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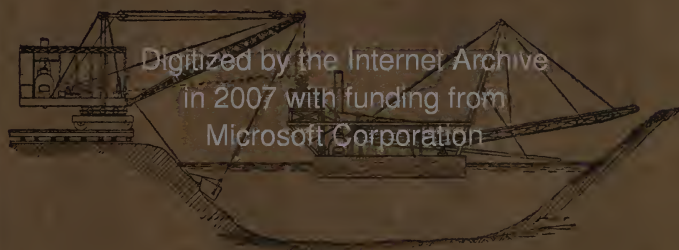




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# DRAG BUCKET GOLD DREDGE



NEW YORK ENGINEERING COMPANY

2 RECTOR STREET

NEW YORK



# PLACER MINING SIMPLIFIED

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The New York Engineering Company presents herewith two improved and perfected devices for use in placer mining that have proved invaluable in the operation of properties that could not otherwise have been worked. *The first of these.*

## THE DRAG BUCKET GOLD DREDGE,

is especially designed to overcome those difficulties encountered in rough and hilly ground, where the ordinary gold dredge cannot be installed. It is most economical in operation, of large capacity, of comparatively small bulk, can be readily mounted and dismounted, and easily shifted from point to point. It will recover all values to a high degree of efficiency, and its first cost is low; what more could be desired in a machine so admirably adapted to surface conditions of the character described. *The second device is our*

## "SPECIAL" CLAY WASHING MACHINE,

which positively and completely eliminates those obstacles which have hitherto baffled all attempts to successfully recover gold values from clayey ground or from the saprolite deposits of the South, or from ground in which clay is largely mixed with the gravel. These machines, taking the place of the ordinary gold saving tables, thoroughly disintegrate the clay; they have proved their efficiency by recovering all the values in deposits that have been abandoned as unworkable by any hitherto known methods.

A detailed description of both the "Drag Bucket Gold Dredge" and the Clay Washing Machine is given in the following pages.

Respectfully,

THE NEW YORK ENGINEERING COMPANY,

2 Rector Street, New York.

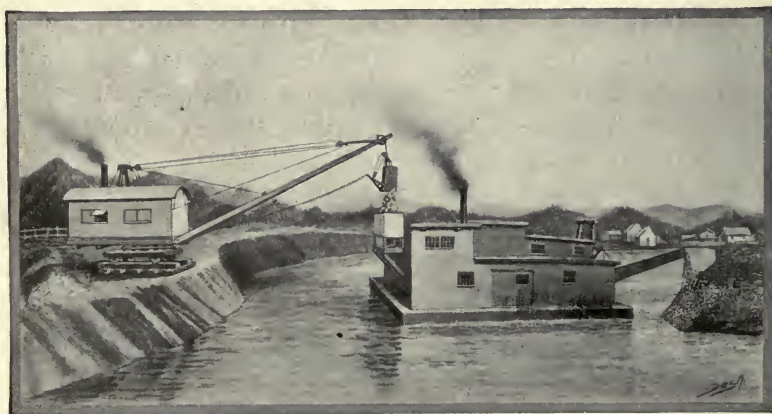
April, 1910.

# THE "DRAG BUCKET GOLD DREDGE"

There are many pieces of placer ground not large enough to warrant the installation of a gold dredge, or the topography of which will not permit of their being worked by the ordinary gold dredging methods. Under either of these conditions the new "Drag Bucket Gold Dredge" makes an ideal installation—one that calls for a comparatively small investment, is readily erected, is of large capacity, and economical in operation. It can be installed at small expense, and may be readily moved from one place to another. It is especially adapted for use in rich and narrow gulches which could not possibly be worked with our regular gold dredge. It has a wide application, and will fill a long-felt want.

## Its Construction and Operation.

The "Drag Bucket Gold Dredge" is the acme of simplicity. It is in reality but a combination effected by us of two old, well-known and successful methods, namely, the drag line bucket excavator and the washing and gold saving part of our regular dredge.



This "Drag Bucket" excavator is mounted on rails and operates ahead of the washing apparatus. It has a long boom (about 100 feet in length) from the outer end of which the bucket is operated by a cable line. The whole apparatus is mounted upon a turn-table and



carried upon trucks which permits of the machine being swung in a complete circle, thus digging an area nearly 200 feet in diameter, without moving from its position. It can dig 50 feet or more below its own level, and will handle the hardest kind of ground, including boulders up to 1,000 pounds weight.

With this large radius of action it is apparent that the machine may be operated all day from one spot, taking up the material and dumping it at any point desired. The excavator, mounted on the bank, delivers its load into the washing apparatus, which is carried on a floating scow, and from here on the material passes through the same operation as that employed in our regular gold dredge, which is as follows:

The gravel is fed into a large revolving screen, while a centrifugal pump furnishes ample water for washing. In this screen the gravel is thoroughly washed, the finer material passing through the perforations and then on to the gold saving tables, where the gold is recovered and the tailings sluiced to the stern of the scow, the over-size from the screen passing on to the stacker which conveys it to the desired height and distance behind the scow and on to the tailing pile.

