

Prospectus
and
Geological Survey & Report

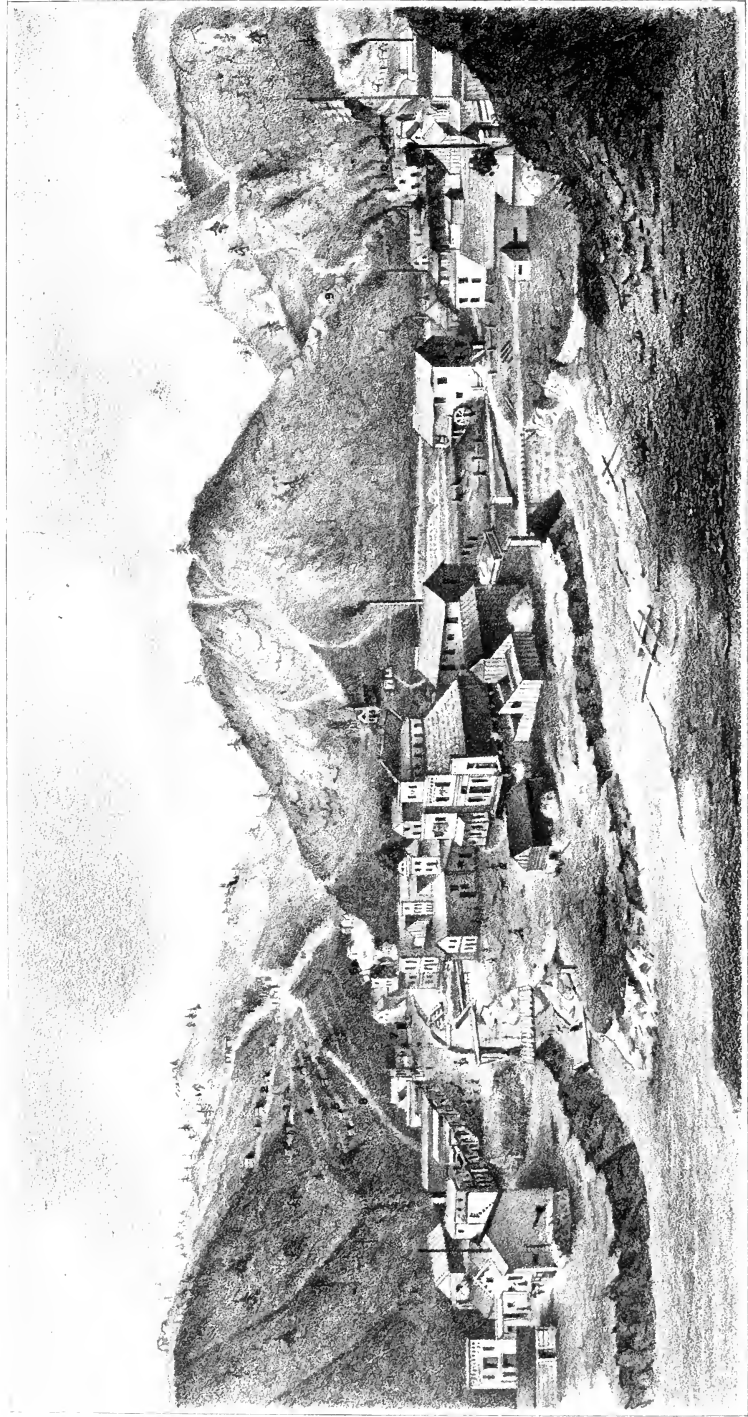
of the
GREGORY

GOLD MINING COMPANY

GREGORY DISTRICT
COLORADO TERRITORY.



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- 1 GREGORY LODE.
- 2 BOBTAIL LODE.
- 3 COTTON LODE.
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- 6 BOBTAIL TUNNEL.
- 7 GREGORY TUNNEL.
- 8 ROAD TO FISK LODE.
- 9 GREGORY EXTENSION LODE.
- 10 GREGORY MILL.

VIEW OF THE QUARTZ MILL, AND GOLD BEARING LODES, UPON WHICH ARE CLAIMS BELONGING TO THE
GREGORY GOLD MINING COMPANY,
GREGORY DISTRICT, COLORADO.

PROSPECTUS,

GEOLOGICAL SURVEY AND REPORT

OF THE

GREGORY



Gold Mining Company,

GREGORY DISTRICT,

COLORADO TERRITORY.

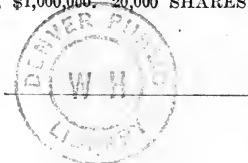
NEW YORK:

1863.

GREGORY
GOLD MINING COMPANY,
OF COLORADO.

ORGANIZED UNDER THE LAWS OF THE STATE OF NEW-YORK.

CAPITAL STOCK, \$1,000,000, 20,000 SHARES, PAR VALUE \$50.



TRUSTEES.

EDWARD MOTT ROBINSON,.....OF WM. T. COLEMAN & Co.
EDWARD ROWE,.....PRESIDENT OF GROCERS' BANK.
A. W. GREENLEAF,.....OF A. W. GREENLEAF & Co.
JOHN SIMPKINS,.....OF NEW YORK.
JOHN LEIGHTON,.....OF BOSTON.
MOSES B. WILDES,.....OF BOSTON.
ALFRED LOCKWOOD,.....OF LOCKWOOD & NORRIS.
W. H. STARBUCK,.....OF STARBUCK & Co.
LEWIS N. TAPPAN,.....OF TAPPAN & Co., COLORADO.

OFFICERS.

PRESIDENT.

A. W. GREENLEAF.

VICE PRESIDENT AND TREASURER.

ALFRED LOCKWOOD.

SECRETARY.

THOMAS WILDES.

COUNSEL.

WARREN G. BROWN.

PROSPECTUS AND REPORT

OF THE

GREGORY GOLD MINING COMPANY

OF

COLORADO.

This Company was organized in due form under the laws of the State of New York, on the twelfth day of October, A. D. 1863, to wit:

OFFICE OF THE SECRETARY OF STATE
OF THE STATE OF NEW YORK, }
Albany, Oct. 14th, 1863. }

I hereby certify that the Certificate of Incorporation of the Gregory Gold Mining Company, of Colorado, was duly filed in the office this day, and that a ten cent stamp (U. S. Revenue) was affixed to said certificate, and duly cancelled.

J. WESLEY SMITH,
Deputy Secretary of State.

The property of the Company is described in the accompanying maps, and in the following Geological Survey and Report, by C. P. Williams, Esq., author of

Reports on the following named mines: Perkiomen, Michipicoten, Mandan, Winthrop, Madison, and the Boston and Lake Superior Mineral Lands.

TO THE TRUSTEES OF THE GREGORY MINING COMPANY:

Gentlemen — Whilst in Colorado, in April and May last, I examined, at your request, the property of the “Gregory Gold Mining Company,” and have now the honor of reporting to you the results of my observations.

MEANS OF ACCESS TO, AND SITUATION OF THE
PROPERTY.

The property of the Gregory Gold Mining Company, which comprises in all over two thousand feet of vein-length, together with several important and valuable tunnel-claim rights, three thousand feet of water-power and a superior quartz mill, is mostly situate in the heart of the Gregory district, being between Central City and Black-Hawk Point, (two thriving towns of Gilpin County,) and the remainder on South Clear Creek, all in Colorado Territory. It is distant nearly forty miles west from Denver, the chief city of the Territory, and is reached by two and a half day’s travel from New York, by rail to Atchison, Kansas, and thence six day’s travel by a daily line of coaches, carrying the United States Mail, passengers, and express, to Colorado.

