richness, of the existence of which the proprietors and workmen had until then been utterly ignorant. Threads of gold were literally spun through the rock; in fact, it appeared like quartz pebbles strung on threads of gold.

Fowler, Sanborn & Co., recently discovered a lead of plumbago, about one-half mile from San Andreas. The lead is from four to five feet in thickness, and has been traced to a considerable distance. They dissolved a quantity in water, then allowing it to settle, poured off the mud and water, leaving the plumbago at the bottom, which seems to possess all the qualities of the best black lead. We have a "brick" in our possession.

## Colusa County.

*Marysville Appeal*, Dec. 19th: All the property known as the Mosello Copper and Smelting and Crushing Works, in Colusa County, is advertised at sheriff's sale on the 28th inst. at Colusa.

## Kern County.

*Havilah Courier*, Dec. 14th: The St. John mine, at Sageland, continues to yield well, and since our previous mention of it \$5,000 has been obtained. The New York and Clear Creek Mining Co., near this town, are progressing finely, and getting out rich ore.

## Mendocino County.

*Colusa Sun*, Dec. 14th: Silver mines have been discovered on Eel river, in Mendocino County.

## Mono County.

The Benton correspondent of the *Esmeralda Union*, says: Our residents, however, are confident of the correctness of the new process discovered by Dr. Dozier, and the richness of our mines. The furnace is completed, and is now being dried by slow fires. The Dr. intends to make the first trial of a ton of Comanche ore. He says if the material of which the crucible is composed, will stand the action of the chemicals used in reducing, there is no doubt of the success of his mode of operating.

## Nevada County.

*Transcript*, Dec. 21st: Rich diggings have recently been struck by a party of miners, about three miles from town, on the old road to Jones' Bar. The company have been at work some weeks sinking a shaft,

and a few days since they struck gravel containing an abundance of coarse gold. Quite a number of claims were located in the vicinity on Thursday, by persons who have been watching the developments of the successful parties.

Dec. 18th: Hubbard and others have recently commenced work upon a ledge at Grizzly Ridge, the rock of which gives evidence of being exceedingly rich, assaying about \$1,800 to the ton.

23d: J. L. Sandford has left in the Recorder's office, for record, a deed of 50 claims of 300 ft. each, on Greenhorn Creek. The location commences at Lewis and De Golia's mill dam, running thence up the stream 15,000 ft., to the Nevada and Red Dog crossing. The company has been incorporated under the name of the Newark Mining Co.—capital stock \$100,000—the stockholders being mostly San Francisco men. They now own all the ground from the mouth of Greenhorn to the Red Dog crossing, together with 4,000 ft. in Missouri Cañon.

The North Bloomfield Co. have purchased the right of the Middle Yuba river, heretofore owned by the old English Co., and the water will be conducted by ditch to Graniteville and Bloomfield. On the Chalk Bluff range the work of opening the channel, by the Chalk Bluff Gravel Co. is a great one, and the Newark Co. has undertaken to build a flume that will stand the severest freshets, and that will open nearly eight miles of some of the richest channel mines known in the county.

The Gold Hill quartz mill, at Grass Valley, has been doing a very good business of late in crushing quartz boulders, picked up in the bed of Wolf Creek and other places. The result has been so satisfactory, that the Town Talk Co. are now erecting a mill on their claims at Howard Hill, for crushing the float quartz with which their claims abound. Some years ago, the owner of the Canada Hill mill, near Nevada, employed a man with a team to pick up float quartz on Gold Flat, in Little Deer Creek, and other places, which were crushed at the mill and yielded fair returns, and at times a considerable profit was realized. The quartz probably yielded as well as the average of that crushed from the ledges, and the cost of picking it up is far less than mining it.

*Grass Valley Union*, Dec. 19th: A beautiful specimen of quartz and gold was taken on Tuesday last from New York Hill. The value of the gold in the piece is about \$50, while as a specimen the value is much more. Messrs. Dibble & Byrne have corralled the quartz in their cabinet.

Dec. 20th: The Scandinavian Co. have been, for several weeks, running a tunnel from Deer Creek to their shaft, calculating to strike the ledge and shaft at the same time. On Tuesday last the workmen struck the ledge before they reached the shaft, and the rock taken out shows rich in gold, much better than that lately crushed at Palmer's mill, Nev., paid over \$25 per ton.

Dec. 21st: During the last week all of the leading mines about the town have been doing well in taking out rich rock. The New York Hill mine has largely overpaid its expenses with rich specimens alone, leaving other splendid rock for the mill which is going up. The Dromedary has its back still up on specimen rock, while its common dump pile is a sight good for sore eyes. The Empire, on Ophir Hill, holds its own and is turning out quartz which will go up to a handsome figure. The Wisconsin is crushing \$70 quartz. The Eureka and the North Star are making their usual rich returns. Taken altogether, the mines around Grass Valley for the past week have exceeded any week's yield for several years.

*Grass Valley National*, Dec. 18th: A quantity of splendid specimen rock was taken out last night at the Empire mine, Ophir Hill. We have heard the value of the specimens placed at about \$5,000.

A piece of quartz was picked up by a gentleman in Wolf Creek yesterday, for which he refused \$100 in coin.

Dec. 19th: A piece of quartz was picked up this forenoon, on Pike Flat, containing, we should judge, about \$20 in gold.

Another lot of specimens of the richest kind were taken from the New York Hill mine, yesterday, one of them about the size of a man's fist, containing, it is estimated, about \$150 in gold.

Dec. 23d: In addition to those noted during the week, we saw on Saturday evening, at Delano's hanking house, another lot of specimens from New York Hill mine—and rich indeed were these.

A number of our specimen hunters are on the *qui vive* to-day, the rain storm having cleared off a large quantity of surface dirt, and thus afforded them a good opportunity of pursuing their peculiar profession.

Dec. 17th: The miners in the Empiro Co's mine, Ophir Hill, on Saturday, struck

a 20-inch ledge in the south drift of the lower level. The rock gives evidence of being as rich as any heretofore taken from the mine.

*Excelsior*.—Grass Valley *National*, Dec. 20th: Meadow Lake district is closed up for the season. The snow on the summit was five ft. deep last Tuesday, and it has been falling quite heavily since that time.

## Placer County.

*Auburn Stars and Stripes*, Dec. 19th: Thos. Cain and two others have located a claim on a quartz ledge near the Good Friday mine. Cain has his pockets filled with specimens of the rock which were literally studded with gold. A few tons like the samples shown us would be enough to satisfy any reasonable man. These specimens were taken from the ledge at a point five ft. from the surface.

The editor is of the opinion that a good 20-stamp mill located at Ophir in that county, would find constant and profitable employment.

The Fred Mallett claim has been opened by an incline shaft to the depth of 50 ft. At a depth of about 25 ft. from the surface drifts were run on the ledge, in following which very fine rock was encountered. Work was then resumed on the incline and continued until the present level was reached, when another drift was run on the ledge, and at a distance of eight ft. from the shaft the workmen came upon rich rock, the discovery of which has created great excitement in mining circles.

*Herald*, Dec. 21st: The McGonagle, Perry & Co. claim, on this ledge, is now completely timbered, and is being worked night and day. As good pay has been struck in the new shaft as was found in the old one; and that yielded the *ore* by the pound to the pan.

*Dutch Flat Enquirer*, Dec. 21st: Six miners of Gold Run have purchased the ditch owned by E. M. Hall, and formerly known as the Bartlett and Thomas ditch. The price given was \$50,000.

Mr. Taef is now engaged in running a shaft to strike what is known as the big tunnel at a depth of 80 feet.

The Dutch Flat is one of the oldest claims in the district, and with but one exception has probably yielded more gold than any other one claim in this vicinity. The average yield of this claim is about \$3,000, making a clean up every 15 days, using 400 in. of water, and working seven men. They have a fall for their water of about 200 feet from the head, and have a face on their claim extending probably 200 ft.

## Plumas County.

*Quincy National*, Dec. 14th: Prospecting in Cherokee District is as lively as ever. New ledges are being found almost daily. The works of H. C. Bidwell & Co., and Judkins & Kellogg are in full tide of success.

H. C. Bidwell & Henry McClellan have recently bought the Berge mill and mine, on Rush Creek, and have commenced crushing quartz. The ledge is ten feet wide—with good walls—and that the quartz is paying.

The mines at Blackhawk are paying handsomely. The lower claim of Turner, Reynolds & Co cleaned up 21 ozs. last week.

Messrs. McNulty & Co.'s claim was filled up and sluice boxes washed away by the recent flood on Mill Creek. It is estimated that it will require two or three months to re-open the claim.

The Carriboo correspondent writes: Chris. Lind & Co. are making from \$10 to \$25 per day to the man. Tom Orton's claim is paying an ounce per day to the man. Joe Hickman's claim continues to pay rich.

The *Grass Valley National*, of Dec. 17th, speaking of a party of young men who left that place to prospect in Plumas County, says: "From a letter recently received, we learn that they succeeded in finding sufficient encouragement to locate claims about 25 miles from Quincy. The writer says their 'claims prospect gloriously.' Quite a number of the miners in that section, the writer adds, 'have been looking at our diggings, and the adjoining ground of late, and two companies have located claims in our vicinity.'"

## Tulare County.

*Visalia Delta*, Dec. 18th: The White River mines are more prosperous at this time than usual. The Philadelphia Co. are sinking new shafts on two or three different ledges, which are proving to be large as well as rich. Messrs. Brooks & Co. are also doing well in the way of working over their old tailings, while at the same time they are developing their mines and placing them in such condition that they will produce a large amount of paying ore during the coming season.

## Yuba County.

*Marysville Appeal*, Dec. 21st: Messrs. Keudall & Boyle, successful miners at Bangor, started a 4 stamp (capacity 8 stamps) steam mill yesterday for crushing blue ce-

ment, hoisted through a shaft 70 feet in depth. This mill was manufactured at the Marysville Foundry, and is said to be the prettiest cement mill machinery ever put up in the State. The cement taken from this mine is rich, being thickly studded with gold visible to the naked eye.

## COLORADO.

*Times*, Dec. 30: Things are looking up in general, and in Black Hawk in particular. There are now 16 or 17 mills running as hard as they can in Black Hawk, and in consequence trade is generally improved there. Almost all the mills around Central City that have water at hand are busy.

We saw yesterday 4 or 5 nice looking bars, the result of some runs recently made of ore from Mr. Fleming's property in Nevada Gulch. Mr. Fleming says the property is looking first rate, and the pay dirt is quite plenty.

Robert Teats has just finished a run of Smith & Parmelee ore, with most satisfactory results. The average yield was about 5 ounces to the ton; value \$18, coin, or between \$80 and \$90 a ton.

*Denver News*, Dec. 5th: Great excitement prevails in Boulder city occasioned by a party under the lead of a man named Hawk Nickirk, who have jumped and hold by force the Hoosier lode. Some 40 armed men keep forcible possession of the lode, and declare that they will hold it at all odds. In the ledge a crevice of 7 feet in width is developed, (neither wall reached) the poorest part yielding \$400 per ton in silver, and about two feet yielding at a rate which would give Georgetowners cold shivers. Until recently, Gold Hill was looked upon as gold-bearing exclusively, but now it is discovered, by testing lodes which seemed worthless in early days, that the district is richer by far in silver. From Gold Hill eastward to within a mile of the out-hills, silver indications are abundant. Some rich discoveries have recently been made within three miles of Boulder city, one yielding \$120 per ton by assay from the blossom rock, with a mass of solid ore 5 feet thick. Some valuable discoveries of silver have recently been made near the mouth of Middle Boulder.

## IDAHO.

*Lewiston Journal*, Nov. 28th: The Washington correspondent writes as follows: Snow on the summit of the Florence mountain is 15 in. deep. Matters are in a flourishing condition; about 125 more men will winter in this camp this year than last.

The William's & Maxwell mill will commence operations to-day. The cold weather has reduced the water in their ditch, so that the machinery does not move with the speed that is desirable; about 125 tons of ore lie at this mill, ready for reduction, and some of it is very rich. It is principally from the Hic Jacet, Windfield Scott, Andy Johnson and Washington leads.

The Hic Jacet Mill Co., have their building erected, their battery set, their boiler put together and riveted and the work of constructing their mill for progressed, considering the time in which they have had to operate. All their machinery and supplies for the winter have been safely laid upon their grounds. The engineer says that the mill will be in full operation before the 1st of January, 1868.

James Crenan leaves here to-morrow for San Francisco. He is authorized by the Trustees of the Miner's Mill Co., to make a purchase of the machinery for their mill, and ship the same to Lewistown. The money is already on the way to San Francisco, so that we have a full prospect of the third mill in camp next spring.

The new discovery of placer mines east of South Salmon will attract many from this camp early in the spring.

About 25 men are wintering on South Salmon, and mining on the bars. The Dwight brothers are among the number, and are reported as having good paying claims.

*World*, Nov. 30th: We learn from Silver City that the Poorman ledge, which had somewhat failed of its original famous richness for a few months past, has again developed a wealth of ore equal to, if not surpassing, the first taken from it. Other ledges in Owyhee are reported to be also greatly prospering.

## MONTANA.

*Post*, Dec. 7th: Boom & Molitor cast a gold brick last week of the value of \$21,154.41. This, together with the nine monster silver bricks, in the National Bank window, made a large display of material wealth.