### **Disposal of the Tailings.**

Four side or corner lines and a spud serve to anchor or move the washing scow into any position desired. The bucket excavator on the bank *digs toward itself* (as shown in the accompanying illustration), and gradually moves ahead, while the washing scow follows close behind in the pond. Here we have all the advantages of a gold dredge, the gravel being thoroughly washed, the highest saving of values effected, and the tailings conveniently disposed of.

As experienced placer miners know, the disposal of the tailings is one of the most difficult problems encountered in handling large quantities of material, and is often overlooked in the planning of operations, only to be realized later when the enterprise is a failure.

Our "Drag Bucket Gold Dredge" overcomes this difficulty *completely*.

### **Its Superiority to the Steam Shovel.**

In many instances steam shovels, with gold washing apparatus mounted on a car, have been installed and in nearly every such instance failure has been the result. Much time is necessarily lost in moving the shovel and the washing apparatus, as the steam shovel has a very small radius of action and must be moved frequently during

the day. Many of these outfits, with a theoretical capacity of two thousand yards a day, have been found in actual working practice to average not over two hundred to three hundred yards, because of the loss of time involved in moving, and because of their inability to dispose of the tailings in an expeditious and satisfactory manner, or through trouble in securing the necessary supply of water for washing the gravel.

The apparatus being so frequently on the move, much labor is required, and it is difficult to carry the water supply along with it, and even when this is accomplished, the water has a tendency to run back and undermine the trucks upon which the apparatus rests, which results in many shut-downs.

The "Drag Bucket Gold Dredge" overcomes all of these difficulties as it is mounted on the bank *above* the water, and always digs behind itself, the washing being done at a lower level.

### **Only a Small Amount of Water Required.**

While it is necessary for the washing scow to be floated, this does not mean that its operation is confined to a lake or river, or that a large amount of water is required. On the contrary, the same conditions exist as in gold dredging, that is, the water may be pumped from any distance to form a small pond in which to float the scow. The excavator, digging in *front* of the scow, and to any depth, provides ample flotation for the scow, which dumps the material to its stern and thus fills in behind itself. The pond thus advances with the scow, the water being used over and over again. To replace seepage and evaporation, a small supply of fresh water is steadily admitted, approximately 500 gallons per minute. This also prevents the water from becoming too thick as in gold dredging operations.

### **No Trouble in Moving When Necessary.**

An admirable feature of our apparatus is the ease with which it may be moved from place to place. The excavator is mounted upon two rails twelve feet apart, and is self-propelling, while the washing scow follows along in the pond at the rear. The excavator, with its 100-foot boom, covers a digging area of 3,500 square yards. This amount of material it will handle without moving from one place, so that moves are consequently "few and far between."

The excavator is equipped with its own boiler and engines, is self-contained, and with its propelling mechanism is a complete unit

in itself; while the washing apparatus on the scow also has its own boiler and engines. Electric motors or gasoline engines, however, may be used for operating the apparatus on the washer.

### **Our Specialty Gold Dredging Engineering.**

The "Drag Bucket Gold Dredge" is destined to become most important in placer mining, and it is with considerable pride that we present this highly efficient apparatus to the mining world.

We are pioneers in this work, and make a specialty of designing and building gold dredging machinery *only*.

We were the first to establish the practice of designing and constructing each dredge to suit the conditions under which it must operate, instead of supplying a *stock* dredge of one design for all conditions, as other manufacturers theretofore had done.

## **EMPIRE DRILL**

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We at the same time realized the demand for an efficient prospecting method in placer work that should be inexpensive, and to meet it we introduced the "EMPIRE DRILL," which has since become the standard method of placer prospecting.



We now present a new method of dredging upon small and restricted areas or upon rough, rolling or hilly ground, as an outfit inexpensive to install, of large capacity, and economical and successful in its operation.



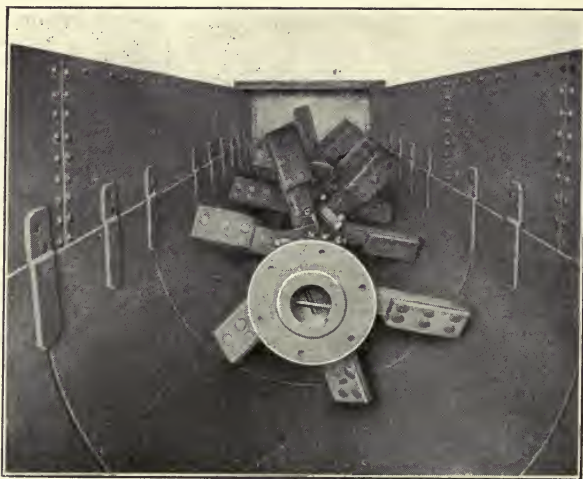
### Equipment.