The following are the specific details of the *possessions of the Company*:

One mill site on North Clear Creek, near Black-Hawk Point, together with a superior steam quartz mill, with office and other buildings.

Three building lots, measuring forty feet by one hundred feet each, fronting on the above mentioned mill site.

All of gold mining claims (one hundred feet each), numbers nine, ten, and eleven, east on the *Fisk* Lode, and also the east fifty feet on claim number sixteen, east on said lode together with an undivided half interest in a road leading to said claims.

Fifty feet each of claims numbers three and sixteen, and two claims of one hundred feet each, being numbers seventeen and thirty, west on the *Bobtail* Lode.

Fifty feet of claim number seven, west on the *Cotton* Lode.

Fifty feet of claim number one, east on the *Galena* Lode.

Four hundred feet on the *Gregory Extension* Lode,

Fifty feet of claim number one east on the *Michigan* Lode.

East fifty feet on claim number four, east on the *Tucker* Lode.

Four hundred feet on the *Gregory Second* Lode (known as the *Tascher Tunnel* Claims).

Eight hundred feet, being claims numbers one, two, three, four, five, six, seven, and eight, east on the Torrington Lode.

One hundred feet, being claim number one, west on the Waterport Lode.

Two hundred feet, being claims numbers nine and ten, west on the Elephant Lode.

One hundred feet on the Whale Lode, known as the Discovery Claim.

Twenty-two hundred feet of water-power on South Clear Creek.

Nine hundred feet of water-power in Grass Valley, on South Clear Creek.

Seven hundred and fifty feet of Bar Mining Claims on South Clear Creek.

Six shares, of one thousand dollars each, of the capital stock of the Corporation styled the Bobtail Tunnel Company.

One tunnel claim and privileges, located in the same hill as the "Bobtail Tunnel," and five hundred feet distant from the same.

One tunnel claim and privileges situated near the junction of North Clear Creek and Chase's Gulch, intended to open up another series of gold-bearing veins.

One hundred feet, being claim number two, west on the Enterprise Lode. (Extension of the Running Lode.

GEOLOGICAL AND TOPOGRAPHICAL FEATURES AND
VEIN-PHENOMENA.

The claims have been judiciously selected, comprising possessions on the most noted veins of the region, such as the Bobtail, Cotton, Fisk, Gregory Second and Gregory extension lodes, which have *given results seldom equalled and never excelled* in the history of mining operations; the value and permanency in depth of their richness being indicated, to a strong degree of positiveness, by the facts developed by vigorous exploitations on them.

In general terms, these metalliferous occurrences, as well as all others of the Colorado gold region, are to be described as *true* or *fissure veins*, having a course of N. N. E. and S. S. W. with a great angle of dip to the N. N. W. The walls, or inclosing rocks, are in most instances of granite; the geological formation of the country being made up of heavy masses of that rock, intercalated with micaceous, hornblendic and argillaceous slates. It is a fact of much encouragement to those interested in operations in this region that the bounding rocks of the veins are so well defined in character, the mineral lodes or their contents never losing themselves in the rocks of the country, but being plainly separated therefrom by marked walls, between which all the metallic ores and vein-stones of the region are contained. This remarkable degree of regularity in and parallelism of their lodes are excellent indications of their persistency in their depth, as all analogy plainly teaches.

The gangue, or vein-stone, of the lodes is a coarsely

granular quartz, intimately mixed with iron and copper pyrites and, in a few cases, with galena, or sulphid of lead; this latter being invariably argentiferous in a marked degree. It appears that in most of the veins the sulphid of iron is in a great measure replaced in depth by the yellow sulphid of copper, and that in direct relation to this replacement the contents of the vein-fissures become more highly auriferous; an important point upon which I fully satisfied myself by direct chemical assay, as well as by collecting details of the yields of the vein-stuff, at various crushing mills. The veins vary in thickness from a mere seam up to some twenty feet, with the intimate mixture of ore and gangue throughout the whole width. This variation in the thickness of the veins is often an annoying circumstance, more especially when the continuation of the lode is only marked by a thin seam of ore and vein-stone. Under such circumstances, in the local parlance of the country, the vein is said to have "*capped over*," and the wall-rock is denominated the "*cap*." In many instances, in opening mines, this cap or unproductive rock has proven a serious barrier in sinking shafts, and operations on rich and profitable veins have been abandoned or suspended for want of sufficient capital to work through and reach a point in depth where the vein again widens out, for it has been demonstrated that by following the lode in either a vertical or horizontal direction the walls again open, and that, when the cap has been cut through, the vein in depth carries richer and more productive ores.

The topographical features of the district are of a

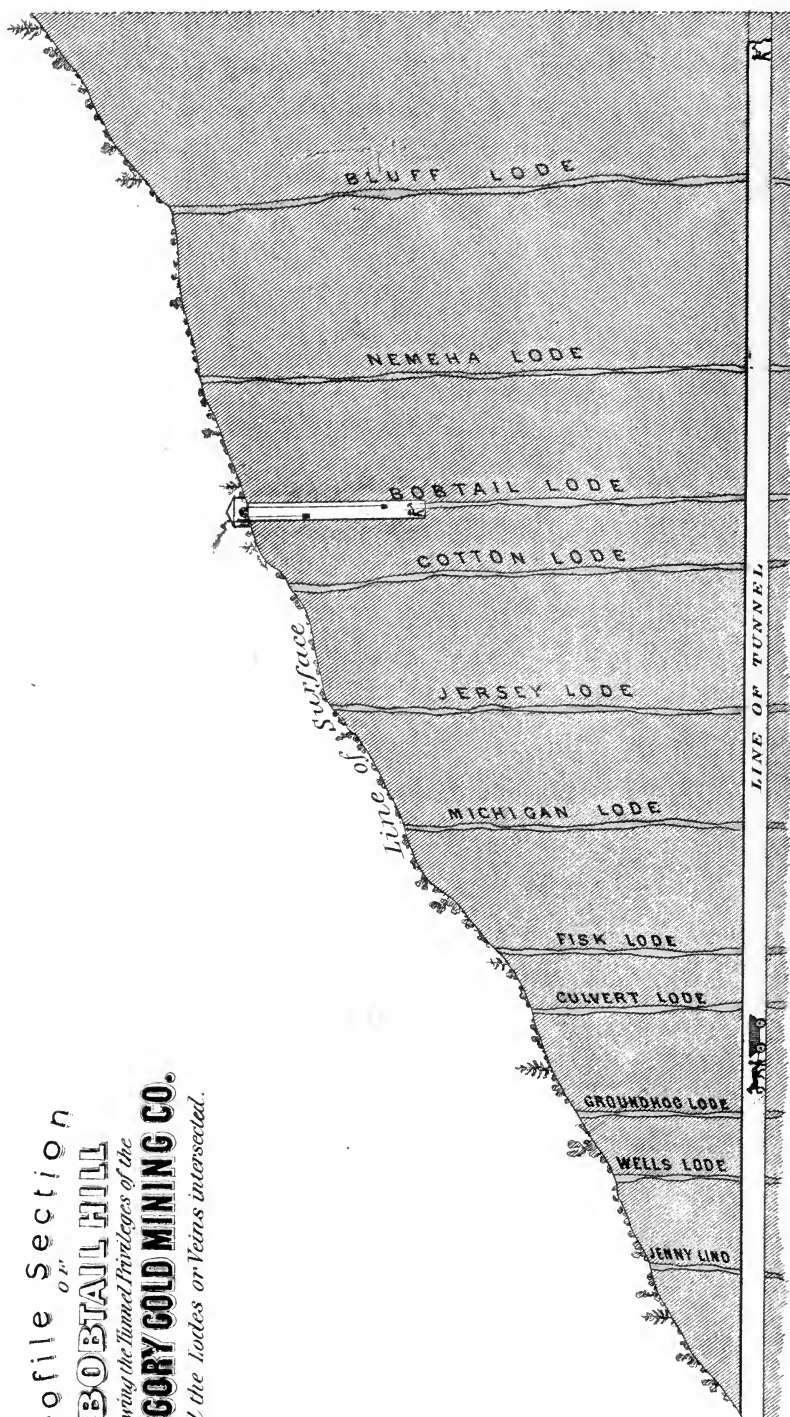
Profile Section
0.1"