The silver bricks on exhibition at the First National Bank make a poor devil wish he was in that kind of brick-making business. There were six mammoth fellows, the total valuation of which was something over \$9,000.



The Golden Gate Co's mill at Brown's Gulch started up on Tuesday. The rock being crushed is silver ore from the Lonaine lead of Prof. Eaton. It is intended to experiment on a few cords of the rock to test the capacity of the mill for saving silver. If successful in this, there will be ample supply of ore furnished to keep the mill constantly employed, as the silver leads of the district are numerous, rich, of good width, and several of them developed to a considerable extent. Prof. E. has also some ten cords of gold ore from the Brackett and Red Wing leads ready for crushing in case the silver ore needs other appliances than those now in operation, and Mr. Conner is also developing gold leads in the immediate vicinity of the mill, and near the city.

Libbia's ten stamp mill situated at the head of Grizzly Gulch, near Hendries, will start up on Monday next.

The Helena Herald reports all the mills running in the vicinity of Helena with great success. The Philadelphia Enterprise Co. are cleaning up from \$4,000 to \$6,000 per week. The St. Louis & Montana Co's mill at Phillipsburg is proving a great success. There have been several small clean ups. One brick of silver, with a little gold, weighed between 90 and 100 lbs, and was worth some \$250.

**NEW MEXICO.**

The Santa Fe Gazette says: That extensive preparations are being made for working the Moreño mines next season. A company with \$100,000 capital has been organized for the construction of a ditch from the Little Red river to the mines.

**NEVADA.**

The Pino Grove correspondent of the Virginia Enterprise of Dec. 19th, says: Our mines were never looking better or being more thoroughly worked. They contain thousands of tons of low grade ores, which will yield from \$10 to \$20 per ton and is easily extracted, but will not at the present time more than pay for mining and working. This ore is left untouched as discovered in developing the mines, being reserved for future use, and only the high valued ores are extracted.

The Wheeler mine, the major part of which was purchased by Baker & Faddock of San Francisco, is being thoroughly worked, and extensive bodies of ore have been disclosed, 1,000 tons of ore, valued at from \$20 to \$100 per ton, can be immediately taken out, if the Co. were prepared to work it. About 40 tons of ore taken from this mine by Goodrich & Clark, contractors, recently, worked \$75 per ton. Thomas Wheeler had some of the sulphuret rock, that was taken out prior to the sale, worked at the Pioneer mill, which yielded about \$23 per ton, in free gold, and the tailings, which were saved, assayed \$31 per ton, in free gold. The dimensions of this mass of sulphuret ore have not yet been ascertained, although a cut has been made in it of about 20 feet. This mass of vein has a west or foot wall of clay, which is from 20 to 30 feet thick—the eastern or hanging wall has not as yet been discovered.

The Poorman Co., have run a 200-foot tunnel without any satisfactory results, other than the making of the tunnel and striking a 10-foot vein of rock which will work about \$20 per ton.

Work is to be commenced on the Cadman Co's claim some time next week. This claim is supposed to be the eastern extension of the Wheeler.

Ex-Lieut. Governor Crosman is engaged in taking rock out of one the deposit series of ledges. It will go about \$30 per ton in free gold.

The Wilson and Midas claims were never looking better, and both are taking out a fine class of ore.

Toombs & Abraham, who have leased a portion of the Wilson mine, are taking out the richest kind of rock, which ought to yield \$150 per ton. They have struck a large vein of quartz which ranges from 8 to 15 feet in width, with no end as yet to its depth. They had 16 tons of this rock worked in the anastra, recently, which paid \$126 per ton, and still later 10 more tons which went \$100 each.

The Ophir Co. have let a contract for running a tunnel 200 feet, to Langford & Goodrich, who are to have the privilege of taking ore out of any part of the claim for a period of 9 months after the completion of the tunnel.

The Pioneer mill is doing good work and making excellent returns from rock out of the Wheeler.

Wilson's new 10-stamp mill is nearly completed, and will be set to pounding out ore in a week or so.

It is probable that the Wheeler Co. will in a short time erect a mill of its own.

**Tennessee.**

Unionville Register, Dec. 11th: The Etna correspondent writes: The Goldconda mine was located by White & Webb, about 14 months ago, who finally secured the ownership of the entire mine of 1,200 feet. They subsequently sold one half of their interest to an Eastern Co., for a small sum of money and one-half interest in a mill. The other half interest the Co. are negotiating for at the sum of \$75,000, in gold. The ore averages a very handsome yield, and the cost of mining, hauling and milling does not exceed \$10 per ton. The Goldconda mine is one of the great wonders of the age. It is about 14 feet in width, lying between two regular slate walls, and dips westward at an angle of some 70° from a perpendicular, and pays from the very surface. The superintendent assures me that the ore can be extracted for two years to come without going under ground. Fairbanks & Co. have a contract for hauling 10,000 tons of ore from this mine to the Co's mill at Fairview.

**Reese River.**

Revere, Dec. 10th: Since the purchase of the Santa Elena by the Tannehill Co., things have assumed a lively appearance in the district of Washington, and the present and future activity will compensate for its long neglect. Work on the Tannehill Co's mine in Webster cañon progresses rapidly. The smelting furnaces are being erected. They have begun to sink upon the Santa Elena mine from the tunnel, and are pushing the work with all the force that man can be used to advantage. There are now about 300 tons of ore upon the dump, the whole of which will give a good yield of silver.

The Utica and Herkimer Co., is getting its machinery upon the ground preparatory to building a fine 15-stamp mill. In the meantime the mines are being worked, and will produce a good supply of ore for the mill.

The company which purchased the original location upon the great Northumberland ledge district, is quietly doing its work. Some busy prospectors in the district discovered recently several small veins holding exceedingly rich ore, which they are extracting to send to mill. The owners estimate that the ore will produce from \$500 to \$1,000 of silver per ton.

Our attention was called this morning to an assay by Bault & Stetefeldt of the pulp of the Diana ore, which gave 90 per cent. of silver. The sample assayed was thoroughly roasted at the Mettacom mill, where there is being reduced. The yield of the pulp is an indication of superior work, for the ore produced by the Diana mine has always been regarded and treated as very rebellions.

Dec. 11th: Our attention was called today to some 6,000 lbs. of ore from W. F. Leon & Co's claim on the great El Dorado ledge in the Silver Bend district. This lot is the first installment of 10 tons which are to be brought to Austin for reduction. The ore is in large masses and evidently of superior quality. It is identical in appearance with the best ore from the Highbridge and Transylvania.

Belmont Reporter, Dec. 14th: A gentleman just from Morey district, has laid upon our table some very fine ore taken from the Magnolia and American Eagle ledges. That from the Magnolia is a mass of compact black sulphuret, with little or no quartz. It was taken from a depth of about 30 feet from the surface, where the vein is three and a half feet thick—two and a half feet of which is solid ore, which, as taken from the mine yields at the Hot Creek mill about \$260 a ton. The ore from the American Eagle is a chloride, having a greenish-yellow color, and pays at the same mill about \$225 per ton. The greater portion of it pulverizes to a fine powder in the process of extraction, and has to be carefully sacked. There are 25 to 30 men at work in this district.

During the past week there has been received, for molting and assay, at the assay office of Thomas Cahill & Bro., 4,320 ozs. of ernde bullion.

The El Dorado South this week forwarded 6,600 lbs. of ore to Austin for reduction which was not to be excelled in richness, and it will work up to a high figure. A few days, however, have elapsed since the shipment was made and developments have progressed in the meantime. The body of ore in the incline has increased so wonderfully in richness during the past few days as to create astonishment in the minds of all who behold it. Compared to that which is at present taken from the mine, the lot sent to Austin will rank only as medium, or second class. The incline has now been driven 12 feet below the point at which the good ore was first struck. It is following the foot wall and is about 5 feet in height. Four feet of the vein immediately adjoining

the foot wall is a mass of mineral, probably the richest body of argentiferous ore ever disclosed in any mine in the State, while the remainder above will probably mill upwards of \$100 per ton. The thickness of the ledge at this point is conjectured to be from 25 to 30 feet, but it has never been cut through; its width is not known with certainty. The total length of the incline is 112 feet—giving a vertical depth from the surface to this body of ore of about 70 feet. It is the most extraordinary strike ever made here and enhances the value of all mining and other property in this section of country.

**Washoe.**

[In the Stock Circular, in another portion of this paper, will be found late mining news from this district.]

Enterprise, Dec. 17th: We were yesterday shown two assays of ore from a mine called the Nil Desperandum, in the town of Union, Union district, Nye county, which proves the mine to be a valuable one. A specimen of first-class ore showed by assay, \$812 14 in silver and \$49 98 in gold; total, \$862 12, and a piece of the poorest ore yielded \$66 55 in silver and \$6 30 in gold; total, \$62 85.

The repairs to the Bower's mill being completed, it is now in full operation crushing ore from the Bower's mine.

The Central mill, in this city,—“old perpetual motion”—which has for some time been lying idle, has again resumed work.

The Crown Point hoisting works have been stopped for about 24 hours for the purpose of mending a weak place in one of the boilers.

Dec. 18th: The snow is and has been falling and the winter of our discontent has fairly set in.

**UTAH.**

The Salt Lake Vedette says that decomposed quartz from the Sweetwater mines yields \$824 88 per ton.

Gen. Dodge and Gen. Rawlins paid the district a flying visit, and after examining some of the claims, expressed themselves highly pleased with what they saw, declaring it the richest and most extensive mining district they had ever seen.

**A PREDICTION MORE THAN VERIFIED.**

It is astonishing how the predictions of eminent men, but little more than a quarter of a century ago, are rapidly approaching verification. All remember the sanguine predictions of Whitney, the first projector of the Pacific Railroad. While Mr. Whitney was considered a visionary theorist by most people, there were some whose comprehensive minds quite fully grasped the great facts with regard to the future of our country, which were then but so dimly shadowed forth. Among this latter class was the late Fenimore Cooper, who, more than twenty years ago, and before the annexation of California was thought of, or even our title to Oregon was definitely settled, wrote as follows: “If the past can be any pledge for the future in American history, there are now living those who will see steam extended across the continent from the Atlantic to the Pacific, and the Stars and Stripes flying at each end.” It was a bold prediction for the distinguished novelist; but it will be realized in about half the time which he allotted as the period for its consummation.

SOMETHING NEW IN PHOTOGRAPHY.—An illustrative work descriptive of the country along some 400 miles of the line of the eastern division of the Pacific Railroad, is now in press in New York. The illustrations consist of about 400 photographic views, duplicated by photographic impressions, to the number of the edition which will be printed. The facility with which such impressions may be duplicated bids fair to eventually supersede engraving to a very great extent.

GAS.—The word gas originated as follows: About 200 years ago a German chemist, observed in some medicinal springs in Germany a peculiar aciferous substance—carbonic acid gas—which from its peculiar other qualities he termed *ghost* (ghost), from whence we obtain our present English word gas.

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THE PYRENEAN SINKING.—A Madrid paper says that scientific researches have established the fact that the Pyrenees have, in the last twenty years, lost thirty meters in altitude. Supposing the depression to continue, our worthy contemporary calculates that, after the lapse of one thousand years, the chain that separates Spain from France will realize the celebrated words, “*Il n'y a plus de Pyrenees*,” by disappearing altogether, in which case the Ebro will fall into the Bay of Biscay instead of emptying itself into the Mediterranean.

The composition of atmospheric air was first discovered by a German chemist, named Van Helmont, about 150 years ago.



## Mining and Scientific Press.

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Mr. A. G. Knox, is our city soliciting and collecting Agent, and all subscriptions, or other favors extended to him, will be duly acknowledged at this office. Jan. 11, 1866.

Mr. C. T. Raney is our duly authorized agent for Sacramento County. Nov. 23, 1867.

Dr. L. G. Yates is our duly authorized traveling agent. July 6, 1867.

Mr. A. B. Butler is a duly authorized traveling agent for this paper. July 15, 1867.

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OUR NEW YORK AGENCY.—Mr. M. A. LATEROP, formerly of California, is our authorized Agent in New York. Parties in the Eastern States who desire to subscribe for or advertise in the MINING AND SCIENTIFIC PRESS, can address Mr. L., at No 726 Broadway, for the present. Nov. 26, 1867.

## San Francisco:

Saturday Morning, Dec. 28, 1867.

## Notices to Correspondents.

**ASSAYER.**—The enormous discrepancy claimed to exist between the ordinary mode of assaying and the results stated to be attainable by more accurate, but, we suppose, novel methods to be introduced, we presume, in company with renewed trial promised to be made with Rivot's furnace, arises, we expect, from the loss occasioned by the small amount of the precious metal invariably evolved along with the fumes of lead oxide in the course of enpellation, or that sinks into the cupel. By experiments performed in the School of Mines, London, two important facts appeared to be confirmed: first, that according to the decrease of the silver enpelled, the loss of that metal very slightly decreases, provided the ratio of lead employed be constant; secondly, an increasing ratio of lead produces an increasing loss of silver. From experiments it was found that when 25 parts of silver are cupelled with ten times their weight of lead (250 parts), the loss of the former is 1.05 per cent. When 10 parts are cupelled with 100, the loss is 1.10 per cent., and with 1 part to 10, 1.20 per cent. With regard to the second conclusion, it was ascertained that when the proportions of lead and silver are as 1 to 1, the percentage loss is 0.55 per cent; when 10 to 1, 1.52; when 20 to 1, 1.68; and 35 to 1, 1.88 per cent.

