J. B. PLATT.

MACHINE FOR WASHING ORES AND OTHER MINERAL SUBSTANCES.

No. 107,958. Patented Oct. 4, 1870.

Fig. 1.

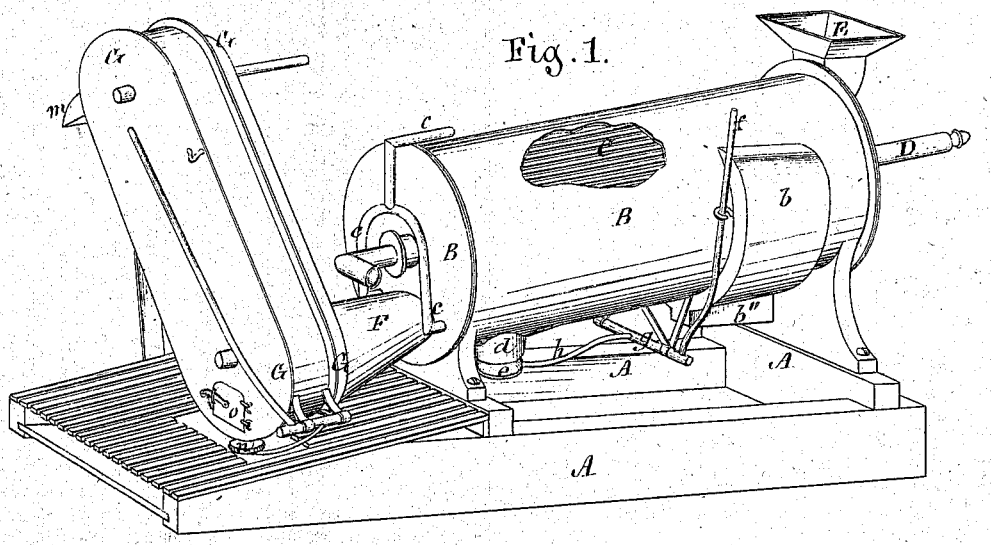


Fig. 2.

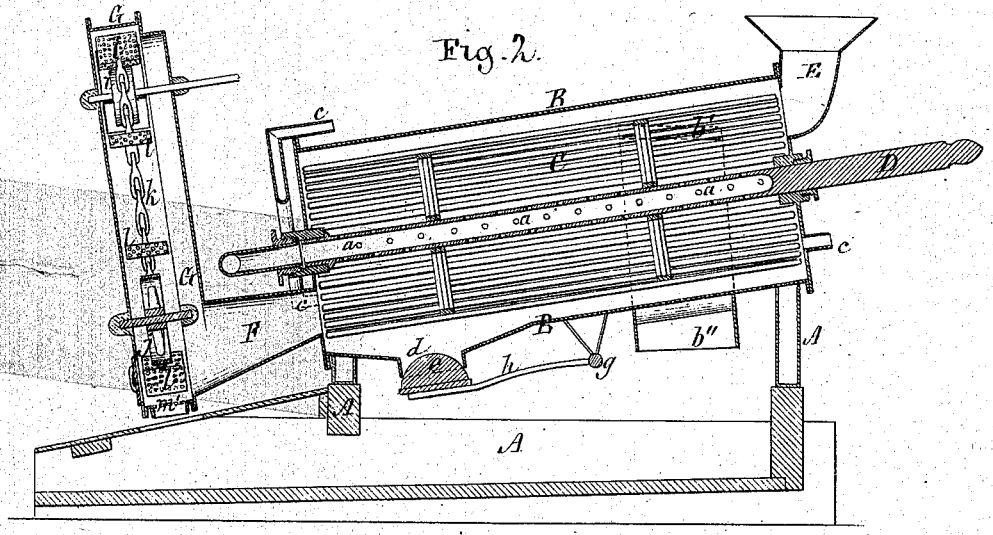


Fig. 3.

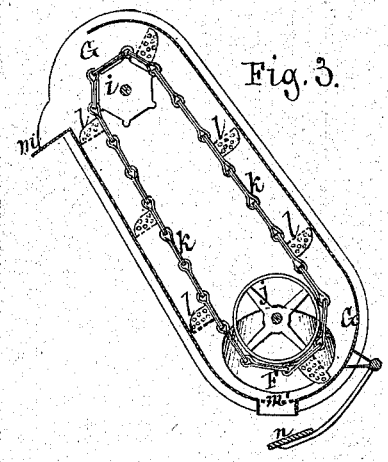
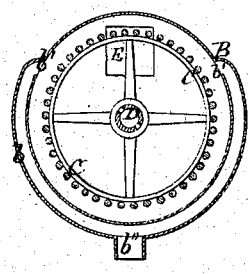


Fig. 4.