BOBTAIL HILL

Showing the Tinned Privileges of the

GREGORY GOLD MINING CO.

and the Lodes or Veins intersected.



The Company possess 500 feet horizontally being 250 feet on each side of the Tunnel, and to an indefinite depth, as well as all lodes, of all lodes that may be discovered in line of Tunnel, also of all lodes discovered since the commencement of the Tunnel (1860)

character to be exceedingly favorable to the economical working of the mines. A series of irregularly disposed hills, separated by narrow valleys, and rising above these latter, at an angle of about twenty-five degrees, to a height ranging from five hundred to a thousand feet, afford fine facilities for the advantageous working and unwatering of the veins by deep

ADITS OR TUNNELS.

By a law regulating such tunnel claims, the parties driving the gallery are entitled to two hundred and fifty feet, horizontal measure, from each side of the tunnel, upon the course of any lode that may be cut, and to the privilege of working the same to an indefinite depth.

Included in the property of the Gregory Gold Mining Company are two such tunnel claims, besides an interest of six shares in a third, which will intersect, at various depths, some of the most valuable lodes of the district, as well as show, in all probability, the existence of other valuable gold-bearing deposits. Two of these tunnels are through the famous Bobtail Hill, one of them being in but a few feet whilst the other has already been driven some two hundred feet, and is now being rapidly pushed toward completion by some of the heaviest capitalists and most successful miners of the region. The advantages of these are too apparent to any one familiar with the system of working mines by deep adits to require any further notice in this report. I will, however, state that these tunnels will cut the Jenny Lind, Wells, Ground Hog, Culvert, Fisk,

Michigan, Jersey, Cotton, Bobtail, Nemaha, and Bluff lodes. The work already done on them has added three new veins to the list of those now known to occur in the line of the tunnels.

SPECIAL DESCRIPTION OF VEINS.

FISK LODGE. — The rights of your Company are vested in three hundred and fifty feet of this vein. Considerable labor has been expended, with very encouraging results. This lode is generally considered one of the very richest in the mountains. The finest specimens of quartz and gold have been taken out of this lode. Mr. Shumer, who has been for some time past engaged in working the Fisk on claim No. 1, S. W., thus speaks of his results: — “In January, 1859, there were taken out, by sluice and pan, about \$3,000, some of the dirt paying as much as \$15 to the pan. From six bushels, \$96, exclusive of headings and tailings, were taken. In 1860, while still working on surface rock, the yield was \$578 to the cord. The decomposed vein-stuff was cut through at a depth of thirty feet, the iron pyrites being then struck at a point where the vein had a width of eight feet, and where it yielded from \$150 to \$400 to the cord without any selection. In 1861, the vein had closed up again, but the cap had a thickness of twelve feet only; on entering the vein-stuff again, it gave a yield ranging between \$100 and \$400 to the cord.” It must be borne in mind that these results have been obtained with the very imperfect

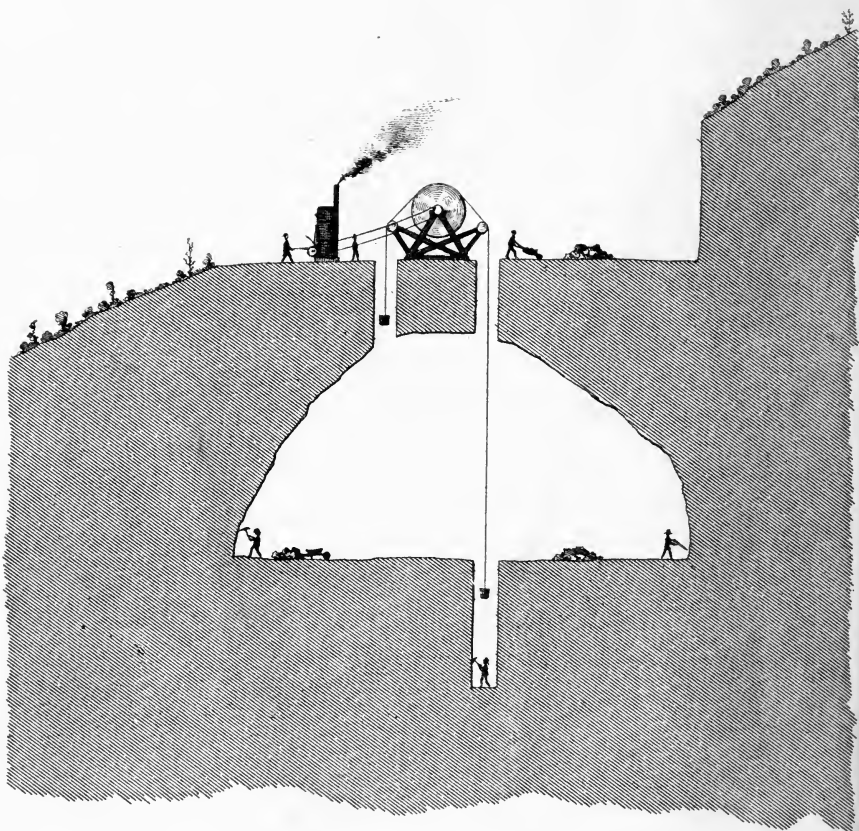
system of treatment still in use in the Territory, by which fully sixty per cent of the yield is wasted in the tailings. The improvements in the processes now being introduced, by which most of the yield can be saved, will give still better results; for assays made of the vein-matter from the Fisk show it to be of the very richest description. One of the tunnels, before described, will intersect this vein near the western limit of your three hundred feet, at a depth of two hundred and seventy feet from the surface of the hill, after having been driven in about three hundred feet. This will give a rich back of stoping ground, which will be unwatered without necessitating any pumping, and the product from which can be most economically and expeditiously handled through the adit or tunnel level.

THE COTTON LODGE is apparently a branch or fissure line, subordinate to that of the Bobtail, and most probably intersects the main vein in the immediate vicinity of the shaft on claim No. 3 of that lode. According to the phenomena of the intersection of mineral veins in the most classical mining region, an enrichment of contents is almost without exception found to be the case. You will be safe in expecting at this point of intersection, that a concentration of ore will take place, and that, either in one or both of the veins, heavy masses of it will be found. In character, the vein-stuff of the Cotton approximates very closely to that from the Bobtail, being very highly cupriferous and rich in the purple copper ore (erubescite). Its yield is said to compare most favorably with that of the Bobtail lode, but on this

point I cannot speak authoritatively; but can only say that the most experienced miners universally express a high opinion of the value of the Cotton; and, as far as my personal knowledge — predicated upon the regularity and general character of the vein-matter — permits me to speak with a degree of positiveness, I can cheerfully and candidly indorse that high opinion.