**J. D. F. B. S., AND OTHERS, Pioneer City, Idaho Territory.**—We have to apologize to these correspondents for not noticing their communication and enclosure received some two months ago, by reason of its having become accidentally mislaid. The enclosure consisted of a small sample of sulphurets from the Duncan extension. Free gold is perceptible throughout the sample, which latter consists chiefly of galena (sulphide of lead), and sulphide of iron (pyrites). With such a composition, it is not at all surprising that only \$13.33 per ton was obtained in this city by the ordinary pan process. Such an ore requires previous manipulation if anything like a satisfactory return is looked for. A gentleman, who has been accustomed to the treatment of such ores, has taken a small portion for further examination, and if anything specially interesting results, the fact will be communicated to our correspondents. Further details respecting the condition in which the sulphurets are found is desirable, such as, are they much mixed with rock, or other refuse matter.

**T. W. A., ESMERALDA.**—If, by the application of chlorine in the milling and arastra process, is meant the possibility of using this gas in the batteries and open arasstras, we can inform our correspondent that in this form the chlorination mode is quite inapplicable. In the present number will be found a paper by Prof. Rowlandson, in which many of the chief properties of chlorine are described, and will be more fully explained in one or more to follow, to which we call T. W. A.'s attention.

THE BEST GRANITE for building purposes, is found in Russia. A deposit of granite has lately been found in Minnesota, said to be quite equal to the best found anywhere.

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## The Distinguished Dead of 1867.

The death record for the past year includes a considerable number of notable names. The scientific ranks have been thinned; the literary world has lost of its members some who have been celebrities in prose and verse; and men who occupied prominent public positions have fallen. Among the

## SCIENTIFIC MEN

who are gone, it is fit that we mention first,—as the foremost and most brilliant of those luminaries which, though they may pass beyond our field of vision, still leave an inextinguishable line of light to mark their course,—

**MICHAEL FARADAY.**—Born in London in 1794, he died in August last, at the age of 73. The son of a smith, and apprenticed in his youth to a book-binder, he was a "self made man." A lover and a student of science, he succeeded at the age of 20, in edging himself into a scientific atmosphere, by securing, through the influence of Sir Humphrey Davy, a position as assistant in the laboratory of the Royal Institution. The irrepressible spark of his genius was soon detected by Sir Humphrey, and he became his fast friend. Young Faraday was elected to the Royal Society in 1824. He published several volumes upon chemistry, optics, electricity, and magnetism, and in 1833 became Professor of Chemistry in the Royal Institution. Honors have been conferred upon him by many of the literary societies of Europe. Since 1835 he has been in receipt of a government pension, and during the last ten years of his life occupied a residence at Hampton Court, specially allotted to his use by the Queen.

**LORD ROSSE**—whose name is well known in connection with the monster telescope, 52 feet in length, which he constructed—and who, though not a creator of worlds, gave "a local habitation and a name" to numbers of them which had previously appeared as mere patches of light, without form and void,—died on the 31st of October last, at his seat, Birr Castle, King's county, Ireland. He succeeded to the earldom in 1841; received the honorary degree of L. L. D. from the University of Cambridge in 1842; was elected President of the Royal Society in 1849, and a member of the Imperial Academy of Science at St. Petersburg, in 1853.

**THEOPHILE JULES PELOUZE**, the friend and associate of Gay Lussac and Liebig, died on the 31st of May last, at the age of 60. He was the author of several works upon chemistry as applied to different manufactures. At the age of 23, he became Professor of Chemistry at Lille.

**PROF. ALEX. D. BACHE**, Chief of the United States Coast Survey, died on February 19th, at the age of 60. He was born in Philadelphia. In 1825 he graduated with the highest honors at West Point, and became Lieutenant of Topographical Engineers. In 1827 he was elected Professor of Mathematics in the University of Pennsylvania, and afterwards President of Girard College. In 1843 he received the appointment which he held at the time of his death. He was well known as a thorough scholar, and for the practical applications, valuable to navigators, which he made of his scientific acquirements.

## INVENTORS.

**ELIAS HOWE, JR.**, died October 4th, in Brooklyn, N. Y., aged 48. He was notable as the author of one of those inventions, which, so to speak, revolutionize the world in the course of a single generation. Every body knows the history of the sewing machine. The story of Mr. Howe's early struggles and final splendid success, has been repeatedly told, and we will not dwell upon it here.

## AUTHORS—PROSE.

The name of Miss CATHARINE M. SEDGWICK may be given first under this head.

The precedence universally accorded to the sex, and to venerable age, both demand it. She was eighty years old at the time of her death,—in August last,—and had been before the public as a writer for nearly half a century. She was born in Stockbridge, Mass., in 1787. Her charming style of story-telling made her a general favorite, and she retained her position to the last. In 1857, at the age of seventy, she published a novel with the title "Married or Single?" which is said to be as lively and graceful as any of her younger productions. Her books will live;—and she will be remembered with kindly feeling, not only by thousands of delighted readers, but also by scores of personal friends.

**SIR ARCHIBALD ALISON**, the historian, died during the current year, at the age of 75 years. He was born at Kenley Vicarage, in Shropshire, England. His father was a clergyman of the Established Church. Sir Archibald is most widely known through his "History of Europe,"—an elaborate work, but one which has been criticized with considerable severity.

**VICTOR COUSIN**, the philosopher, died in Paris, of apoplexy, January 14th, aged 75. He was the founder of the Eclectic School. Of humble origin, he gave early indication of remarkable talent; and in 1812, having completed the course of study in the Normal School, was appointed Assistant Greek Professor in that institution. In 1815 he began to lecture at the Sorbonne. As a teacher, he was extraordinarily popular; and as a lecturer he attracted crowds. He became a member of the French Academy in 1830.

**PROF. CHAS. ANTHON, L.L.D.**,—died in New York City, the place of his birth, in August last, aged 70 years. He graduated with honor at Columbia College in 1815, studied law, and was admitted to the bar in 1819. At the age of 23, he was appointed Assistant Professor of the languages in the above named college, and in 1835 was placed at the head of the Grammar School connected with that institution. He was a wonderfully industrious worker; as is proved by the fact that besides the faithful attention to his duties as instructor, he published some fifty volumes, as text books of Greek and Latin authors, with copious notes and commentaries, many of which have been republished in Europe.

**J. D. B. DEBOW**, died at Elizabeth, New Jersey, on February 27th, aged 47. His name is known in connection with *DeBow's Review*, which was established by him in New Orleans in 1845, as the organ of the slave interest. In 1848 he became Professor of Political Economy and Commercial Statistics in the University of Louisiana. During the war, he held some important position on the Secession side under Jeff. Davis. After it, he determined to devote his journal to the Southern interest, under a system of free labor. He was undoubtedly an able man.

**CHAS. AUGUSTUS DAVIS**,—alias "Major Jack Downing," the newspaper *Nasby* of thirty years ago, died in New York, January 26, aged 72 years.

## POETS.

**FITZ-GREENE HALLECK**, died on Nov. 21st, at his birth-place, Guilford, Conn., aged 73. Unquestionably a genuine poet, he was nevertheless, in his early youth, compelled by straightened circumstances to become an accountant in New York. Showing an aptitude for business unusual in one of such tastes, he was highly valued by his employer, the well-known Jacob Barker. He became cashier, and continued in association with the house until he was secured by John Jacob Astor to occupy an important position of trust in connection with one of the many speculative enterprises in which that millionaire was engaged. Mr. Astor, at his death, left him a moderate competence, with which he retired to his native town, where he spent the remaining years of his life. Entirely unambitious, and philosophically indifferent to fame or wealth, he wrote only for recreation; although his genius was of a high order, and might have enabled him to take rank among the foremost.

**NATHANIEL PARKER WILLIS**, died in New York January 21st, aged sixty. For the greater part of his life he has been before the American public as poet, sketch-writer, and editor. Some of his poetical effusions, written in the hey-day of his youth, have sufficient merit to entitle him to rank under this head; but upon the whole, the position which he occupied was that of the highly cultivated *litterateur* of faultless taste, rather than that of poet. For a number of years past he has edited the *Home Journal*.

**ALEXANDER SMITH**, died near Edinburgh, Scotland, on the 5th of January, aged 37.

His early poems gave promise of extraordinary genius. For a time his name was on every tongue, and his poems were the theme of universal discussion in the literary world. His exquisite word-painting was likened in richness to that of Keats. But his productions of a later date did not fulfil the promise made; and it seemed at last to be acknowledged that he lacked the fertility of true genius. How far his continued ill health contributed to this, it is impossible for us to say.

## OTHER MEN OF MARK.

**GOV. JOHN A. ANDREWS**, of Massachusetts, died suddenly, Oct. 30th, aged 50 years. He was a man of no ordinary merit. Admitted to the bar in 1840, at the age of 22, he practiced his profession with distinction until 1858, when he became a member of the Massachusetts Legislature. Since that time he has been five times Governor of the State; and ever since the commencement of the late war, has been prominently before the public of the whole country. His course throughout has been marked by proofs of unusual energy, self-reliance and integrity. His unexpected death in the midst of his usefulness is universally deplored.

**HON. JOSEPH A. WRIGHT**, of Indiana, U. S. Minister to Prussia, died in Berlin, May 11th. He has been a public man since 1843. First, member of Congress from Indiana, then Governor of that State,—which last position he held for six years,—he was, in 1857, appointed by President Buchanan, Minister to Prussia. Having returned home on the accession of Lincoln to the Presidency, he was appointed a second time by President Johnson to fill the same place, and remained therein until his death.

**GEN. THOMAS FRANCIS MEAGHER**, the "Irish patriot," fell from a steamer at Fort Benton on July 1st, and was drowned. At the time of his death, he was acting Governor of Montana, though nominally Secretary of that Territory. He was 44 years of age. In some respects, he was a remarkable man. As an orator, he is spoken of as unrivalled. His enthusiasm in the Irish cause, and his frank and generous nature, endeared him to his countrymen.

**HON. ARTHUR P. HAYNE**, formerly United States Senator from South Carolina, and aid-de-camp to Gen. Jackson at the battle of New Orleans, died in Charleston, S. C., in January last.

**CHARLES F. BROWNE**, known to all mirth lovers as *Artemus Ward*, died of consumption, in London, March 5th, aged 33 years. He was born, we believe, in Cleveland, Ohio, and was a printer by occupation. His humor, which was irresistible, was of a peculiar character—entirely *sui generis*. Although his writings were well received in this, his own country, and on the whole appreciated—as a lecturer he only reached the zenith of his popularity in England. There he created a marked sensation. The jolly John Bulls were never tired of laughing at his grave jokes; and their public journals were full of articles, analyzing and explaining their peculiar and subtle keenness. A generous and genial friend, and a true gentleman, he was beloved by all his associates. As he gradually sunk under his disease, and it became evident that he must die in a foreign land, he was carefully and tenderly nursed by friends, who, though but lately strangers to him, had already learned to love him as a brother. He devoted, by will, the bulk of his fortune, amounting, we believe, to some \$20,000, to the founding of an asylum for aged and disabled printers. "*Eecit monumentum ere perennius!*"

**MAXIMILIAN**, the self-styled "Emperor of Mexico"—that scion of the ancient and noble House of Austria, who, seduced by the Mephistopheles who sits upon the throne of France, weakly forsook a dukedom for an *ignis fatuus*, was, in August last, as the whole civilized world knows, done to death by the outraged people over whom he essayed to reign. With the pride of his race, he scorned to flee the country while there was yet time, although he must have known that his cause was lost, and further effort hopeless. His untoward fate will not be without effect upon the crowned heads of Europe. His body has only recently been surrendered to the request—not demand—of the Imperial mourners who constitute his sorrowing family; and is now on its way to the tomb of his ancestors.

**PERSONAL.**—Mr. B. F. Kenney, late Superintendent of the Ophir mine, is now connected with the Pacific File Factory, in this city. As he is said to bring with him a practical acquaintance with all the minutiae of this business, acquired years ago in the East, he will no doubt add much to the already well sustained reputation of the establishment. See card elsewhere.



**A California Steam Plow.**

We last week briefly referred, under the head of "New Inventions," to the fact that Mr. P. H. Standish, of Martinez, had invented a steam plow, or rather a steam earth-cutter, which is intended to effect the purpose of the plow, by cutting up and finely pulverizing the earth, without turning it over in a furrow. The objects sought to be gained by such a modification in the structure of this most important implement are: First, the placing of the fulcrum upon which the machine depends for its work, within the machine itself, rather than upon the horse or steam power, by which it is driven. Various devices have heretofore been attempted to combine the motive power of the steam plow with the machine itself; but we have yet to hear of one which has been successful, unless such shall prove to be the case with the invention of Mr. Standish.

The English, who have, thus far, accomplished more than all the world beside in steam plowing, have abandoned the attempt of combining the motive power with the machine, and all their successful plows are driven, or rather dragged, by engines placed upon one or two sides of the field, the plow being thus dragged back and forth by a stationary engine. Mr. Standish accomplishes his work, as will more fully appear below, by revolving cutters connected with the motive power itself. The second object gained is the rapidity with which the work can be done, and the small, comparative amount of power required for its performance. If it works as expected, it will do double the work of the best English machines—or about 35 to 40 acres per day.

