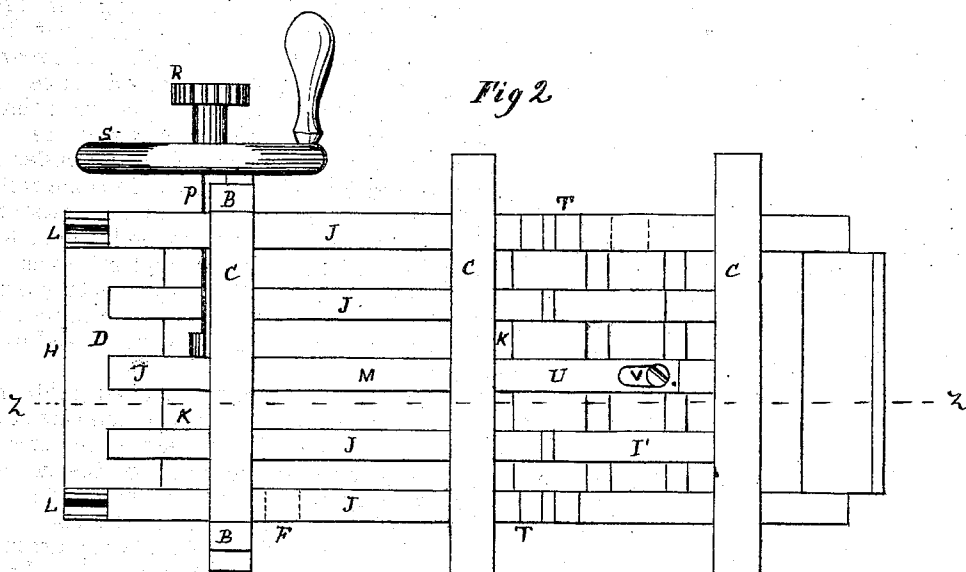
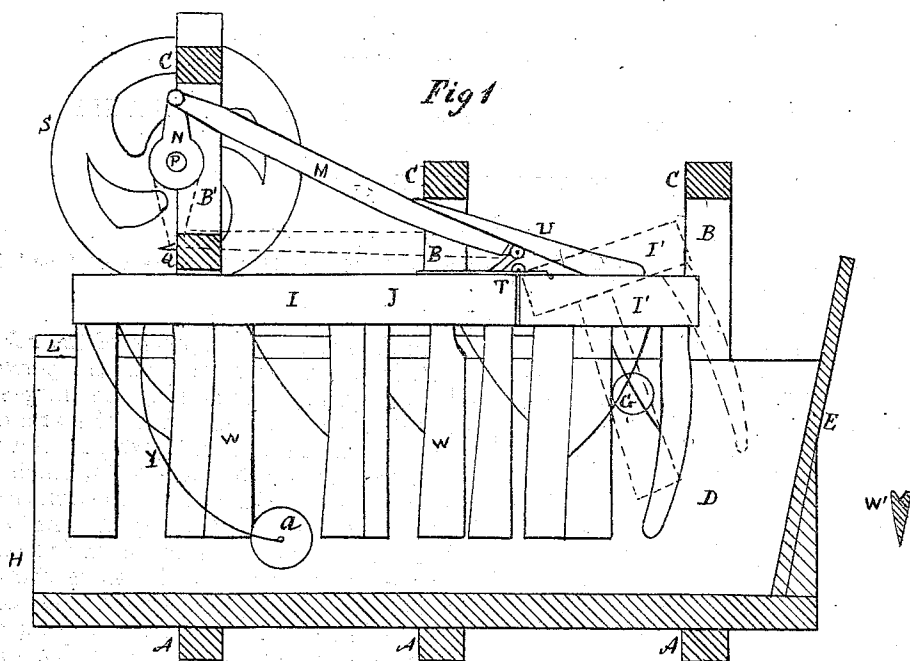


L. M. GOCHNAUER.
Improvement in Ore-Washers.

No. 127,688.

Patented June 11, 1872.



Witnesses.

D. P. Low
J. H. Morley

Inventor.

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UNITED STATES PATENT OFFICE.

LEVI M. GOCHNAUER, OF MARIETTA, PENNSYLVANIA.

IMPROVEMENT IN ORE-WASHERS.

Specification forming part of Letters Patent No. 127,688, dated June 11, 1872; antedated June 1, 1872.

SPECIFICATION.