GALENA AND MICHIGAN LODES. — I did not examine the workings on any of the claims of these and some other lodes, and can therefore assert nothing of their characters and values.

GREGORY EXTENSION LODE. — This is a north-easterly prolongation of the famous Gregory vein, — the earliest opened and worked in the region and one of the most productive, — presenting all its characteristic features and being of equal richness. The claims of the Gregory Gold Mining Company on it are very advantageously situated for the economical exploitation of any mine that may be opened on them, being in close proximity to the stamping mill. The vein is developed to the maximum depth of one hundred and ten feet, is a well defined and promising one, having a mean width of three feet. The vein-matter has been treated to some extent in the stamp mill and gave an average yield of about \$300 per cord. In some instances, however, the results were even better than this, amounting to upwards of \$700 per cord of ore.



LONGITUDINAL SECTION OF WORKINGS ON GREGORY 2ND LODE.

WHITE PORTIONS REPRESENT GROUND STOPED.

Scale, 50 feet - 1 inch.

GREGORY SECOND LODGE.—The accompanying diagram will represent the extent of the openings in this vein, a parallel one with the Gregory and named from its resemblance of its vein-stuff to that from it.

The vein-matter of these openings, (which, as can be seen by the Diagram, has been sufficiently extensive to show the value of the vein), yielded two hundred to three hundred dollars per cord. Following is a statement of the proprietors of the Idaho Mill, who crushed quartz from your mine :

This is to certify, that in the month of September, 1862, we, the undersigned, then doing a Milling business in Gregory District, did crush the Iron Pyrites from the Tunnel known as the Gregory Second or Tascher Tunnel, the result of which was, as taken from our book kept at the time, three hundred and eighty-three $\frac{43}{100}$ dollars to one and three-fourths cords, or *two hundred and nineteen $\frac{68}{100}$ dollars per cord.*

CABBINÉ, SUBER & TESSON.

Attest :

WM. TRAIN MUIR.

JULY 2, 1863.

STATEMENT OF PRACTICAL MINERS.

This is to certify that we, the undersigned, have worked during the year 1862, on what is commonly known as the *Gregory Second* or "Tascher Tunnel," and at the time of its being worked it was in good working condition, and that the iron, or quartz, was

more than thirty inches wide and at a depth of one hundred and forty feet. We further state that the shafts are through the cap rock, and that the Tunnel is now in working condition, being down more than one hundred and forty feet in two shafts, making a drift of about one hundred feet. Given under our hands and seals, this second day of July, A. D. 1863.

WILLIAM BURK. [L. s.]

JOHN TIERNEY. [L. s.]

Attest:

ROSWELL HUTCHINS.

COLORADO, MAY 1ST, 1863.

This is to certify, that we, the undersigned, have worked the mine known as the Tascher Tunnel, the same being located on the Gregory Second Lode, and that we have obtained from said mine thirty thousand dollars during the time which we worked it, being about five or six months.

The said mine is now in excellent condition, and must produce large pay.

Yours very truly,

DALTON & BATES.

THE GALENA LODE has for some time been exploited for the Galena or sulphid of lead contained in it, as well as for the iron and copper pyrites.—all containing gold to a greater or less extent. It is one of the best defined lodes in Colorado, being contained plainly between walls of granite, which are

polished, and separated from the vein-matter by flucans of pure white argillaceous matter. Everywhere these flucans are regarded as an indication of good lodes, and are phenomena peculiar to true or fissure veins which have never been exhausted or sensibly diminished in richness at any depth yet attained in mining operations.

BOBTAIL LODGE. — The results obtained by operations on this vein are of the most brilliant character. It has therefore come to be regarded as the most valuable mineral occurrence yet opened in Colorado Territory. Your interests are in claims three, sixteen, seventeen, and thirty, on the first of which a shaft has been sunk to the depth of ninety feet through good productive ground, developing a vein with an average width of nearly five feet. The remaining three claims have not been worked. An adjoining one, that belonging to Mr. Field, has been successfully and profitably mined, producing vein-stuff which has given an average yield of some two hundred and sixty dollars per cord (of one hundred and twenty-eight cubic feet), without preliminary assorting. The cost of mining this amount of ground may be summed up as follows :

Men's wages per cord of ore	\$46 75
Powder, fuse, candles, etc., per cord	7 04
Total	<u>\$53 79</u>

The expenses attending the treatment of the same amount of ore in the stamping mill, and the extraction

of the gold by the ordinary processes in use, are as follows :

Men's wages per cord	\$11 00
Fuel " "	5 50
Oil, Candles, etc., per cord	1 25
Wear and tear " "	3 00
Total	<u>\$20 75</u>

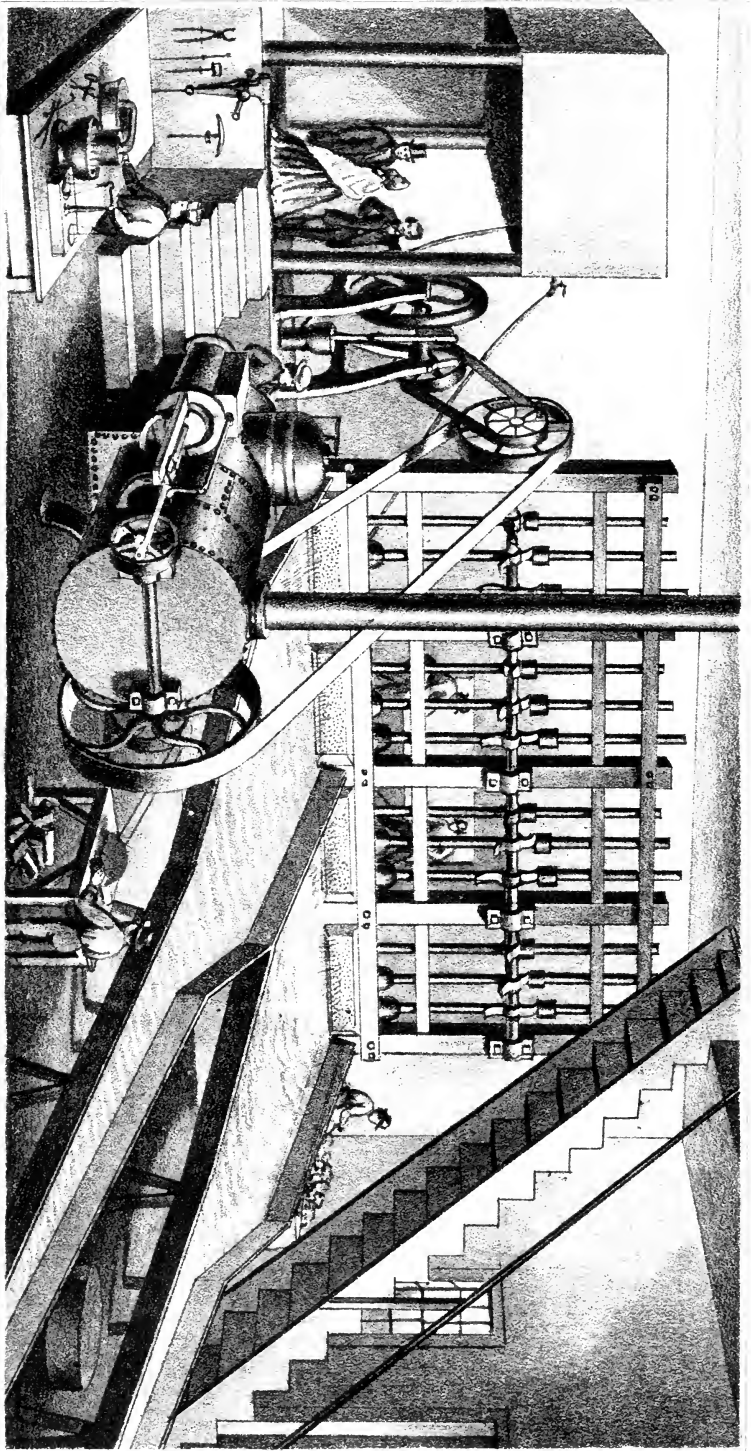
Or, in the aggregate :