To afford a more clear idea of how the work is done, we append the following description of the invention which has appeared in the last number of the *Contra Costa Gazette*:

The machine consists of a massive frame of six by twelve-inch timber, 24 feet long, by 12 feet wide, mounted upon two carrying wheels 8 feet in diameter and 34-inch face, with two steering wheels, forward, 4 feet in diameter and 15-inch face. The carrying wheels are geared to a pulley shaft which is belted to the engine driving pulley, and one or both wheels may be thrown in or out of gear at pleasure of the operator, and the machine turned in its own length, and the locomotive movement may be perfectly graduated to the speed of the cutters and character of the ground. The cutting apparatus consists of four shafts set in a vertical frame attached at the rear of the machine; these shafts are connected by crown gearing to a horizontal pulley shaft on the upper part of the vertical frame, and the pulley belted to the engine driving pulley.

The foot of each of the four vertical shafts is furnished with four stout radiating arms of three feet sweep, in the ends of which arms the cutting arms are vertically set. The shafts are geared to revolve in opposite directions so as to divide the side strain of the cutting force; and the periphery of each set of arms strikes just within that of the other, so as to leave no ridges upon the ground after the cutters. The adjustment of the machine for ordinary ground will give the cutters one hundred and fifty revolutions a minute, each knife cutting an inch slice every revolution; and as the earth, after being cut, is subjected to trituration by the rotary and forward movement of the knives, it must be left well pulverized and prepared for seed, while the locomotive power required for the machine will be but little more than that necessary to overcome the inertia of its weight, as the traction draft of the cutters will be very light.

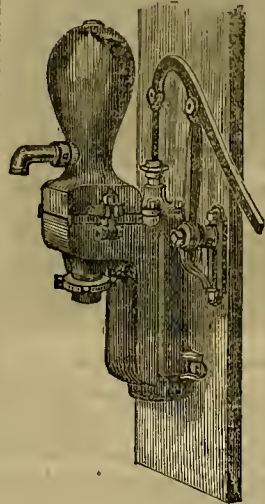
Capt. O. C. Coffin, a gentleman of energy, enterprise and means, well known in Contra Costa and the neighboring counties, has taken an interest in this invention, and will secure for it a thorough, practical trial. An experimental machine is about completed and will be subjected to a thorough test in a few days. It is designed to cut a breadth of twelve feet. For the experimental trial an ordinary thrashing engine and boiler will be used for the power—the whole apparatus weighing over seven tons; but with an engine especially adapted to the work, the weight will be greatly reduced. Application for a patent for this invention has been

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**NIEN**—In this city, December 12th, of difficult Dention, HARRY GRIDLEY, only son of Celia and C. W. M. SMITH, aged 12 months and 1 day.

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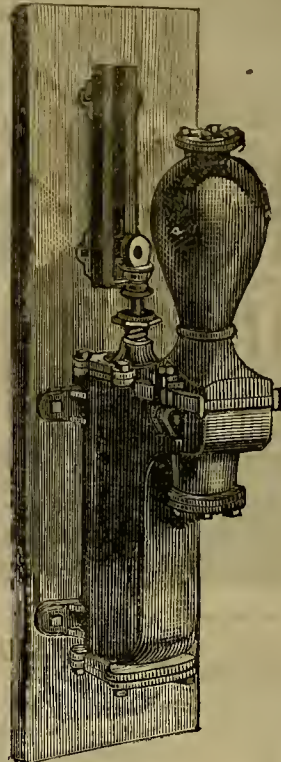
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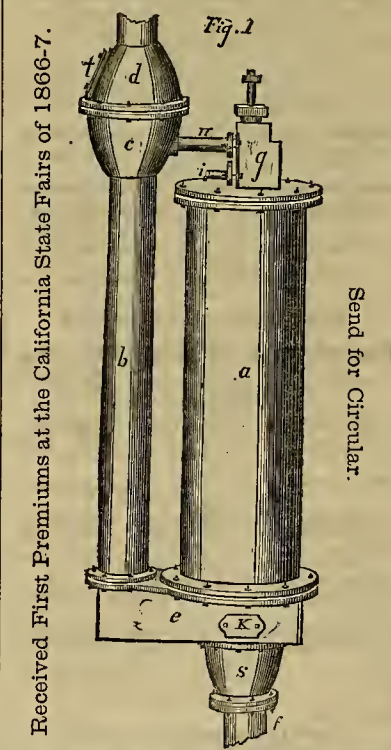
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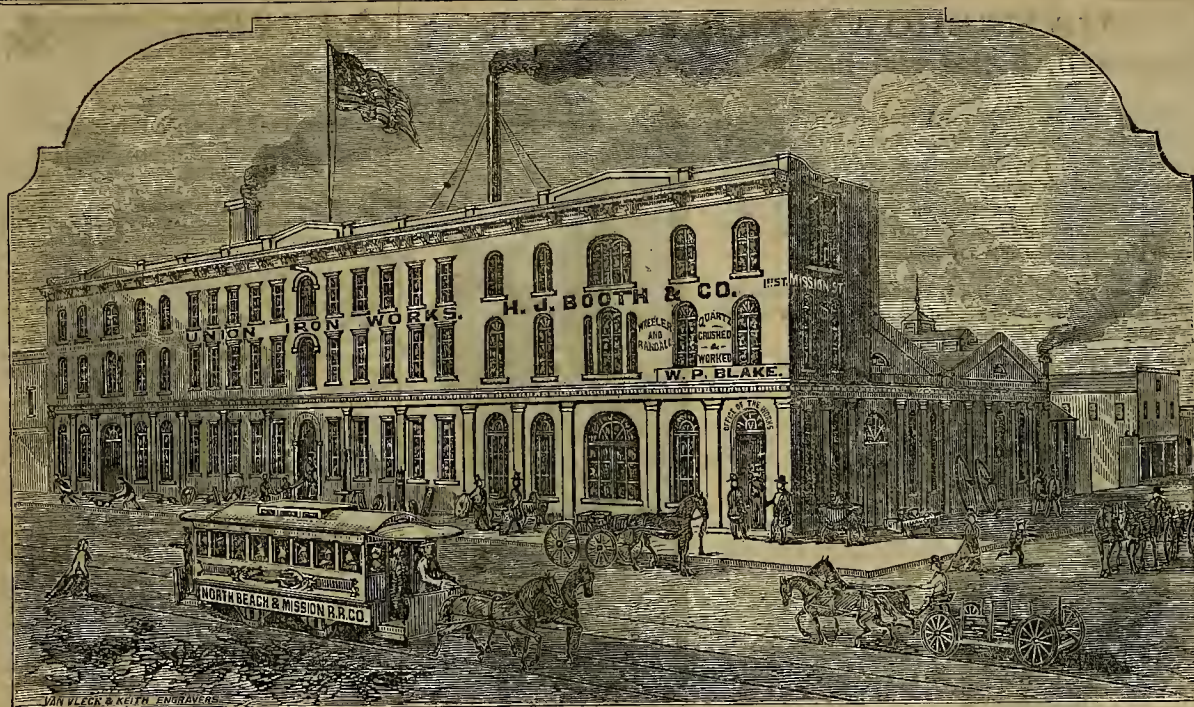
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**Patent Force Blast Blower.**  
Adapted for Smelting, Foundry, Mining and Steamships.  
Requires 50 per cent less power than any Blower now in use. For further particulars, address KEPP, BLAKE & CO., Stockton; or Wm. T. Garrett, corner Mission and Fremont streets, San Francisco. 5v15d79p.

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**Rolling Mill and Forge Co.,**  
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Established for the Manufacture of  
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—AND—  
**Every Variety of Shafting**  
Embracing ALL SIZES of  
Steamboat Shafts, Cranks, Piston and Connecting Rods, Car and Locomotive Axles and Frames.  
—ALSO—  
**HAMMERED IRON**  
Of every description and size.  
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**San Francisco Eye Infirmary.**  
Permanently established for the treatment of all diseases of the Eye. Dr. F. was for seventeen years principal of the Lafayette (Ind.) Eye Infirmary. F. W. FONDA, M. D., Surgeon in Charge. Office, 402 Montgomery street, opposite Well, Fargo & Co's. 4v1549p

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ENERGETIC MEN OR WOMEN CAN MAKE MONEY  
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One Agent reports thirty-three orders for one Book in three days. Address, **PACIFIC PUBLISHING COMPANY,**  
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Established in 1849--Corner First and Mission streets, San Francisco.

HAVING INCREASED OUR FACILITIES IN EVERY DEPARTMENT, WE ARE NOW prepared at the shortest notice and at the most reasonable rates, to furnish all kinds and description of Machinery, including Steam Engines, Quartz Mills, Mining Pumps of all kinds, Hoisting Gear, Gas Work, Laundry Machinery, Architectural and Ornamental Castings, Sugar Mills, Saw and Flour Mills, Water Wheels of all kinds, Hydraulic, Hay, Rag, screw and Drop Presses, Colning Machinery, Pile Drivers, Bark and Malt Mills, and all kinds of Castings.

**ENGINES.**—Marine Engines, Oscillating and Beam; Stern and Side Wheel Boats, Locomotives, Stationary Engines, Horizontal, Upright, Oscillating and Beam, from six to fifty inches diameter. Also, Scott & Eckart's Adjustable Cut-off Regulator—best in use; W. H. Eckart's Balance Valve for Stationary Engines; Woodward's Patent Steam Pump and Fire Engine.

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**PUMPS.**—The Excelsior double-acting Force Pumps are manufactured by us. These very superior Pumps are warranted the best, and are fast replacing all other Force Pumps.

**AMALGAMATING MACHINERY.**—Wheeler & Randall's improved Tracery Curve Pan, Zenas Wheeler's improved flat bottom pan, Beldin's pan, Veatch's tubs, Frater's concentrators, Waklee's pans, Beers' pan, German Barrels, Arastra Gearing, Chile Mills, Sorters of all descriptions, Refrorts of all sizes and shapes, for Silver and Gold, Portable Stamp Mills, Straight Batteries, for wood or iron frames, Dry Crushing Batteries, or machines with the latest improvements, every variety of Stamps, Mortars, Cams, Fans and Tubs. **BLAKE'S PATENT QUARTZ CRUSHERS**, of all sizes.

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Russia Iron Screens, of all degrees of fineness and of all qualities of iron. All work done in the best manner at the lowest cash prices.

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24 1/2 H. J. BOOTH & CO.

**INDIA RUBBER** will dissolve in naphtha, and if thinly spread on a surface, the naphtha will evaporate and the rubber regain its former properties. To make india rubber hard mix it with sulphur and some lamp black, red or white lead, according to the color you desire, and subject it to a temperature of about 360°. Goodyear's patent covers this process, however.

A NEW trade has appeared in London, being a body of men who deodorize and manipulate, partly, decayed fish, so as to render them saleable as food. The London *Field* describes their mode of carrying on business and says that few iniquities connected with the food supply are more disastrous.

**Gas.**—It is not the quantity of gas which determines its value, but its illuminating power. Rosin gas has about double the illuminating power of ordinary coal gas. Albertine coal is much richer than Cannel that is, it will yield gas of a higher illuminating power per cubic foot.

A HUGE water wheel, forty-five feet in diameter, is in operation at the Freiberg silver mines, 300 feet below the surface.

**Rates of Postage on Printed Matter to Europe and Asia.**

The Post Office Department has made arrangements by which a number of European and Asiatic countries, hitherto beyond the reach of our mail communication except by letter, are brought within the range of delivery of all, or nearly all, United States mail matter. It is a singular fact, unknown probably to most persons who have not occasion to learn it by unpleasant experience, that there was a considerable region in the civilized world where an American traveler might not receive a newspaper directly from home.

Under the arrangement now completed, prepayment of postage (sometimes at high rates), is made necessary in all cases. The following official statement gives a full list of the countries—with some of which there has been regular communication—that are now included in the delivery by way of Hamburg and Bremen:

Letters of postage on newspapers and other printed matter (periodicals, etc.) sent from the United States to countries in Europe and Asia, by Bremen or Hamburg mail—prepayment compulsory:

**NEWSPAPERS—MARKED AS FOLLOWS:**

Bremen, by Bremen mail—2 cents each.  
Hamburg, by Hamburg mail—2 cents each.  
Prussia, Austria and German States, by Bremen and Hamburg mail—3 cents each.  
Lunenburg, by Bremen mail—3 cents each.  
Lunenburg, by Hamburg mail—3 cents each and 1 cent per 1 1/2 ounce.  
Schleswig-Holstein and Denmark, by Bremen or Hamburg mail—3 cents each and 1 cent per 1 1/2 ounce.  
Sweden, by Bremen or Hamburg—3 cents each, and 1 1/2 cent per 1 1/2 ounce.  
Norway, by Bremen or Hamburg—3 cents each, and 3 1/2 cents per 1 1/2 ounce.  
Holland, by Bremen or Hamburg—3 cents each, and 1 cent per 1 1/2 ounce.  
Russia, by Bremen or Hamburg—3 cents each, and 1 cent per 1 1/2 ounce.  
Switzerland, by Bremen or Hamburg—4 cents each.  
Italy, by Bremen or Hamburg—3 cents each, and 5 1/2 cents per 1 1/2 ounce.  
Turkey, by Bremen or Hamburg—3 cents each, and 5 1/2 cents per 1 1/2 ounce.  
Greece, by Bremen or Hamburg—3 cents each, and 5 1/2 cents per 1 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—3 cents each, and 5 1/2 cents per 1 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail via Marseilles—3 cents each, and 9 cents per 1 1/2 ounce.  
Austria, India and China, by Bremen and Hamburg mails, via Trieste—3 cents each, and 2 cents per 1 1/2 ounce.