To all whom it may concern:

Be it known that I, LEVI MYERS GOCHNAUER, of Marietta, Lancaster county, in the State of Pennsylvania, have invented certain new and useful Improvements in Ore-Washers; and I hereby declare the following to be a full and exact description thereof, reference being had to the accompanying drawing forming part of this specification.

The nature or essence of my invention consists in the particular construction and arrangement of devices forming the improvements described in the following specification and represented in the accompanying drawing, in which—

Figure 1 is a section of Fig. 2 on the line $z z$, and Fig. 2 is a plan or top view.

In the drawing, A A are sills; B B, posts; and C C, the top bars, which form the frames to support the bottom and sides of the ore-trough D, which may be made of plank, fastened to the frames, and lined with plates of metal, if preferred that way. I fasten the end E in the trough, and raise the opposite end so that the water, supplied through the hole F (shown by dotted lines) to wash the ore, will run out through the hole G before it is high enough to run out at the front end H of the trough. The posts C C extend about two-fifths of their length above the sides of the trough, to leave room under the top bars C for the rake-frame I, which is made of the long bars J and cross-bars K, firmly fastened together to make a rectangular frame, I. The two outside bars J are provided with ribs on their under sides, which fit the grooves in the ways L L, fastened on the top edges of the sides of the trough, on which ways the rake-frame traverses, being moved by the pitman M, which connects it to the crank N on the shaft P, as shown in Fig. 1. There is a bar, Q, fastened between the front posts B B, and a short post, B', is fastened between the bar Q and the top bar C, to form one bearing for the shaft P, the other bearing being in the side post C. On the opposite end of the shaft P from the crank there may be a pulley or gear, R, by which motion may be communicated to the shaft from some moving power to turn it and traverse the rake. There is also a fly-wheel, S, fastened to the shaft P, to equal-

ize the motion. A portion of the rake-frame, I', is made separate from the portion I, to which it is connected by the hinges T T, so that it may be vibrated by the arm or extension U of the pitman M, which has a slot in it for the screw V to traverse in, which vibrates the portion I' of the rake. The stirrers or rake-teeth W W are made sharp at their lower ends and back edges and flat on their front edges, or grooved, or hollowed out, as shown in the cross-section W', and firmly fastened to the under side of the three middle long bars J J, and are braced by the braces X X to support them in a proper position while they are traversed among the loose ore, thrown in at the end E, and dragged forward by the teeth W up the inclined bottom of the trough against the current of water running through the trough, until it (the ore) is raked out clean at the front end H of the trough. The rear teeth of the vibrating portion of the rake may be made in the form shown, if preferred that way.

To crush the balls of clay and ore I fasten some spring-standards, Y, to the under side of the rake-frame I, and arrange some rollers, α , to turn in the lower ends of the standards, so that, as the rake is traversed, the rollers are traversed in the trough and roll over the ore and clay to crush the clay, but to yield so as not to crush the ore, the spring-standards yielding to allow the rollers to roll over the ore.

I contemplate that a grooved guide may be used for a pin to traverse in, and raise the rear portion of the rake instead of the arm of the pitman; or that the whole of the rake-frame may be rigid, and the rear teeth made to swing forward as the rake is pushed back.

When the machine is made and arranged as described, the ore to be washed is thrown in at the end E, and the trough supplied with water through the hole F, which runs out through the hole G, carrying the clay that is removed from the ore as it is raked forward by the teeth of the rake until it falls out at the end H.

Claims.

1. In combination with an inclined trough, I claim the traversing rake or stirrer, for raking the ore forward in the trough as it is washed.

2. I claim making the teeth of the rake or stirrer sharp on the rear side and flat or hollowed on the front side, to move the ore forward in the trough, substantially as described.

3. I claim the rear portion of the rake, when made to vibrate for the purpose set forth, substantially as described.

4. I claim the traversing-rollers, arranged on yielding standards moved by the rake, to crush the lumps of clay so that the water will carry it away from the ore.

5. In combination with the rake and trough, I claim the slides or ways in which the rake traverses.

6. I claim the extension of the pitman M beyond its joint-connection with the rake, to form a lever to vibrate or work the vibrating portion of the rake, substantially as described.

7. In combination with the rake and trough, I claim the crank and pitman for traversing the rake, substantially as described.

LEVI MYERS GOCHNAUER.

Witnesses:

J. DENNIS, Jr.,

T. C. CONNOLLY.