Mining one cord of ore	\$53 79
Stamping and amalgamating	20 75
Total cost	<u>\$74 54</u>

Leaving a margin for *profit of about one hundred and eighty-five dollars for every cord of vein-stuff removed from this lode.*

THE MILL PROPERTY belonging to your Company is situated on North Clear Creek, near Black-Hawk adjacent to the mining property and in the heart of Gregory district. It is a commodious and substantially constructed building, containing twelve heads of stamps, each head weighing five hundred pounds. The effective power of the mill, in its present condition, is equal to one and a quarter or one and a half cords of quartz per day.* The engine is in excellent running order and will perform good duty. An ample supply of water can be obtained from the stream running through the gulch. In fact, during certain months of the year, so abundant is this supply that it will furnish sufficient power to drive the stamps, should it be thought desirable. The amalgamating plates and other apparatus are all in

* The capacity of the mill will be increased so as to crush six cords per day.



VIEW OF THE INTERIOR OF THE QUARTZ MILL,

BELONGING TO THE "GREGORY GOLD MINING COMPANY";

GREGORY DISTRICT, COLORADO.

excellent condition. The location of the mill is such as to necessitate the hauling of the products of the veins for only a short distance; in fact, one of the veins, the Gregory Extension, lies directly under the mill. This is an important consideration, since, in many instances in the country, the cost of hauling the ore from the mines to the mill amounts to sixteen dollars per cord. It may be well to state that an excellent road has already been constructed from Black Hawk to your property on the Bobtail Hill, the expenses of which have been equally borne by your Company and one other.

From the above facts, given in relation to the yield of the lodes, it will be seen that by skilful management, the employment of sufficient capital, and a due regard for the principles of mining economics, the chances of successfully opening profitable mines are of the most promising character.

I know of no claims upon which, an equal amount of work being performed, the chances are any better, and none which are more worthy of a thorough and systematic exploitation.

Congratulating the stockholders upon the great value of this property, I remain

Your obedient servant,

CHARLES P. WILLIAMS,

Chemist and Mining Geologist.

LODES AND CLAIMS.

A lode is a vein or fissure, extending from the surface to an indefinite depth, being nearly perpendicular. On the surface, they vary from a few inches to many feet in width. These lodes are divided into sections of one hundred feet in length, called "claims," and numbered from the claim on which gold was first discovered. To show the value of some of the claims, we would refer to the experience of Mr. John F. Field, who has taken over two hundred thousand dollars from a claim of only thirty-three feet. It is now considered as valuable as it ever was. In fact, the almost invariable experience is, that the deeper a claim is mined the richer is the quartz.

METHOD OF MINING AND EXTRACTING GOLD
FROM THE ORE.

The most economical method of mining is by means of tunnelling into the mountain in a *horizontal* direction, striking the lodes or veins at a great depth from the surface; but the more general method is to sink shafts (usually five by ten feet) *perpendicularly* from the surface, on the lode, and lifting the gold-bearing quartz by means of a windlass or steam power. The quartz is taken to the mills and fed to the stamps (each weighing 500 pounds) as fast as required; when pulverized, it flows with the water through fine wire screens or sieves out upon tables covered with sheet copper, the copper being first washed with quicksilver.

As it passes down these long tables the quicksilver takes up the small particles of gold and the sand or "tailings" flow off; the amalgam is then scraped off the table and retorted, the quicksilver passing off from the gold in the form of a vapor and is condensed and again used upon the tables.

NEW AND STARTLING IMPROVEMENTS. — By the above described process the miners have so far saved but a small proportion of the gold contained in the quartz. The tailings have been proved to contain a large amount of gold, and considerable attention has been directed to the subject of how to prevent this loss.

By the new process, the "Friesburgh or Washoe pans," the tailings have been found to pay better than the original quartz. The tailings are now all saved by the miners, and large returns are being obtained from them. Mines which have paid well when but a small proportion of the gold has been saved, must clearly pay handsomely upon the introduction of the new inventions.

The following will illustrate the value and importance of the new process. Mr. Sykes, a practical miner, informs us that a lot of inferior tailing from quartz was made to yield, by the new process, \$669.20, when the original quartz paid but \$230; thus this large percentage was saved from tailing which a year ago would have been thrown away as worthless. This new discovery completely revolutionizes the art of mining, greatly enhancing the value of mines, and materially adding to the amount of shipments of the precious metal.

GOLD.

The gold crop of Colorado has steadily and rapidly increased, as follows : — For the year 1861, six millions of dollars ; 1862, eleven millions ; and during the present year the yield is in proportion of *over twenty millions* of dollars per annum.

This domain which so unexpectedly and perpetually contributes millions of dollars to the machinery of trade and wealth of the world, gradually restoring the currency to a metallic basis, was, up to within the last five years, uninhabited and contributing *nothing* — either by taxable property or its products to the United States Treasury. At the present time, it is the only mining region on the continent, contributing an equal amount of revenue, that is not effected by foreign capital. Every dollar is invested by Americans, and, until the present year, by residents of the Territory. The production of gold is a subject of importance, not only for its financial and commercial aspects, but in its political and social relation. Although the foreign capitalist is not represented in Colorado, *foreign bone and sinew are*. In the front ranks of progress, represented by immigration, we find representatives from most every part of the old world. The enormous premium on gold, — the improved facilities in the process for extracting the precious metal from the ore, — all tend to invite the attention of the working classes as well as capitalists to the new land of gold.

It should be remembered that Colorado is intermediate between the oceans, in the very *heart* of the

American continent, loyal and true to the Federal Government, — as inseparable and firm to the Union as her towering peaks are with the continent which supports them in their grandeur. Foreign wars may desolate and wrench from us the gold-producing State of the Pacific, already she is flanked on either side by foreign and antagonistic powers, — busily engaged in erecting naval depots and evincing a preparation for war. With Colorado it would be as difficult to drive her people out of the mountain fastnesses, as it has been to drive the natives of Switzerland from their homes.

THE UNITED STATES BRANCH MINT, established in Denver City, is already in successful operation. No risk is feared in the shipment of gold to New York, from the fact that certificates of deposit are given which are drafts on any U. S. Mint, payable in gold on presentation.

The following extract is from GOV. EVANS' MESSAGE TO THE LEGISLATIVE ASSEMBLY OF COLORADO.