**PERIODICALS, ETC.**

Bremen, by Bremen mail—1 cent per ounce.  
Hamburg, by Hamburg mail—1 cent per ounce.  
Prussia, Austria and German States, by Bremen or Hamburg—1 1/2 cent per ounce.  
Lunenburg, by Bremen mail—1 1/2 cent per ounce, and 4 cents per 1 1/2 ounce.  
Lunenburg, by Hamburg mail—1 1/2 cent per ounce, and 1 1/2 cent per 1 1/2 ounce.  
Schleswig-Holstein and Denmark, by Bremen or Hamburg—1 1/2 cent per ounce and 1 1/2 cent per 1 1/2 ounce.  
Sweden, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1 1/2 ounce.  
Norway, by Bremen or Hamburg—1 1/2 cent per ounce, and 4 cents per 1 1/2 ounce.  
Holland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1 1/2 ounce.  
Russia, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 1/2 cent per 1 1/2 ounce.  
Switzerland, by Bremen or Hamburg—1 1/2 cent per ounce, and 1 cent per 1 1/2 ounce.  
Italy, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 cents per 1 1/2 ounce.  
Turkey, by Bremen or Hamburg—1 1/2 cent per ounce, and 5 1/2 cents per 1 1/2 ounce.  
Greece, by Bremen or Hamburg—1 1/2 cent per ounce, and 5 1/2 cents per 1 1/2 ounce.  
Gibraltar, Spain and Portugal, by Bremen or Hamburg—1 1/2 cent per ounce, and 2 1/2 cents per 1 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Marseilles—1 1/2 cent per ounce, and 9 cents per 1 1/2 ounce.  
Austria, India and China, by Bremen or Hamburg mail, by way of Trieste—1 1/2 cents per ounce, and 2 cents per 1 1/2 ounce.

These charges are in each case in full to destination, combining rates between the United States and Bremen or Hamburg, and the rate beyond Bremen and Hamburg to points of delivery.

**Machinists and Foundries.**

**PALMER, KNOX & CO.,**  
Golden State Iron Works,  
Nos. 19, 21, 23 and 25 First Street,  
SAN FRANCISCO.

MANUFACTURE ALL KINDS OF  
**MACHINERY,**  
TEAM ENGINES AND QUARTZ MILLS  
DUNBAR'S IMPROVED  
Self-Adjusting Piston Packing,  
Requires no springs or screws; is always steam tight; without excessive friction, and never gets slack or leaky.

WHEELER & RANDALL'S  
NEW GRINDER AND AMALGAMATOR  
HEPBURN & PETERSON'S  
AMALGAMATOR AND SEPARATOR,  
Knox's Amalgamators,  
WITH PALMER'S PATENT STEAM CHEST,  
Superior for working either GOLD OR SILVER ORES, and is the only Amalgamator that has stood the test of seven years' continual working.  
Genuine White Iron Stamp Shoes and Dies

Having been engaged for the past ten years in quartz mining, and being conversant with all the improvements, either in Mining or Milling, we are prepared to furnish, at the shortest notice, the most perfect machinery for reducing ores, or saving other gold or silver.

**WILLAMETTE IRON WORKS,**  
PORTLAND, OREGON.

Steam Engines, Boilers,  
SAW AND CRIST MILLS,  
MINING MACHINERY, WROUGHT IRON SHUTTER WORK, AND BLACKSMITHING IN GENERAL.  
Corner North-Front and E streets,  
18 1/2-19 1/2

**UNION IRON WORKS,**  
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**WILLIAMS, ROOT & NEILSON,**  
MANUFACTURERS OF  
CROSS' PATENT BOILER FEEDER,  
STEAM ENGINES, BOILERS,  
And all kinds of Mining Machinery.  
Also, Hay and Wine Presses made and repaired with neatness, durability and dispatch.  
Dunbar's Patent Self-Adjusting Steam Piston Packing, for new and old Cylinders, manufactured to order.  
Front Street, between N and O streets,  
14 1/2

**I. H. SMALL,**  
MACHINE SHOP,

Builder of  
Steam Engines, Sawmills, Mining Machinery,  
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Repairing of all kinds done with promptness and dispatch.  
Gears of all kinds cut at short notice, corner of Market and Beale st. San Francisco 6v15-3m

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Foundry and Machine Shop,  
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**KEEP, BLAKE & CO.,**  
MANUFACTURERS OF  
Quartz, Saw and Grist Mill Irons, Steam Engines, Horse Powers,  
Mining and Irrigating Pumps, Car Wheels, Derrick Irons, House Fronts, Iron Fencing, Balcony Railings, etc., at San Francisco prices. Orders solicited and promptly executed.

**GEORGE T. PRACY,**  
MACHINE WORKS,  
Nos 109 and 111 Mission street, between Main and Spear,  
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STEAM ENGINE, FLOUR AND SAW MILL  
And Quartz Machinery, Printing Presses,  
—AND—  
MACHINERY OF EVERY DESCRIPTION MADE AND REPAIRED.  
Special attention paid to Repairing. 24 1/2-3

**SAN FRANCISCO**  
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N. E. Cor. Fremont and Mission streets,  
Manufacturers of  
Marine and Stationary Engines  
Quartz Machinery, Saw, Flour and Sugar Mills, Mining Pumps, Hoisting Gear, Agricultural Implements, etc.

—ALSO—  
Wine, Cider, Cotton and Tobacco Presses of the latest Improved Patterns.

**STEAM ENGINES AND BOILERS,**

Of all sizes, constantly on hand; Quartz Mill Shoes and Dies warranted to be made of the best white iron.  
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MACHINERY OF ALL DESCRIPTIONS Bought, sold, or exchanged. Roll Cutting and Castings at the lowest market rates.  
6v11-ly **DEVOE, DINSMORE & CO**

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Steam Boiler & Sheet Iron Works.

The only exclusively Roller Making establishment on the Pacific Coast owned and conducted by Practical Boiler Makers. All orders for New Work and the repairing of Old Work, executed as ordered, and warranted as to quality.  
Old Stand, corner of Bush and Market streets, opposite Oriental Hotel, San Francisco.

**CALIFORNIA BRASS FOUNDRY.**  
No. 125 First street, opposite Minna,  
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ALL KINDS OF Brass, Composition, Zinc, and Babbitt Metal Castings, Brass Ship Work of all kinds, Spikes, Sheathing Nails, Rudder Braces, Flanges, Ship and Steamboat Belts and Gongs of superior tone. All kinds of Cocks and Valves, Hydraulic Pipes and Nozzles, and Hose Couplings and Connections of all sizes and patterns, furnished with dispatch.  
PRICES MODERATE.  
V. KINOWELL. 19v13-1y J. H. WEED.

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Quartz, Flour and Saw Mills,  
Moore's Grinder and Amalgamator, Brodie's Improved Crusher, Mining Pumps, Amalgamators, and all kinds of Machinery.  
N. E. corner of Tehama and Fremont streets, above Howard street, San Francisco. 3-47

**NEPTUNE IRON WORKS,**  
Corner of Mission and Fremont Streets,  
SAN FRANCISCO.

**MARINE**  
Locomotive,  
And all kinds of  
HIGH PRESSURE  
Steam Boilers  
MADE.  
All Boilers guaranteed and tested by U. S. Boiler Inspector before sent out of the Shop, at Shop expense.  
All kinds of Sheet Iron and Water Pipe, Coal Oil Stills, Wrought Iron Worms, etc., etc. Manufactured to Order.  
Old Boilers Repaired  
**D. CAMERON.**

**JOHN LOCHHEAD'S**  
Steam Engine Works,  
Beale street, near Mission, San Francisco.

STEAM ENGINES OF EVERY DESCRIPTION BUILT to order—Marine, Stationary, or Locomotive.  
**HOISTING AND PUMPING ENGINES,**  
PORTABLE ENGINES, OF ALL SIZES,  
DONKEY PUMPS, Etc., Etc., Etc.  
The attention of the parties engaged in shipping or inland navigation is called to the

**Superior Workmanship**  
of Mr. LOCHHEAD, who has been in the business in San Francisco for the last fourteen years, and enjoys the reputation of having built ONE HUNDRED AND SEVENTEEN STEAM ENGINES.  
Screw Propellers of all kinds, and Steam Boat Machinery generally, made to order, and warranted to give perfect satisfaction in every particular. 25v12-3m

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**MARINE ENGINES,**  
AND ALL KINDS OF  
**MACHINERY FORGING.**  
All kinds of Ship-smithing and Mill work manufactured to order. Jobbing of every description promptly attended to. All work done warranted. 13v14-17  
Electrotype CUTS, ENGRAVINGS, Etc.—Our Job Printing Office is abundantly supplied with elegant engravings, ornaments, and other embellishments to suit the various branches of industry in this State.

**CALIFORNIA**  
TOOL AND FILE FACTORY.

Blacksmith and Machine Shop.  
No. 17 Fremont street, between Market and Mission, S. F.  
Job Grinding and Polishing done at shortest notice.  
Special premium awarded at the last State Fair, Sacramento. 4v15-47

**LINCOLN IRON WORKS,**  
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**D. & W. FOURNESS, Prop'rs.**  
**STEAM ENGINES,**  
Flour and Sawmills, and MACHINERY of all descriptions made and repaired at shortest notice.  
Particular attention paid to repairing Reynolds' Cut-off 5v15q7



**THE SPRINGFIELD MILITARY MUSEUM.**—The museum at Springfield, Mass., is to be made a military storehouse containing articles of great historical value. There will be an almost endless variety of guns—American and foreign, Federal and Confederate, muzzle and breech-loading. A valuable feature will be specimens of the scores of breech loaders which were presented to the commission for examining such arms which met in Springfield some time ago; also photographs of every part of each. Of course, war relics will comprise a prominent part of the collection. Blood-stained guns and swords from many a battle field will be found there, with a large number of specimens of Southern guns, swords and pikes which are so roughly finished as to show that the Confederates were too hard pressed to stop for much "style" in making them, even if they had skilled workmen to do the work in better shape. The museum will be enlarged as relics of various kinds are sent among the old guns forwarded to the armory; and it cannot fail to become a collection of much interest and worth.

**OWENS' RIVER VALLEY.**—This valley, from all accounts, is steadily growing in importance. The climate is remarkably healthy, and the soil yields the various products with astonishing prolificacy. Grapes grow finely, and tobacco flourishes. During the past season several acres of sorghum were planted, yielding finely and producing syrup of a good quality. The cereals flourish amazingly, especially wheat. There are already two flouring mills in the valley, and a splendid article of flour is manufactured. As a cattle raising country it is unsurpassed. There are several sawmills in the neighborhood, and lumber is cheap. A school has been established at one locality, which is attended by about thirty scholars. There are good mines in the neighboring mountains.

**TO CEMENT BRASS ON GLASS.**—Puscher uses a cement particularly adapted for fastening brass on glass lamps, which consists in resin soap—made by boiling three parts of resin with one part of caustic soda and five parts of water, which is mixed with one-half its weight of plaster of paris. This cement has great adhesive power and is not permeable by petroleum; it sets firmly in less than an hour, and is a very slow conductor of heat. Zinc-white, white-lead, or precipitated chalk may be substituted for plaster of paris, but the material will be longer in hardening.

It is expected that the track of the Pacific Railroad coming West from the Missouri, will be laid to Evan's Pass (the highest point to be passed between the two oceans) by the first of January—next week. The distance of that point from Omaha, the western terminus, is 555 miles.

**OIL WELLS.**—Seven thousand nine hundred and thirty oil wells have been sunk in the United States since the year 1861, and have yielded a total product of about 11,640,679 barrels of crude petroleum.

The clock at Hampton Court Palace, England, which was set up in 1540, is said to have been the first clock made in England.

**BEAN'S HISTORY AND DIRECTORY OF NEVADA COUNTY, CALIFORNIA.**

Containing a complete History of the County, with Sketches of the various Towns and Mining Camps, the Names and Occupation of Residents; also, full Statistics of Mining and all other Industrial Resources.

COMPILED BY EDWIN F. BEAN.

Price, \$5—For sale at the office of the Mining and Scientific Press, San Francisco 13v15t

**To Quartz Miners.**

Two Quartz Mills for Sale at very Low Rates. PARTIES WISHING TO PURCHASE WILL SAVE 50 percent by calling at HOWLAND'S SAMPLE MILLS, No. 24 California street, San Francisco. 21v15-3m

**Copperas! Copperas!**

75,000 LBS. IMPORTED COPPERAS—SULPHATE of Iron—for sale in lots to suit, by BENJ. BRADY, 103 California street, S. W. corner Davis, up stairs. 13.15 3m

**Mining Secretary.**

THE SUBSCRIBER, HAVING SERVED FOR THE LAST five years as Secretary of various mining companies, feels fully competent to serve in that capacity. Any parties wishing to secure the services of a Secretary can be accommodated on reasonable terms. Information given, and all necessary papers correctly made out. Having had a long experience in the purchasing of goods and machinery for miners, parties in the mines will find it to their advantage, when purchasing agents are employed, to send their orders to the undersigned. J. M. BUFFINGTON, No. 5 Government House, San Francisco. 17v15-1f

**CHALLENGE FOR TWO THOUSAND DOLLARS,**

—AND THE—  
"GOLD MEDAL."