Witnesses.

Henry Abbygate
Edmund Masson.

Jacob B. Platt.
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United States Patent Office.

JACOB B. PLATT, OF AUGUSTA, GEORGIA.

Letters Patent No. 107,958, dated October 4, 1870.

IMPROVEMENT IN MACHINES FOR WASHING ORES AND OTHER MINERAL SUBSTANCES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, JACOB B. PLATT, of Augusta, in the county of Richmond and State of Georgia, have invented certain new and useful Improvements in Machines for Washing and Separating Ores, Phosphates, and other Mineral Substances from Clay and Other Earthy Matter; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents the machine in perspective, with an opening broken through the exterior cylinder, to show the rotary screen within it;

Figure 2 represents a longitudinal vertical section through the same;

Figure 3 represents a vertical transverse section through the elevating-conveyer; and

Figure 4 represents a transverse section through the cylinder or jacket and rotating screen within it.

My invention relates to a machine for washing and separating from ores, mineral phosphates, and other similar substances, the clay and earth found in or with them, by means of water or steam, or portions of both, and by mechanism arranged and operating substantially as hereinafter set forth.

On a suitabled bed, table, or frame, A, is set, in an inclined position, a cylinder, B, which is stationary, and within which a screen, C, is made to revolve, by means of a shaft, D, which may be turned by any first moving power.

The shaft D is tubular, and is pierced with small openings, through which water or steam may pass, in jets *a*, against the material that is to be washed, and which is fed into said revolving screen through the hopper E.

The excess of water in the cylinder flows out through a water-way, *b*, connected with the cylinder, the inlet of the water-way being near the top of the cylinder, as at *b'*, and the exit underneath, as at *b''*.

Other pipes, *c c c*, may reach into the interior of the cylinder or case, through which steam or water may be introduced, when both are used, the shaft D serving for one, and the pipe *c* for the other. Steam will cut, and loosen or soften, the clay in the pores or cells of the ore or phosphate, when water will not do so, except by very long washing and agitation.

The clay and earth is drawn off at *d* by opening the valve *e*, which is readily done through the aid of the lever *f*, rock-shaft *g*, and connecting-rod *h*, while the washed and cleaned material passes, out of the lower end of the screen, into a chute or inclined way, F, whence it passes into the lower end of the conveyer-case G, in which are arranged a driving-wheel, *i*, operated from the main driving power, and a carrying-wheel, *j*, which revolves by the friction of the elevating or conveyer-chain, *k*, passing around both.

On this traveling endless chain are scoops or buckets *l l*, which take up the washed and cleaned material, and carry it up and discharge it into the chute *m*, whence it may be conveyed to any place of deposit, or dropped into carts, wagons, or cars, or vessels.

The buckets *l* are perforated, to allow any water remaining in the washed material to drip or drain out, and a screen, *m'*, is attanged at the bottom of the conveyer-case G, covered by a hinged or swinging valve, *n*, through which, when necessary, the dirt or settlings may be drawn off.

When the machine is at work the valve *n* should be closed, to prevent the water from escaping from the cylinder, as the washing is best done in a pool of water, instead of against a flow of water, though a flow or current of water could be used in this machine. I prefer, however, to wash in a pool of water, and draw it off when necessary to do so.

There is a door or man-hole at *o* in the conveyer-case, for cleaning out any material that is too large to pass through the screen *m'* or any clogged material.

The valve *n* may be operated by a lever, as shown in the drawing, and by this construction and arrangement of parts and appliances the working of the machine may be continuous.

Having thus fully described my invention,

What I claim is—

1. The arrangement, in connection with a stationary inclined exterior cylinder or jacket, B, of a revolving interior screen, C, and inlet and exit water or steam-pipes, hopper E, and chute F, as and for the purpose herein described and represented.

2. In combination with the washing-cylinder, revolving screen, and their inlet and exit-passages, the elevating case or chamber, and elevators *l* therein, for taking away from the chute F and carrying off the washed material, by which construction the operation of the machine may be continuous, as described and represented.

J. B. PLATT.

Witnesses:

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E. W. PLATT.