“Before closing, however, allow me to congratulate you upon the rapidly accumulating evidences of the natural resources of Colorado Territory. To the extent and richness of her mines, to the exceedingly nutritious pasturage of her plains, and the fertility of her valleys, I may be allowed to make a passing reference.

“It is estimated by those best informed on the subject, that the gold product of the present will be at

least double that of any former year;* and that the gold mining country has as yet been but partially prospected. New and rich discoveries are constantly being made; the art of mining is daily being improved and adapted to the peculiarities of our mines; while an annual increase of the home supply of the necessaries of life is tending to diminish the expense of living. * *

“The ore is principally composed of the sulphuret of iron (iron pyrites). That which yields twelve dollars per ton pays expenses. That in most of the lodes now worked, pays on an average three times that amount, while in some instances it yields one hundred and fifty, two hundred, and even as high as five hundred dollars per ton, treated by the stamping process. This ore yields, upon analysis, from three to six times as much gold as can be saved by the crushers, giving in some instances even what appears to be fabulous results.† A rule in working the mines that seems to be very uniform, and commands general confidence among miners, is, that the deeper the mine is penetrated, the richer the ore becomes.

*A careful inquiry as to the present product of the mills and mines in a circle of three miles in the Gregory district, places it at \$95,000 per week, or at a rate of nearly \$5,000,000 per annum; and it is said to be steadily increasing. [Estimate for 1861.] [The product of the Colorado Mines for the year 1862, was \$12,000,000. At the present time, the yield is at the rate of \$18,000,000 per annum.]

† Dr. D. W. King, of Empire City, Ass't Surgeon 2d Reg't Col. Vols., has made many analyses of this ore, using one oz. of pulverized pyrites each time, with results varying from three hundred and twenty to two thousand two hundred and forty dollars per ton. Other analyses, with equally favorable results, have been reported to me as having been made by various other parties.

PROFITS OF MINING.

It is contemplated to increase the present number of stamps to fifty, and to introduce about twenty Friesburgh pans. By means of the increase of *stamps alone* the estimated annual profit, on the basis of Mr. Williams' report, will be over \$300,000; calculating the quartz yielding only \$175 per cord, we have a profit of over \$150,000 per annum; and should the "new process" save a hundred per cent more gold than the stamping process does (as it is generally believed it will), the yield would be immense.* In none of the above calculations has the *premium* on gold been taken into consideration. The above estimate is also made on ore yielding two hundred and fifty dollars per cord, or *thirty-one dollars per ton*. The following analysis, by Prof. Kent, of the U. S. Assay Office, N. Y., proves that some of the ore is almost fabulously rich.

NEW YORK, June 10, 1863.

GREGORY GOLD MINING Co:

The samples of gold ores from Colorado, assayed for you this day, contained as follows:

Mint value <i>per ton</i> , † of	2000 lbs.
Bobtail Lode	\$714 46

* By a sworn statement of Messrs. Lee, Judd & Lee, whose principal mines are on the same lodes as the Gregory Company's, we learn that their *net profits in gold*, for six months ending July 1st, was \$67,191.00. The value of uncrushed quartz on hand is estimated at three hundred and twenty thousand dollars.

† In Colorado, quartz is generally estimated by the cord, weighing from eight to ten tons.

Gregory Extension	224 88
Gregory 2d	155 09
Fisk Lode	341 21

The sample marked "Bobtail" contains also twenty-eight per cent of pure copper. The gold in these ores is in very fine particles, *not visible to the naked eye*.

Yours, very respectfully,

EDWARD N. KENT.

[Extract from Prof. Kent's Letter to Boston Mining Company.]

ASSAYS OF COLORADO ORES BY PROF. EDWARD N. KENT, OF THE U. S. ASSAY OFFICE, NEW YORK.

"During my stay in Colorado I made several assays of mill products, the results of which appeared to be almost incredible. I have therefore repeated the assays since my return upon twenty-five different samples which I brought home with me. These assays have corroborated those made before (under rather unfavorable circumstances, incident to a new country), and I have found the average value of the mill products, as now made, to be as follows :

Tailings, \$34.74 per ton of 2,000 lbs.
 Blanketings, \$86.84 " "
 Pannings, \$3.31 per lb., avoidupois.

As to the extent of the gold mines of Colorado, I am not prepared to give an estimate, as I found enough to fully employ my time within a radius of five miles of Central City, but as to the richness of them, I have no hesitation in saying that I believe them to be the richest ever discovered. With science, capital, and a Pacific

railroad, Colorado is destined, in my opinion, to rival or supersede California and Australia, and become the El Dorado of the West.

Very respectfully,

Your ob't servant,

EDWARD N. KENT."

OPINION OF MESSRS. LYON, PULLMAN & CO.

CENTRAL CITY, COLORADO TERRITORY,
MAY 12, 1863.

The "Bobtail and Gregory" lodes are at present regarded as the most productive and profitable mines of this district. These two lodes, as far as they have been worked, have had the benefit of a greater amount of capital than most other lodes, and have therefore been developed to a greater extent, and, in most instances, with highly remunerative results.

The Fiske lode has been known, almost from its discovery, as a very rich lode, and has produced a considerable amount of gold. Its productiveness has been very much retarded by the general want of capital in this country. We regard it as prospectively one of the richest lodes in this section. Its situation in the immediate vicinity of the two noted lodes above named, would seem to indicate a certainty as to its richness when properly worked.

The same may be said of the "Bates," "Hunter," "Mammoth," "Gregory 2d," "Gregory Extenson," and

other lodes, all of which are on the same ranges of hills, and of the same geological formation. In judging of the value of our mines, the important fact needs always to be borne in mind, that few of the above lodes have been developed to any great depth; but in all instances, when sufficient depth has been reached, these lodes have paid well. As our mining interests here are, past all doubt, a success in the aggregate, we look upon the lodes we have named, as well as upon many others in this region, as being valuable property, requiring only capital, time, and judicious management, to answer the high expectations of their respective owners.

The confidence and energy of the early settlers in this Territory, are gradually overcoming all obstacles, and the capital will eventually be made here, sufficient to place this in the front rank of the mining countries of the world.

There is ample room here for large and profitable investment, and a general cordiality of feeling at its introduction. Conflicting interests in the ownership of claims are not greater than is usual in all new countries. There is nothing to interfere with investments, whether made by old settlers or by strangers.

Very respectfully,

Your ob'dt servant,

LYON, PULLMAN & CO.

OPINION OF JUDGE HALL.

Of the mineral wealth of Gregory District (in which the Gregory Company's mill and a large proportion of their mines are situated), the following evidence is given : I am acquainted with many of the claims of the Gregory Mining Company and know they are regarded in Colorado as being very valuable. They are upon and in the immediate vicinity of the lodes from which the greater part of the gold produced in Colorado has been taken.

(Signed)

BENJ. F. HALL,

Late Chief Justice of Colorado.

FROM PROF. E. N. KENT, OF THE U. S. ASSAY OFFICE,
NEW YORK.

NEW YORK, September 26, 1863.

LEWIS N. TAPPAN, ESQ.,

DEAR SIR: The sample of Colorado ore marked "Bobtail Lode," assayed for you this day, contains gold to the value of \$387 ¹⁴/₁₀₀ per ton of 2000 lbs.

The four samples marked "Bobtail, Gregory Extension, Cotton and Fisk Lodes," mixed together in equal proportion, gives an average sample which contains gold to the value of \$116 ³²/₁₀₀ per ton.