**THE EXCELSIOR PUMP COMPANY**

Hereby challenge Mr. THOMAS HANSBROW in the above amount, to a Mechanical Trial between his "Challenge Pump" and the "Excelsior Pump," the trial to take place in San Francisco, before a

**COMMITTEE OF MECHANICS,**

Each Pump to be constructed in accordance with its patent, and to be tested from their least to their greatest capacity, together with the power required by each Pump. A meeting for settling arrangements for the trial may be had at the office of the MINING AND SCIENTIFIC PRESS. This Challenge open for sixty days.

**The "Excelsior Pump"**

Was NOT entered for the GOLD MEDAL, at the recent State Fair, as it was verbally agreed, by Mr. Hansbrow and Mr. Hooker, that they would not enter their Pumps for the Medal, as no means were provided for testing machinery, and believing that

**Policy, not Merit of Machines,**

Was to govern the award of prizes. The inference is clear—hence the above Challenge.

**CUSHING & HOOKER, Prop'rs.**

23v15t

Stair Work of all kinds, MADE TO ORDER, And Shipped to all parts of the Coast.



**N. P. LANGLAND, STAIR BUILDER,**  
No. 49 Beal street,  
Between Market and Mission,  
SAN FRANCISCO.  
10v14-ly

Newel Posts and Balustrades CONSTANTLY ON HAND and for Sale.

**THE GOLDEN ERA.**

Founded in 1852, it is the oldest Weekly Paper in the State, permanently established, and more widely circulated at home and abroad than any other on the Pacific Coast. In California, the Atlantic States, and throughout the entire field of its great and rapidly increasing circulation, THE GOLDEN ERA is universally regarded as a Literary and Family Journal of unequalled excellence. Among its contributors are all the best writers on this side of the Continent.

**THE GOLDEN ERA**

Is the most universally popular of all the Weekly Journals. It presents forty-eight columns, containing the greatest possible variety of Valuable and Entertaining, Original and Selected matter. It is a welcome guest in Cottage and Cabin; the favorite at the fireside in city and country; the most useful, agreeable and altogether desirable publication for California readers and their kindred and friends in the Atlantic States, Europe and elsewhere. Every household in the mountains and valleys, the cities, towns and mining camps of California, and throughout the Pacific States and Territories, should receive and welcome THE GOLDEN ERA as a regular weekly visitor. Inspired with the genius of the age, it is progressive, and aims not so much at distinction as a newspaper, as at honorable success in its capacity of a great Moralizing and Improving Influence, exercising a positive power for good, and wielding a permanent influence, many able and eminent writers choose its columns as a means of communicating with the public. No effort will be spared to make it a thoroughly California newspaper, and worthy of the support of all classes of our citizens.

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Send money to our office in registered letter, or by Express, Address,

**BROOKS & CAMP,**  
San Francisco.

REGISTER YOUR LETTERS containing money addressed to us, or we will not be responsible. Remittances by Express must be in packages, prepaid. When practicable, it is best to remit by draft, or order, on some San Francisco bank or firm.

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(706 SANSOME ST. 706)  
SAN FRANCISCO.  
**BRIGNARDELLO, MACCHIAVELLO & CO.**  
12v14-6m

**PACIFIC POWDER MILL**

COMPANY'S!

**BLASTING POWDER!**

MANUFACTURED IN MARIN COUNTY, CALIFORNIA.

FOR SALE BY

**HAYWARD & COLEMAN,**

AGENTS,

414 Front Street, San Francisco. 23v14-1m

**Machinists and Foundries.**

**Miners' Foundry**

**MACHINE WORKS**

Nos. 245 to 255 FIRST STREET, San Francisco.

**HOWLAND, ANGELL & KING, PROPRIETORS,**

**Manufacturers of Machinery for**

QUARTZ MILLS, FLOUR MILLS, SAW MILLS, SUGAR MILLS, POWDER MILLS, PAPER MILLS

Steam Engines of all Kinds. Amalgamators of all Kinds.

MINING PUMPS, HOISTING WORKS, OIL WELL TOOLS, ROCK BREAKERS,

Machinery and Castings of all kinds, either of Iron or Brass.

Boilers and Sheet Iron Work in all its Branches.

Shoes and Dies of White Iron, manufactured for and imported by us expressly for this purpose, and will last 25 per cent. longer than any other made on this coast.

Russia Iron Screws, of any degree of fineness. We are the only manufacturers on this coast of the "Hicks Engine," the most compact, simple in construction, and durable, of any Engine in use.

**W. H. HOWLAND E. T. KING, H. B. ANGELL, CYRUS PALMER.** 13v14-7r



**JAMES MACKEN, COPPER SMITH,**

No. 226 Fremont st., bet. Howard & Folsom

All kinds of COPPER WORK done to order in the best manner. Particular attention paid to Steamboat, Sugar House and Distillery work.

Repairing promptly and neatly attended to. 13v11

**International Hotel, JACKSON STREET, BETWEEN MONTGOMERY AND KEARNY STS., SAN FRANCISCO, CAL.**

THIS OLD ESTABLISHED HOUSE IS IN PERFECT order for the accommodation of guests. Persons seeking comfort and economy will find this the best Hotel in the city to stop at. The Beds are new and in good order, and the Rooms well ventilated. The Table will always be supplied with the best in the market.

Prices varying from \$1.50 to \$2 per day for Board and Room.

FINE BATH HOUSE AND BARBER SHOP ATTACHED TO THE HOUSE.

Boats belonging to the House will be in attendance at all the boats and cars to convey passengers to the House FREE OF CHARGE, and to any part of the city for 50 cents 21v12 F. E. WEYGANT, Proprietor.

**FRIEDLANDER'S NORTH POINT GRAIN WAREHOUSES,**  
Sansome and Chestnut streets, San Francisco.

These magnificent BRICK WAREHOUSES—the largest in the State—are now completed and ready for the reception of storage. The facilities for receiving and discharging are unsurpassed, there being a water front of six hundred feet. Insurance and advances effected at lowest rates.

For storage, apply at the Warehouses, to THOMAS H. DOUGLAS, Storekeeper and Wharfinger, Or to I. FRIEDLANDER, 112 California street. 19v15-4w

**California Steam Navigation COMPANY.**

Steamer CAPITAL.....CAPT. E. A. POOLE

" CHRYSOPOLIS.....CAPT. A. FOSTER.

" YOSEMITE.....

" CORNELIA.....CAPT. W. BROMLEY

" JULIA.....CAPT. E. CONKLIN.

One of the above steamers leave BROADWAY WHARF at 4 o'clock P. M. EVERY DAY (Sundays excepted) for Sacramento and Stockton, connecting with light-draft steamers for Marysville, Colusa, Chico, and Red Bluff.

Office of the Company, northeast corner of Front and Jackson streets.

13v12 B. M. HARTSHORNE, President.

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**Mining and Prospecting Companies**

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Orders from the Interior faithfully attended to.

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VOLUME SIXTEEN

Mining and Scientific Press,
COMMENCING JANUARY, 1868.

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THE MINING AND SCIENTIFIC PRESS is now thoroughly established, and enjoys one of the largest and most permanent subscription lists of any weekly journal on this coast. The individual character and reputation of its constant patrons throughout the entire coast is one of the best recommendations of its merits and value as a medium of intelligent progress and prosperity.

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221\*

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Departures of 18th or 19th connect with French Trans-Atlantic Co.'s steamer for St. Nazaire, and English steamer for South America.
Departure of 10th is expected to connect with English steamer for Southampton and South America, and Australia, and P. R. Co.'s steamer for Central America. Through tickets can be obtained.
The following Steamships will be dispatched on dates as given below:
December 10th—SACRAMENTO.....Capt. Wm. H. Parker, Connecting with HENRY CHAUNCEY, Capt. Gray.
December 19th—CONSTITUTION.....Capt. J. M. Cavalry Connecting with the RISING STAR, Capt. Corner.
December 30th—MONTANA.....Capt. E. S. Farnsworth Connecting with ARIZONA, Capt. Maury.
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These steamers will positively sail at 11 o'clock. Passengers are requested to have their baggage on board before 10 o'clock.
Through Tickets for Liverpool by the Cunard, Inman and National Steamship Lines, can be obtained at the office of the P. M. S. Co., San Francisco, where may also be obtained orders for passage from Liverpool or Southampton to San Francisco, either via New York or St. Thomas—desired an amount of £10 to £20 will be advanced with the above orders. Holders of orders will be required to identify themselves to the Agents in England.
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The Steamship CHINA, Capt. E. W. Smith, will be dispatched January 13th, at noon from wharf, corner of First and Brannan streets, for YOKOHAMA and HONG-KONG, connecting at Yokohama with the steamer COSTA RICA for SHANGHAI.
For passages and all other information, apply to the Pacific Mail Steamship Co's office, corner of Sacramento and Leidesdorff streets.
OLIVER ELDREDGE, Agent.

New Mining Advertisements.

Ancient River Channel Blue Gravel Company.—Location of Works: Nevada County, California.
NOTICE.—There are delinquent, upon the following described stock, on account of assessment levied on the twenty-second day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:
Names. No. Certificate. No. shares. Amount.
Wentworth, J. P. H..... 53 48 79 00
Jones, C. W..... 56 68 124 00
Casey, E. W..... 53 55 110 00
Hall, H. W..... 74 314 62 50
Hall, H. W..... 59 35 70 00
Gardner, J. H..... 70 125 250 00
Treat, Geo..... 75 188 376 00
McCormick, H..... no certificate 750 1,500 00
Josselyn, J. H..... 59 75 150 00
And in accordance with law, and an order of the Board of Trustees, made on the twenty-second day of November, 1867, so many shares of each parcel of said stock as may be necessary will be sold at public auction, by J. M. Olney, auctioneer, 418 Montgomery street, San Francisco, on Monday, the thirteenth day of January, 1868, at the hour of 12 o'clock M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.
J. M. BUFFINGTON, Secretary.
Office, No. 5 Government House, corner Washington and Sansone streets, San Francisco. dec23



Arizona Consolidated Mining Company, Eucla District, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-third day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable in United States gold and silver coin, to the Secretary, at the office of said Company, No. 611 Clay street.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth (29th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the seventeenth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

G. W. HUNNELL, Secretary.

Office, No. 611 Clay street, San Francisco. dec23

I. X. L. Gold and Silver Mining Company, No. 2, Silver Mountain District, Alpine County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the eighteenth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like Avery, Clark, Adams, etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 609 Market street, on Tuesday, the twenty-fourth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco. dec17

Hope Gravel Mining Company, Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of December, 1867, an assessment (No. 19) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to David Wilder, Secretary, at No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, California. dec21

I. X. L. Gold and Silver Mining Company, Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth (12th) day of December, 1867, an assessment of one dollar and fifty cents (\$1 50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slaven, at Silver Mountain.

Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the sixth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. dec21

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like G. W. Fellows, G. W. Fellows, etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 618 Market street, San Francisco, Cal. on Monday, the sixteenth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary.

Office, 618 Market street, San Francisco, Cal. no30

Postponement—The above sale is hereby postponed until Monday, the 30th day of December, 1867, at the same hour and place. By order of the Board of Trustees.

B. P. WILKINS, Secretary.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. RUFFINGTON, Secretary.

Office, No. 5 Government House, corner Washington and Sansone streets, San Francisco, California. no30

Mining Notices—Continued.

Chilonera Mining Company—District of Cres, Sonora, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of five dollars (\$5) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, 318 California street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twentieth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary.

Office, 318 California street, up stairs, San Francisco, no30

Hanson Copper Mining Company, Location: Low Divide District, Del Norte County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the first day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like Byersdorf, John, Kelsey, J. J., etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the first day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 609 Market street, on Tuesday, the twenty-fourth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

S. S. SWEET, Secretary.

Office, 609 Market street, San Francisco. dec17

Postponement—The above sale is hereby postponed until Monday, the sixth day of January, 1868, at the same hour and place. By order of the Board of Trustees.

S. S. SWEET, Secretary.

Hope Gravel Mining Company, Location of Works and Property: Grass Valley, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the sixteenth day of December, 1867, an assessment (No. 19) of one dollar per share was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to David Wilder, Secretary, at No. 533 Kearny street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID WILDER, Secretary.

Office, No. 533 Kearny street, corner of Sacramento street, San Francisco, California. dec21

I. X. L. Gold and Silver Mining Company, Location of Mine: Silver Mountain District, Alpine County, Cal.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twelfth (12th) day of December, 1867, an assessment of one dollar and fifty cents (\$1 50) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, Pioneer Hall, Montgomery street, near Jackson, San Francisco, or to John G. Slaven, at Silver Mountain.

Any stock upon which said assessment shall remain unpaid on the eighteenth (18th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the sixth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. CROWNSHIELD, Secretary.

Office, Pioneer Hall, Montgomery street, up stairs, San Francisco. dec21

Lady Bell Copper Mining Company, Low Divide Mining District, Del Norte County, California.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the twenty-fourth day of October, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like G. W. Fellows, G. W. Fellows, etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the twenty-fourth day of October, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 618 Market street, San Francisco, Cal. on Monday, the sixteenth day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

B. P. WILKINS, Secretary.

Office, 618 Market street, San Francisco, Cal. no30

Postponement—The above sale is hereby postponed until Monday, the 30th day of December, 1867, at the same hour and place. By order of the Board of Trustees.