The excavator is ordinarily equipped with a bucket of one and one-quarter cubic yards capacity, although smaller or larger sizes can be used. Equipped with the yard and one-quarter bucket, it will dig approximately 2,000 cubic yards of material per day of 24 hours. This, of course, is subject to variations according to the nature of the materials and local conditions.

## CLAY WASHING MACHINERY

In our perfected and thoroughly tried out clay washing machine we offer one of the most valuable devices ever developed in the history of placer mining.

It is well known that there are many deposits rich in values, but of a clayey character, that have resisted all attempts at profitable mining. To meet such conditions we build a special washing appara-



tus that we guarantee to successfully handle both clay and ground containing gravel and clay mixed. For material containing only a small amount of clay, or clay and gravel mixed, we build a large clay disintegrating and washing machine through which all the material passes before reaching the screen and gold saving tables. This machine completely breaks up the clay, which then passes into the



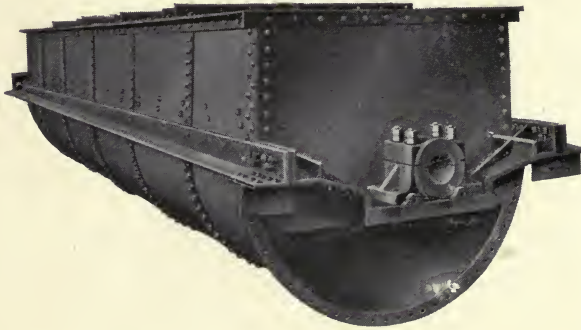
screen, together with the gravel, where it is washed in the ordinary way and the values recovered on our regular gold saving tables.

When the deposit is nearly *all* clay, with little or no gravel, the material will require much more washing, and instead of passing it over the gold saving tables, it is conveyed from the screen into a number of small clay *washers* and *concentrators* which thoroughly complete the work begun in the larger machine, breaking up the clay and liberating the values. These values are then concentrated or caught in the bottom of the washers, while the tailings are sluiced to the stern of the scow, as usual.

### Clay Washers.

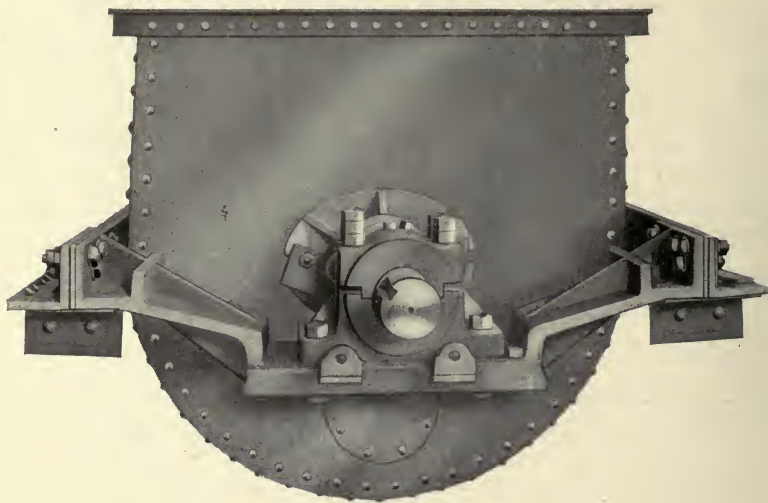
These clay washers consist of a long central shaft revolving in a steel trough, U shaped, this shaft having manganese steel arms or beaters arranged along its length in a spiral order so that as the shaft revolves it will work the clay from the feed end to the discharge end of the U shaped trough, thoroughly beating it, and thus disintegrating the clay, under water.

The gold values are liberated and run back to the lower end of the washer, as it is set on an incline with the discharge end higher



than the feed end. In actual practice most all of the gold is recovered in the first quarter of the length of the machine.

These clay washers may be used on our regular gold dredge, as well as on our "Drag Bucket Gold Dredge." The complete success that has attended the use of our clay washers on deposits that had been practically abandoned as unworkable because of their clayey nature, warrants us in positively guaranteeing that they will successfully handle deposits of this character *in every instance*.



We make various sizes of these clay disintegrates from 250 yds. up to 3,000 yds. capacity per day and any number can be arranged in banks or batteries for any capacity desired.

If you have such a property, you will do well to lose no time in conferring with us. We can furnish the means to turn your unsuccessful workings into paying ones.

If you can not raise capital enough to equip your property with our regular California type of dredge, then write us for specifications and price on our "Drag Bucket Gold Dredge."

NEW YORK ENGINEERING COMPANY,

No. 2 RECTOR STREET, NEW YORK.