In reply to your note accompanying these samples, I have to state that I believe *the gold mines of Colorado to be the richest in the world*, and that the *Gregory District contains the richest lodes* which have been developed.

The ores, however, contain several other metals besides gold, and consequently the application of science and improved methods of working are necessary to separate the gold in the most profitable manner.

Yours, very respectfully,

EDWARD N. KENT, *Chemist.*

EXTRACTS FROM OFFICIAL REPORTS.

REPORT OF THE COMMISSIONER OF THE UNITED STATES GENERAL LAND OFFICE.

“Quartz that yields \$12 per ton will pay in favorable localities, but there are veins now worked that will yield from \$20 to \$500 per ton, and some that will yield from \$500 to \$2,000 per ton. Mines that barely paid at the surface, are yielding enormous profits at a depth of 150 to 200 feet. The value of the mines is absolutely incalculable to the Government; they may be made to yield just in proportion to the number of men employed in working them.”

FROM THE ANNUAL REPORT TO HON. S. P. CHASE, SECRETARY OF THE UNITED STATES TREASURY, BY THE DIRECTOR OF THE PHILADELPHIA MINT.

“The deposits of gold from Colorado Territory have largely increased, and the daily developments of the mineral of that region would seem to indicate that, before many years, the production from the mines there will rival in amount that of California.”

CORRESPONDENCE BETWEEN EX-GOVERNOR GILPIN
AND MR. TAPPAN.

FIFTH AVENUE HOTEL, AUGUST 6TH, 1863.

TO THE HON. WM. GILPIN: *

Sir — Being aware that for the past twenty years you have been familiar with the mountain system, with its snow-capped peaks, valleys, and parks, lying between the Atlantic and Pacific oceans, and, as you have just returned from another tour of observation across the continent (from the gold deposits in Colorado to Washoe, Nevada, and California), I would be gratified, if agreeable to you, to learn the result of your observation, embracing your views of the importance of the Colorado Gold Mines, as compared with the mines of the districts referred to.

Your Obedient Servant,

LEWIS N. TAPPAN.

NEW YORK, AUGUST 8TH, 1863.

TO LEWIS N. TAPPAN, ESQ.

In reply to your note of the 6th, I am fully confirmed by a re-examination just accomplished across the continent, in the correctness of my predictions made in the "Central Gold Region." *Gold exists in Colorado*

* Author of "The Central Gold Region. The Grain, Pastoral, and Gold Regions of North America." Published by Sower, Barnes & Co., Philadelphia.

Territory, in inexhaustible quantity. This area of gold-yielding mountains is the "Sierra Madre," or primæval cordillera, being the purest form of auriferous rocks on the grandest scale of massiveness.

Undoubtedly, Colorado is unequalled in capability of realizing mineral wealth. Here will rapidly appear a populous state, distinguished by industrial energy and great prosperity.

Cordially yours,

WILLIAM GILPIN.

From the speech of the Hon. H. P. Bennett, of Colorado, delivered in the House of Representatives, Washington, February 28th, 1863, we take the following extract in relation to these gold mines:

"I speak from the united testimony of many practical miners, who have spent several years in the mines of California, when I say that the gold-bearing region of Colorado is far more extensive, quite as inexhaustible, and the gold-bearing quartz of a much richer quality, than California. I make this comparison to give by it to the world a better idea of the extent and richness of these mines, and not with any desire to depreciate in the least regard the fabulous wealth which still remains 'from everlasting to everlasting' in the mines of California.

"All things considered, can there be a safer investment than in the stocks of the bullion banks of Colorado? The vaults of these banks are filled with an inexhaustible treasure, placed on deposit there by the

Almighty hand, and made subject to the drafts of man. These banks are always specie-paying, and their vaults are numerous, long, wide, and deep. There is no risk in this business. The capitalist is but following in a beaten path. The experiment has been made by those who have gone before, and their success is inviting him to follow quickly. Ten, twenty, fifty, a hundred, five hundred thousand dollars may find ready and very profitable investment without any possibility of failure, if he will but exercise the most ordinary precaution. Only consider it for a moment: the man of means, with a quartz mill of twelve stamps and suitable saving apparatus, will crush quartz-rock that yields from three hundred to seven hundred dollars to the cord, out of which he can realize from one thousand to five thousand dollars per week. Investments of capital in these gold fields, instead of paying from five to ten per cent, will double and triple every year."

LETTER FROM MESSRS. LEE, JUDD & LEE, MINERS OF
BLACK HAWK.

TO THE "GREGORY MINING COMPANY:"

In answer to the request to give our views of the merits of the late purchase, by your Company, of mill and mining property located principally at Black Hawk, Gregory District, Colorado Territory, we would say that the quartz mill is exceedingly well situated, being adjacent to your gold mines, with North Clear Creek flowing through the mill site, furnishing a constant supply of water for the Engine and Batteries. It is situate but

a few hundred feet from two foundries and machine-shops, which is a consideration in case of accidents to machinery, or a desire to introduce new machinery. Your Lodes, or gold producing mines, are in the well known Gregory District, where the first discoveries of gold in Colorado, were made. Some of your mining property is undeveloped, hence we cannot speak positively of the richness of *all* of them; but your possessions on the Bobtail Lode, Gregory Extension Lode, the Cotton Lode, and the Fisk Lode, are too well known to require comment. We will simply say, that a very large proportion of the gold produced in Colorado, *has been taken from these Lodes*. Of our own experience we can say, that we have taken from the Bobtail Lode \$1200 of gold to the cord of quartz, at a cost of less than \$100.

We are confident that nearly or quite the same results have been obtained by others, from the Gregory Extension Lode.

We do not say that such results are *constant*; but we do believe that with moderate capital and common sense, the property in your possession will prove a very valuable one.

The Tunnel privileges into the Bobtail hill are of great importance, penetrating many of the richest lodes in the country.

LEE, JUDD & LEE.

EXECUTIVE DEPARTMENT, COLORADO TERRITORY, }
 DENVER, MAY 25TH, 1863. }

TO WHOM IT MAY CONCERN :

Mr. Lewis N. Tappan has recently, as I learn, purchased large interests in the *Gregory District* gold mines.

I am not personally acquainted with the character of his interests, but hear them well spoken of.

This District is of exceeding richness, and is *now yielding the greater part of the large gold product of Colorado Territory.*

I am satisfied that there is abundant opportunity for immensely profitable investment, if judiciously made, in this District.

Very Respectfully,

JOHN EVANS,
 Governor Colorado Territory.

COLORADO, MAY 10TH, 1863.

TO WHOM IT MAY CONCERN:

This is to certify, that we had a lease of the Quartz Mill, now owned by the Gregory Gold Mining Company, and know the same to be an excellent mill; the engine and machinery being in good repair, and performing first-rate service. It is located in the centre of the richest mining district, and being well provided with good clean water.

We do not hesitate to state that it is one of the best gold saving mills in the country, and as such is gener-

ally known by all miners and business men. The above mill is capable of crushing from twelve to fifteen tons per day.

DALTON & BATES.

BLACK HAWK, COLORADO, JULY 10TH, 1863.

TO WHOM IT MAY CONCERN:

This is to certify, that I am a resident of Colorado Territory, and have been for the past three years. Am engaged in the business of mining and quartz-milling; am well acquainted with the location of the mill and mining property belonging to the Gregory Mining Company. The mill and mines are well located, the mines being situated upon lodes which are considered, and have proved to be, the best in the Territory.