B. P. WILKINS, Secretary.

Lyon Mill and Mining Company, Kelsey District, El Dorado County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-seventh day of November, 1867, an assessment of fifty cents (50c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary.

Any stock upon which said assessment shall remain unpaid on the first day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

J. M. RUFFINGTON, Secretary.

Office, No. 5 Government House, corner Washington and Sansone streets, San Francisco, California. no30

Postponements and Alterations.—Secretaries are requested to give notice of postponements, or alterations which they may desire made in their advertisements at their earliest convenience. New advertisements should be handed in as early as possible.

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, State of Nevada.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the eighth day of November, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like Borel, F. A., Borel, F. A., etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the eighth day of November, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, by Maurice Dore & Co., No. 827 Montgomery street, San Francisco, Cal., on Tuesday, the thirty-first day of December, 1867, at the hour of 12 o'clock, M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

R. N. VAN BRUNT, Secretary.

Office, 425 Montgomery street, San Francisco. dec14

Mount Tenabo Silver Mining Company.—Location of Works: Cortez District, Lander County, Nevada.

Notice is hereby given, that the postponed Annual Meeting of the shareholders of the above named Company, will be held at the office of the Company, 425 Montgomery street, San Francisco, the SECOND DAY OF JANUARY, 1868, at 3 o'clock, P. M. for the election of Trustees to serve the ensuing year, and for the transaction of other business.

R. N. VAN BRUNT, Secretary.

Office, 425 Montgomery street, San Francisco. dec14

Nevada and Corcoran Silver Mining Company, Storey County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twenty-sixth day of November, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of the Company.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the tenth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. no30

Postponement—The day for deeming stock delinquent on the above assessment is hereby postponed until Monday, the sixth day of January, 1868, and the sale thereof until Wednesday, the twenty-second day of January, 1868. By order of the Board of Trustees.

T. B. WINGARD, Secretary.

Office, 408 California street, San Francisco. no30

Oxford Beta Tunnel and Mining Company, Esmeralda District and County, State of Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eighteenth day of November, 1867, an assessment (No. 25) of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, or to the Superintendent at the mine.

Any stock upon which said assessment shall remain unpaid on the twenty-sixth day of December, 1867, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the fifteenth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

OEO. H. PECK, Secretary.

Office, 212 Clay street, San Francisco. no23

Postponement—The day for deeming stock delinquent on the above assessment is hereby postponed until the twenty-third day of January, 1868, and the sale thereof until Wednesday, the twelfth day of February, 1868. By order of the Board of Trustees.

GEO. H. PECK, Secretary.

Office, 212 Clay street, San Francisco. no23

North Star Gold and Silver Mining Company, Reese River Mining District, Lander County, Nevada.

Notice—There are delinquent upon the following described stock, on account of assessment levied on the nineteenth day of September, 1867, the several amounts set opposite the names of the respective shareholders, as follows:

Table with columns: Name, No. Certificate, No. Shares, Amount. Lists names like Oliver Ames, Cyrus Lathrop, etc., with their respective share amounts.

And in accordance with law, and an order of the Board of Trustees, made on the nineteenth day of September, 1867, so many shares of each parcel of said stock as may be necessary, will be sold at public auction, at the office of the Secretary, 423 Front street, San Francisco, California, on Saturday, the seventh day of December, 1867, at the hour of 2 o'clock, P. M. of said day, to pay said delinquent assessment thereon, together with costs of advertising and expenses of sale.

GEORGE H. FAULKNER, Secretary.

Office, 423 Front street, San Francisco, Cal. no23

Postponement—The above sale is hereby postponed until Thursday, the second day of January, 1868, at the same hour and place. By order of the Board of Trustees.

OEO. H. FAULKNER, Secretary.

Office, 423 Front street, San Francisco, Cal. no23

Olney & Co., Auctioneers and Real Estate Agents, attend promptly to all business entrusted to their care in San Francisco and Oakland. Mining and other corporations will find Col. Olney well posted and thorough in transacting sales of delinquent stock. Office, on Broadway, Oakland, and No. 319 Montgomery street, San Francisco. no10

Old Colony Silver Mining Company.—Location of Works: Austin, Lander County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the nineteenth day of December, 1867, an assessment of two dollars per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 523 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the twenty-ninth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Thursday, the twentieth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

HENRY O. HOWARD, Secretary.

Office, 523 Montgomery street, San Francisco. dec21

Rippon Gold and Silver Mining Company.—Location of Works: Silver Mountain Mining District, Alpine County, State of California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the seventeenth day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, No. 87 Stevenson street, between First and Second streets, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the twenty-second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the eighth day of February, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

P. CARROLL, Secretary.

Office, No. 87 Stevenson street, between First and Second, San Francisco. dec21

Sweet Vengeance Gold and Silver Mining Company, Brown's Valley, Yuba County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirteenth day of November, 1867, an assessment of seventy-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of this Company, No. 705 Sansome street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the third (3d) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Wednesday, the twenty-second day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

F. S. SPRING, Secretary.

Office, No. 705 Sansome street. dec7

Sun Francisco and Castle Dome Mining Company, Castle Dome County, Arizona Territory.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the twentieth day of November, 1867, an assessment of ten cents (10c) per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at the office of this Company, No. 533 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the seventh day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

A. R. SMITH, Secretary.

Office, Room No. 40 Merchants' Exchange, California street, San Francisco. dec7

Sierrita Viva Silver Mining Company, District of Zaraposa, Sinaloa, Mexico.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the fourth day of December, 1867, an assessment of twenty-five cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, No. 533 Montgomery street, San Francisco, California.

Any stock upon which said assessment shall remain unpaid on the tenth (10th) day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

JOHN F. LOISE, Secretary.

Office, 318 California street, San Francisco, Cal. dec7

Sophia Consolidated Gold and Silver Mining Company, Toulumine County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the eleventh day of December, 1867, an assessment of fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at No. 611 Washington street, San Francisco, Cal.

Any stock upon which said assessment shall remain unpaid on the tenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Saturday, the twenty-ninth day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

DAVID E. JOSEPHI, Secretary.

Office, 611 Washington street, San Francisco. dec14

U. S. Grant Mining Company.—Location of Works and Mine: Excelsior District, Nevada County, California.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the tenth day of December, 1867, an assessment of five dollars per share (\$10 per foot) was levied upon the capital stock of said Company, payable immediately, in United States gold coin, to T. L. Barker, 405 Front street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the thirteenth day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-seventh day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. L. BARKER, Secretary.

Office, 405 Front street, San Francisco. dec14

Whitman Gold and Silver Mining Company.—Location of Works: Indian Springs District, Lyon County, Nevada.

Notice is hereby given, that at a meeting of the Board of Trustees of said Company, held on the thirty-first day of October, 1867, an assessment of one dollar and fifty cents per share was levied upon the capital stock of said Company, payable immediately, in United States gold and silver coin, to the Secretary, at his office, room No. 10, 2d floor, No. 505 Montgomery street, San Francisco.

Any stock upon which said assessment shall remain unpaid on the second day of January, 1868, shall be deemed delinquent, and will be duly advertised for sale at public auction, and unless payment shall be made before, will be sold on Monday, the twenty-third day of January, 1868, to pay the delinquent assessment, together with costs of advertising and expenses of sale. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. no2

Postponement—The day for deeming stock delinquent on the above assessment is hereby postponed until Friday, the thirty-first day of January, 1868, and the sale thereof until Saturday, the twenty-ninth day of February, 1868. By order of the Board of Trustees.

T. W. COLBURN, Secretary.

Office, room No. 10, 2d floor, No. 402 Montgomery street, San Francisco, Cal. no2



Machinery.

VARNEY'S PATENT AMALGAMATOR

These Machines Stand Unrivaled.

For rapidly pulverizing and amalgamating ores, they have no equal. No effort has been, or will be, spared to have them constructed in the most perfect manner, and of the great number now in operation, not one has ever required repairs. The constant and increasing demand for them is sufficient evidence of their merits.

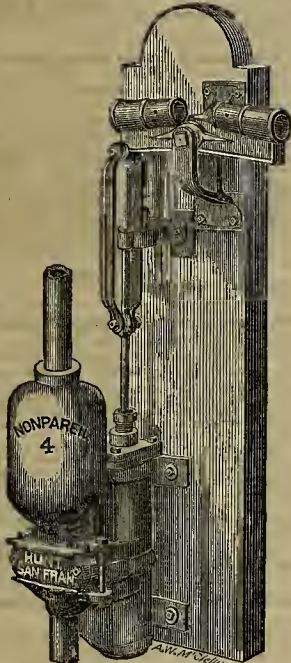
They are constructed so as to apply steam directly into the pulp, or with steam bottoms, as desired.

This Amalgamator Operates as Follows: The pan being filled, the motion of the muller forces the pulp to the center, where it is drawn down through the aperture and between the grinding surfaces. Thence it is thrown to the periphery into the quicksilver. The curved plates again draw it to the center, where it passes down, and to the circumference as before. Thus it is constantly passing in a regular flow between the grinding surfaces and into the quicksilver, until the ore is reduced to an impalpable powder, and the metal amalgamated.

Sellers made on the same principle excel all others. They bring the pulp so constantly and perfectly in contact with quicksilver, that the particles are rapidly and completely absorbed.

Mill men are invited to examine these pans and settlers for themselves, at the PACIFIC FOUNDRY, San Francisco.

Hunt's Double-Action Pump



cheap, durable, strong, and not liable to get out of order. Built and on hand at No. 28 Second street, and 103 Jessie street 14v16f

E. O. HUNT, Prop'r.

E. T. STEEN,

Commission Agent for the purchase and sale of

Engines, Boilers, Castings,

AND ALL KINDS OF MACHINERY,

No. 537 Washington, and 532 Merchant st., San Francisco

HAS FOR SALE

- One Engine, 5-Horse Power, \$100
One Engine with Boiler, 7-Horse, 600
One Engine, Link for Hoisting, 15-Horse, 800
Two Engines, Boilers, Port., 16-Horse, 1,200
One Engine, 40-Horse, 1,200
One 30-Horse Boiler, 300

Also, a great variety of

Boilers and Machinery,

CASTINGS OF ALL KINDS,

AT LESS THAN MARKET RATES.

Parties wishing to purchase or sell Machinery, of any kind, can do so to advantage through this agency. 12v15q

Steam Pumps,

FOR DRAINING MINES OR ELEVATING WATER TO ANY HEIGHT.

PICKERING'S GOVERNORS

For Steam Engines.

Giffard's Injectors,

For Feeding Boilers.

STODDART'S IRON WORKS,

Beale Street, San Francisco, 23v12 5m

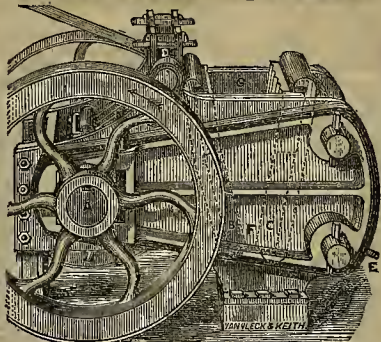
PATTINSON'S

HURDY-GURDY WATER-WHEEL.

The Inventor of this Wheel having, after much delay, finally obtained the patent for the same, is prepared to sell rights therefor to such as may be desirous of putting them up, or continuing those already in use. This is well known among miners as the "burdy-gurdy wheel," and is considered the most economical Water-Wheel now in use.

Notice is hereby given, that the subscriber is the inventor and holds the patent right for the construction and use of the same; and that no person has a right to manufacture or use them without his permit. 7v15-4y THOMAS PATTINSON

Brodie's Patented Improvements



FOR THE TREATMENT OF Gold and Silver Ores.

BRODIE'S PATENTED IMPROVED QUARTZ CRUSHER. The attention of all interested in Mining is respectfully called to this Improved Machine for Breaking or Spalling Quartz, or other Rock, possessing, as it does, simplicity of action and lightness of construction, so far as compatible with strength and durability. In consequence of these advantages, the advertisers are enabled to offer these machines to the public at the following low terms: No. 1—Or 10-inch Crusher, capable of reducing from three to four tons of quartz per hour, no piece being larger than a walnut—price, \$600

No. 2—Or 15-inch Crusher, capable of similarly pitting through five to six tons per hour, price, \$850
No. 3—Or 18-inch Crusher, will in a similar manner crush from seven to eight tons per hour, price, \$1,200

EXPLANATION OF THE ABOVE DRAWING. The frame is made of cast iron, bound with heavy wrought iron bands, making it very strong, and at the same time light and portable. The crusher is bolted to a wood frame of sufficient height to clear the fly-wheel, and allow the crushed quartz to pass off. The dotted lines show the movable and stationary jaws. Letter A represents the eccentric shaft by which the power is applied direct to the movable jaw. B represents the movable jaw, and C the fixed jaw. D represents the link or radius bar. E represents the bolts for regulating the opening. F, which can be regulated at pleasure, so as to graduate to the size to which it is intended the quartz shall be crushed. G represents the feed opening, by which the size of the machine is designated.

