E. COLEMAN.

Device for Discharging Amalgamating-Pans.

No. 222,018. Patented Nov. 25, 1879.

Fig. 1

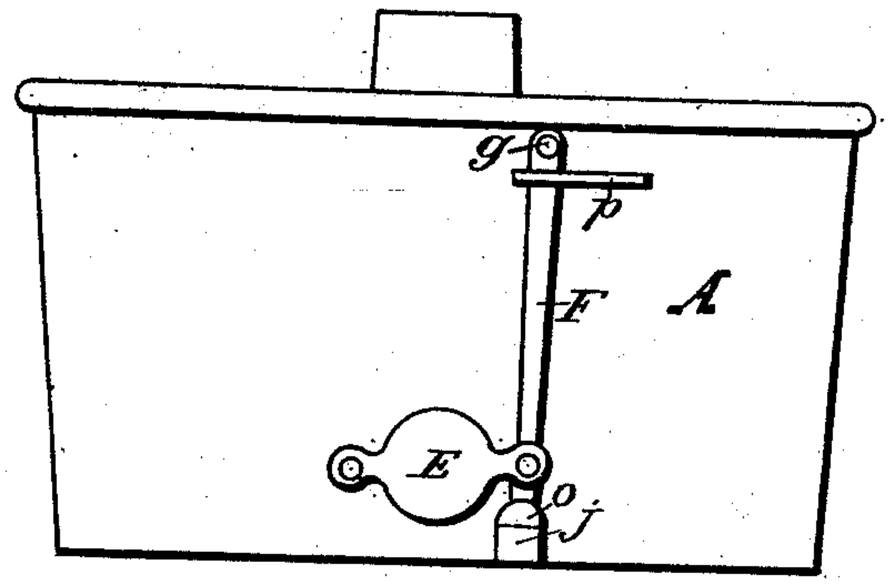


Fig. 2

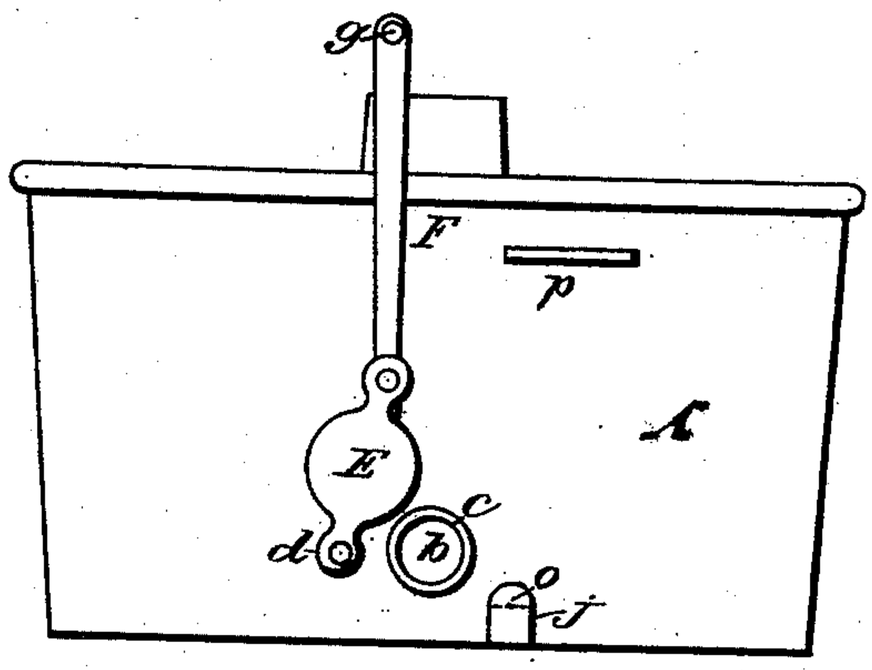
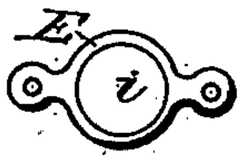


Fig. 3



Witnesses

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UNITED STATES PATENT OFFICE.

EZRA COLEMAN, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN DEVICES FOR DISCHARGING AMALGAMATING-PANS.

Specification forming part of Letters Patent No. **222,018**, dated November 25, 1879; application filed June 30, 1879.