J. A. HALE,
Of J. A. Hale & Co.

LEGAL OPINION.

TO ALL WHOM IT MAY CONCERN:

I have carefully examined the abstracts, deeds and other muniments relating to the title of LEWIS N. TAPPAN, Esq.,* to the following mineral and other lands in the Territory of Colorado, with a view of ascertaining whether the title thereto is vested in said Tappan by the laws in force in said Territory, and I find, upon such examination, that the title of said LEWIS N. TAPPAN

* The title to the property described has been conveyed by Mr. Tappan to the Gregory Gold Mining Company of Colorado.

thereunto, is perfect according to the statutes of said Territory, as the same have been expounded by the Courts.

The property above referred to is as follows :

One stamp mill site, on North Clear Creek, near Black Hawk Point, with steam quartz mill and an office and blacksmith shop.

All of Gold Mining Claims Nos. 17 and 30, and fifty feet of Claims Nos. 3 and 16, west on the Bobtail Lode.

All of Claims Nos. 9, 10 and 11, and fifty feet of Claim No. 16, east on the Fisk Lode, together with an undivided right to one-half of roadway thereto.

Fifty feet of Claim No. 1, east on the Galena Lode,

One hundred feet of Claim No. 2, west on the Enterprise Lode. (Extension of the Running Lode.)

Fifty feet of Claim No. 7, west on the Cotton Lode.

Fifty feet of Claim No. 1, east on the Michigan Lode.

Four hundred feet, more or less, on the Gregory Extension Lode, being two-thirds of the undivided one-half of six hundred feet, and the whole of two preëmption claims on the same lode.*

East fifty feet of Claim number 4 on the "Tucker Lode."

Two hundred feet on the Gregory Second Lode, known as the Tascher Tunnel Claims.

Eight hundred feet, being all of Claims Nos. 1, 2, 3, 4, 5, 6, 7, 8, east on the Torrington Lode.

One hundred feet, being all of Claim No. 1, west on Waterport Lode.

* A division of the property is agreed upon by all parties interested, whereby the Gregory Mining Company will possess, in all, 400 contiguous feet.

One hundred feet, Claim No. 9, and one hundred feet, Claim No. 10, west on the Elephant Lode.

One hundred feet, being all of the discovery claim, on the Whale Lode.

Twenty-two hundred feet of water power on South Clear Creek; (preëmpted by Stanton & Co).

Nine hundred feet of water power in Grass Valley, on South Clear Creek.

Seven hundred and fifty feet of Bar Mining Claims on South Clear Creek; (preëmpted by Stanton & Co).

Six shares of one thousand dollars each, of the capital stock of the corporation styled the Bobtail Tunnel Company.

One tunnel claim and priveleges located in the same hill as the Bobtail Tunnel, and five hundred feet distant from same.

One tunnel claim and priveleges, situated about one-fourth of a mile from the stamp mill, first above enumerated, and intended to open up another series of gold bearing lodes.

BENJ. F. HALL,
Late Chief Justice of Colorado.

P. S.—I am acquainted with most of the above described claims and know that they are regarded in Colorado as being very valuable. They are upon and in the immediate vicinity of the lodes from which the greater part of the gold produced in Colorado has been taken. They are near the mill, moreover, which is a great practical advantage over many other claims in working them economically.

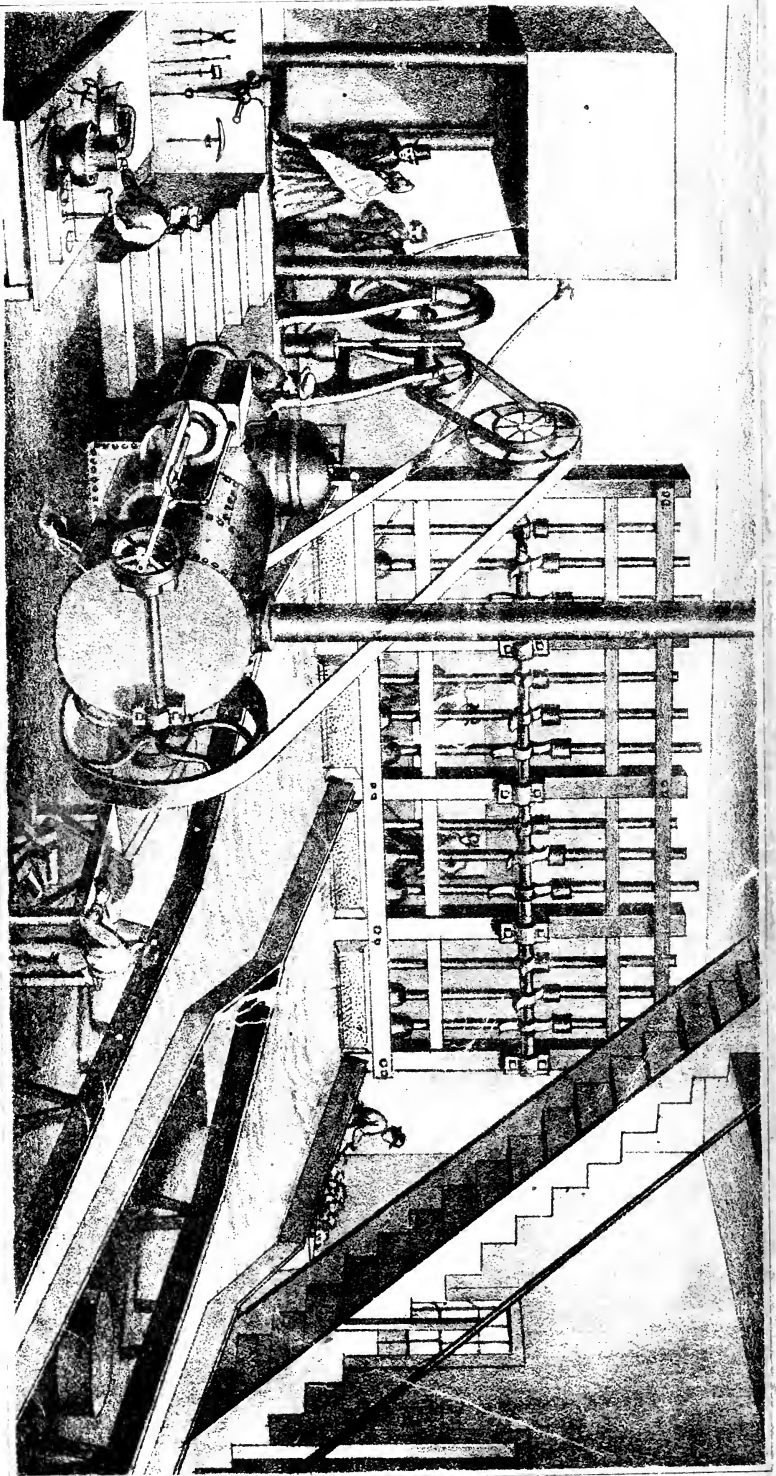
BENJ. F. HALL.

ERRATA.

5th page, 10th line, should be added No. 7 on Fiske Lode, with shaft one hundred and twenty-five feet deep.

10th page, 7th line, "three hundred and fifty feet," on the Fiske Lode, should read *four* hundred and fifty.

35th page, 10th line, should read 7, 9, 10 and 11.



VIEW OF THE INTERIOR OF THE QUARTZ MILL,
BELONGING TO THE GREGORY GOLD MINING COMPANY.

GREGORY DISTRICT, COLORADO.