The arrow on the fly-wheel shows the direction to drive the eccentric, which, in combination with the link, D, gives the movable jaw, B, a forward and downward motion at the same time, and which makes the hardest rock yield and separate into fragments of any desired size. The above Crushers have been recently erected and are now successfully employed at Bear Valley, Mariposa county, Rawhide Ranch, Tuolumne county, Excelsior Mine, Lake District, Nevada county, and can be seen in operation at the Fulton Foundry, First street, San Francisco.

The following testimonial respecting the effectiveness of this Crusher, has been received from the Superintendent of the Rawhide Ranch, "Mino, in Tuolumne county, CALIFORNIA." RAWHIDE RANCH, Tuolumne Co., Sept. 23, 1866. JAMES BRODIE, Esq., San Francisco—My Dear Sir: It gives me pleasure to inform you that I have for the past three months had one of your largest sized Rock Crushers in use, at the Rawhide Ranch Mining Company's Mill, which has entirely met my expectations, and I have no hesitation in recommending it to all who are in need of a machine for rapidly, cheaply and properly processing quartz for the stamps. Yours truly, R. P. JOHNSON, Supt. Rawhide Ranch Quartz Mill.

BRODIE'S PATENT IMPROVED GERMAN AMALGAMATING BARREL.—This Barrel obtained a premium at the Fair of the Mechanics' Institute in San Francisco, in 1864. Further particulars will be afforded on application to the subscribers.

For the present it is not intended to grant licenses for the use of the improved German Barrel, for a longer term than twelve months. All persons desirous of compromising, without having recourse to legal proceedings, for past infringements, or Nevada county, and can be seen in operation for the limited period named, are requested to address as below. A diagram, with explanations of this machine, will be found in the "Mining and Scientific Press," of September 25th, 1866.

BRODIE'S PATENT WIND-BLAST SEPARATOR FOR DRY CRUSHING.—This Dry Crusher has been found the most economical and effective mode of crushing ores in Mexico, California and Nevada. Diagrams and explanations afforded on application to the subscribers.

A drawing and full description of this machine will be found in the Mining and Scientific Press of Sept. 22d, 1866. JAMES BRODIE, Fulton Foundry, or 103 Jessie Street, San Francisco. Express Building, 402 Montgomery street, San Francisco. 12v13f

E. O. HUNT, Manufacturer of

Windmills, Horse-Powers, Pumps, Paumping Frames and Gearing.



HUNT'S ADJUSTABLE WIND MILLS to have all the sails so arranged as turn edgewise to the wind when the wind is from any quarter. Results can be set at any angle to suit the force of the wind, while the mill is running, by means of the brake lever at a foot of the mill, by any person. HUNT'S SELF-REGULATING MILL is strong, durable and cheap. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free-gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15-6m

DR. BEERS' PATENT

WIRE GAUZE AMALGAMATOR.

THE ATTENTION OF QUARTZ, HYDRAULIC AND Pincer Miners, is called to this new invention for saving Fine Gold. It is designed to furnish the miner with a cheap and simple apparatus by which the finest free-gold can be saved without loss, requiring little attention, no machinery to drive it, and will positively collect every particle of amalgam, or of waste mercury that may have escaped from mill or sluice, and as these particles are always charged with more or less gold, this item alone, in many instances, will more than pay the cost of this Amalgamator every month. For circulars, and further particulars, address Dr. J. B. BEERS, San Francisco, Per Wells, Fargo & Co's Express. 11v15-6m

NELSON & DOBLE,

AGENTS FOR Thomas Firth & Sons' Cast Steel, Files, Etc., Shear, Spring, German, Flow, Blister and Toe Calk Steel, manufacturers of Mill Picks, Sledges, Hammers, Picks, Stone Cutters', Blacksmiths' and Horse-Shoers' Tools, 319 and 321 Pine Street, Between Montgomery and Sansome, San Francisco 10v14qf

THE CELEBRATED

Self Generating Portable Gas Lamp.



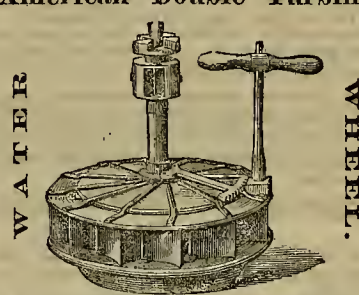
This extraordinary Lamp produces its own gas by the vaporization of Petroleum, Naptha, or Benzine. It emits neither smoke nor smell, and burns with a pure white flame, equal in intensity to an ordinary gas burner, and at an expense of from one to three cents per hour only, according to the quantity of light required. It is peculiarly adapted for mining purposes, also for stores, factories, billiard rooms, and, in fact, for all purposes, where regular gas is not available, and for which it is an admirable substitute. As an outdoor light it stands unrivalled, burning with undiminished brilliancy in a strong wind.

Directions for Use.

Charge the reservoir with the prepared fluid, or with Benzine, from half to three-fourths full; allow a portion to run through into the cup, then turn off the tap and ignite the fluid, which will heat the burner sufficiently to generate the gas, which will be seen issuing from the top. The tap must now be turned on, and a steady light will be maintained till the whole of the contents of the reservoir is consumed. A small needle, bent at the point and fixed in a holder, may be occasionally required to clear the minute hole through which the gas issues, and the regulating screw at the bottom turned a little back; but care must be taken not to force the screw too high, and it should never be used to extinguish the light—by turning the tap off, it will gradually go out. When necessary to renew the cotton which is placed in the lower pipe to prevent the too rapid flow of the fluid, the lamp should be placed in a vise and the burner screwed off. The burnt cotton must then be withdrawn, and a fresh piece of cut cotton, not less than one inch wide and four or five inches long, should be doubled over a piece of wire, and inserted into the pipe—the ends cut short off, the burner again screwed on with a little white lead, and the lamp is ready for use. Manufactured solely by JOHN J. HUCKS, original proprietor. Factory, North Beach, San Francisco; and for sale by his agents in every city and town throughout the State. 18v14-5m-8

LEFFEL'S

American Double Turbine



THESE WHEELS, UNEQUALED AND UNRIVALED IN the United States or the world, have been fully tested on this coast, more than forty being in use at this date in California and Oregon, driving all kinds of machinery, Saw Mills, Flour Mills, Quartz Mills, etc., etc. CALIFORNIA REFERENCES.—E. Stockett, Folsom; O. Simons, Oakland, (Mill at Clear Lake); Moran, Colville, Lexington, Santa Clara County; J. Y. McMillan, Lexington-Santa Clara County. Send for Circular to KNAPP & GREAT, Agents for California. 25v13-1yq 310 Washington street, San Francisco.

SUPERIOR CUT-OFF ENGINES.

We desire to call the attention of Engineers, Manufacturers, and Millmen, to the celebrated Hartford Engine,

With Wright's Patent Variable Cut-off, which we are now manufacturing under a license from the Woodruff & Beach Iron Work Co., Hartford, Ct. To parties wishing a First-class

Fuel-Saving Engine,

Simple and durable in construction, this Engine is offered in the belief that it is superior to any other manufactured. It enjoys the very highest reputation in the Atlantic States, where it is well known; over 300 of them having been built by the Woodruff & Beach Company, and being now in successful operation. GODDARD & CO., Pacific Iron Works, 9v15f San Francisco, Aug. 29, 1867.

BLAKE'S QUARTZ BREAKER!

PRICES REDUCED!

MACHINES OF ALL SIZES FOR SALE

BY WM. P. BLAKE,

Corner First and Mission streets, or Box 2,077 3v15f SAN FRANCISCO.

NOTICE TO MERCHANTS

AND MANUFACTURERS.

Moore's Patent Friction Hoist.

Now in successful operation in the principal stores in San Francisco, possesses many advantages over the common hoist—viz. Greater strength, less danger in working, as goods require no slinging or landing, consequently make fewer breakages; requires one man less to operate it; stops with the load at any point, without any fastening or attention from the operator. The undersigned take this opportunity to notify all whom it may concern that they have secured, by letters patent, the application of a friction pawl, or stop, to hoisting machines, and that they will prosecute any party making or using any machine infringing upon the same. VULCAN IRON WORKS CO., By Joseph Moore, President. JOSEPH MOORE. 2v16 1f

Mechanical Drawings.

Persons wishing Mechanical Drawings can obtain the services of competent draughtsmen, by applying to this office

GAS COAL IN THE UNITED STATES.—Notwithstanding the great abundance and excellent quality of heat-generating coals produced in the United States, we have, ever since the introduction of gas into our large cities, been compelled to import the greater part of the coal from which that gas is manufactured. There is now, however, a fair prospect that this drain upon our resources or foreign tax upon our artificial illumination will soon be done away with, by the use of the "Cameron Coal" of Pennsylvania, which is now being mined and sent to market in large quantities. The location of this coal bed is in Cameron county, and at a point readily accessible by a great number of carrying routes, so that it can be transported at about the same price either to the tide water of the Atlantic on the east, or the navigable waters of the Mississippi on the west. After numerous thorough and practical experiments on a large scale its value as a superior gas-producing coal is now considered as quite definitely settled. Quite a number of large companies in Philadelphia, New York, etc., are using it. It is said to produce a coke of very excellent quality. The discovery and introduction of this coal is considered a matter of no inconsiderable importance in the history of our industrial progress.

All About Sending Money by Mail. RATES OF COMMISSION.—The following are the rates charged (in currency) for transmitting money to any part of the United States: On Orders not exceeding \$20, 10 cents. Over \$20 and not exceeding \$50, 25 cents. No fractions of cents to be introduced in an Order. United States Treasury Notes, or National Bank Notes only received or paid. To send over \$50, additional Orders must be obtained. Post Offices where Money Orders may be obtained will furnish blanks as follows, which the applicants will fill out: No. .... Amount .... Date, .... 186 .. MONEY ORDER. Required for the sum of \$.... Payable at .... State of .... Payable to .... Resulting at .... State of .... Sent by .... Residing at .... State of .... ENTERED IN REGISTER. .... Postmaster. The applicant must, in all cases, write his own given name and surname in full, and when the given name of the payee is known, it should be so stated; otherwise initials may be used. The given names of married women must be stated, and not those of their husbands. For example; Mrs. Mary Brown must not be described as Mrs. William Brown. Names of parties and places, and the sums, to be written in the plainest possible manner. As there are several places of the same name in the United States, applicants must be careful to indicate which of them they mean; and the Postmaster will satisfy himself, before writing out the order, that the place indicated is the one intended. List of Money-Order Post Offices in the Pacific States and Territories, May 20, 1867. CALIFORNIA. Office. County. Office. County. Auburn.....Placer. Napa City.....Napa. Benicia.....Solano. Nevada City.....Nevada. Camanche.....Yuba. Oakland.....Alameda. Chico.....Butte. Oroville.....Butte. Colton.....Tuolumne. Portlana.....Sonoma. Colusa.....Colusa. Placerville.....El Dorado. Downville.....Sierra. Red Bluff.....Tehama. Dutch Flat.....Placer. Sacramento.....Sacramento. Eureka.....Humboldt. San Rafael.....Sacramento. Folsom City.....Sacramento. San Francisco.....San Francisco. Forest Hill.....Placer. Santa Cruz.....Santa Cruz. Georgetown.....El Dorado. San Jose.....Santa Clara. Gibsonville.....Sierra. Santa Rosa.....Sonoma. Citroy.....Santa Clara. Shasta.....Shasta. Crass Valley.....Nevada. Shonora.....Tuolumne. Heidelberg.....Sonoma. Stockton.....San Joaquin. Iono Valley.....Amador. Susan City.....Solano. Jackson.....Amador. Susanville.....Lassen. La Porte.....Plumas. Yuba City.....Sutro. Los Angeles.....Los Angeles. Vallecito.....Solano. Mariposa.....Mariposa. Visalia.....Tulare. Markleville.....Alpine. Weaverville.....Santa Cruz. Marysville.....Yuba. Watsonville.....Trinity. Martinez.....Contra Costa. Willington.....Los Angeles. McMillan Hill.....Calaveras. Yreka.....Siskiyou. Monterey.....Monterey. NEVADA. Office. County. Office. County. Virginia City.....Storey. Austin.....Lander. Carson.....Ormsby. Aurora.....Esmeralda. OREGON. Office. County. Office. County. Albany.....Linn. La Grande.....Union. Canyon City.....Grant. Oregon City.....Clackamas. Cervallis.....Benton. Portland.....Multnomah. Dallas.....Polk. Roseburg.....Douglas. Eugene City.....Lane. Salem.....Jackson. Jacksonville.....Wasco. The Dalles.....Wasco. Lafayette.....Yam Hill. Umatilla.....Umatilla. IDAHO TERRITORY. Office. County. Office. County. Boise City.....Ada. Ruby City.....Owyhee. Idaho City.....Boise. Lewistown.....Ney Perce. MONTANA TERRITORY. Office. County. Office. County. Helena.....Edgerlon. Virgula City.....Madison. WASHINGTON TERRITORY. Office. County. Office. County. Olympia.....Thurston. Vancouver.....Clark. Steilacoon City.....Pierce. Walla Walla.....Walla Walla. Changing the Address.—No charge is made for changing the address of this paper. To give all necessary information, write us plainly as follows: "Change address of the Mining and Scientific Press from Mr. .... at .... P. O., .... County, .... State, to Mr. .... at .... P. O., .... County, .... State. .... 186 .."