To all whom it may concern:

Be it known that I, EZRA COLEMAN, of the city and county of San Francisco, in the State of California, have invented an Improved Device for Discharging Amalgamating-Pans; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

My invention relates to an improved arrangement for discharging ore pulp from amalgamating-pans and other vessels; and it consists of a hinged cut-off gate or valve, which is arranged to move across the outer end of the discharge pipe or spout, in combination with a locking-lever, by which the gate is opened and closed, and an arrangement of locking-lugs, with which the lever is engaged, so as to press the gate or valve tightly against the end of the pipe or spout, all as hereinafter more fully described.

Referring to the accompanying drawings, Figure 1 is an elevation of an amalgamating-pan with my improved discharge device closed. Fig. 2 represents the same view, but with the discharge device open; and Fig. 3 is a detached view of the inner side of the gate or valve.

Let A represent a pan, tub, or vessel in which ore pulp is placed for treatment, and from which it is to be drawn off through a spout, *b*, near the bottom.

The usual method of closing this spout is to insert a plug in the orifice or discharge-opening; but this is inconvenient, because the instant the plug is loosened and drawn outward the pulp and dirty water are splashed over the arm of the person who draws the plug.

I form a projecting flange or seat, *c*, around the orifice or opening on the outside of the pan or vessel, so as to provide a short tube or spout for the pulp to pass through. On one side of this spout or opening I form a projection, *d*, on the side of the pan, the outer end of which is about even with the outer end of the tube or spout, and upon this projection I secure one end of a gate or cut-off valve, E, so that it can turn about the fastening as a center. This gate can then move across the outer end of the tube or discharge-pipe. The inside face of this valve or gate, where it fits against the end of the spout, is countersunk or bored out, and a piece of india-rubber or other elastic substance, *i*, is inserted, so as to form an elastic seat for the end of the pipe to bear against when the gate is pressed against it.

The opposite end of the gate is loosely attached to a lever, F, near its lower end, so that the long arm of the lever extends upward and the short arm downward. The long arm of the lever extends to near the top of the pan, and it has a handle, *g*, secured to its upper end for the operator to grasp in order to open and close the gate or valve.

Projecting from the side of the pan, below the moving or outer end of the valve E, is a projection, *j*, which has a lug, *o*, extending upward from its outer end, so that when the lever F is moved to a vertical position the foot or short end of the lever will pass behind the lug. The inside face of the lug is inclined, so that the end of the lever is gradually forced toward the pan as the lever moves to an upright position. Near the top of the pan is a hook-shaped projection or latch, *p*, attached to the pan in such a position that the upper end of the lever will pass behind the latch, and thus hold the lever in place. The upper end of the lever is bent outward, so that when its short arm is held behind the lug *o* and the upper end springs toward the pan so as to pass behind the latch, the valve or gate will be pressed firmly against the end of the spout or tube, so as to effectually close the opening.

To discharge the pulp, the operator reaches out and grasps the handle *g* and forces the lever out of the latch, and then lifts upward on the lever, so as to raise the gate or valve from across the opening, thus allowing the pulp to run out. When the pan is discharged, he lowers the gate across the end of the spout and draws the lever to a vertical position, so that the lower or short end passes behind the lug *o*. He then presses the upper end of the lever toward the pan, so that it will pass behind the latch, and thus secure the gate in position. As the gate or valve is lowered after the pan is discharged, it rubs off any particles that may adhere to the end of the spout, and the subsequent pressure upon the lever presses the elastic cushion or seat so firmly against the end of the spout that nothing can escape.

This arrangement is quite convenient, and

will avoid the disagreeable consequence of being splashed with the pulp heretofore encountered by the operator when drawing a plug to discharge the pulp.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, with the gate E, of the lever F, pivoted to the free end of the gate, beveled lug *o j*, and latch *p*, the lower end of the short arm of the lever being adapted to swing or pass behind the locking-lug *o j*, while the upper end of said lever is bent so as to be sprung behind the latch *p*, locking it in place, substantially as and for the purpose set forth.

In witness whereof I have hereunto set my hand and seal.

EZRA COLEMAN. [L. S.]

Witnesses:
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