

Amalgamator.

Patented April 17, 1866.

FIG. 1.

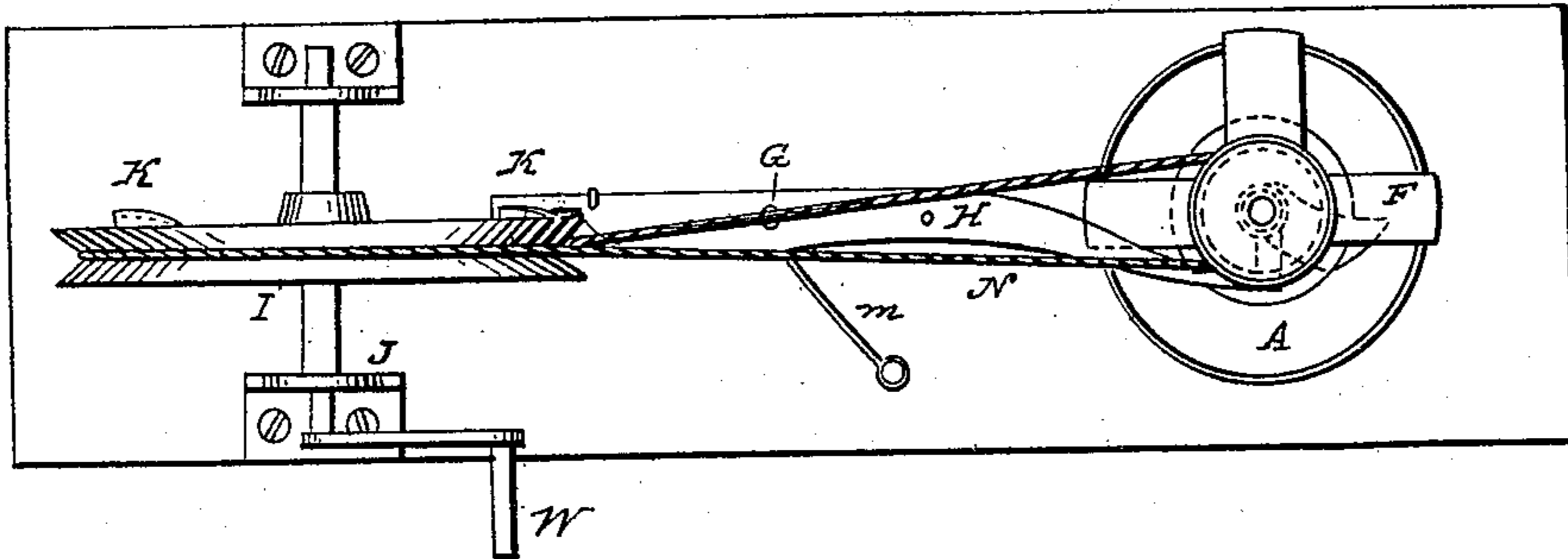


FIG. 2.

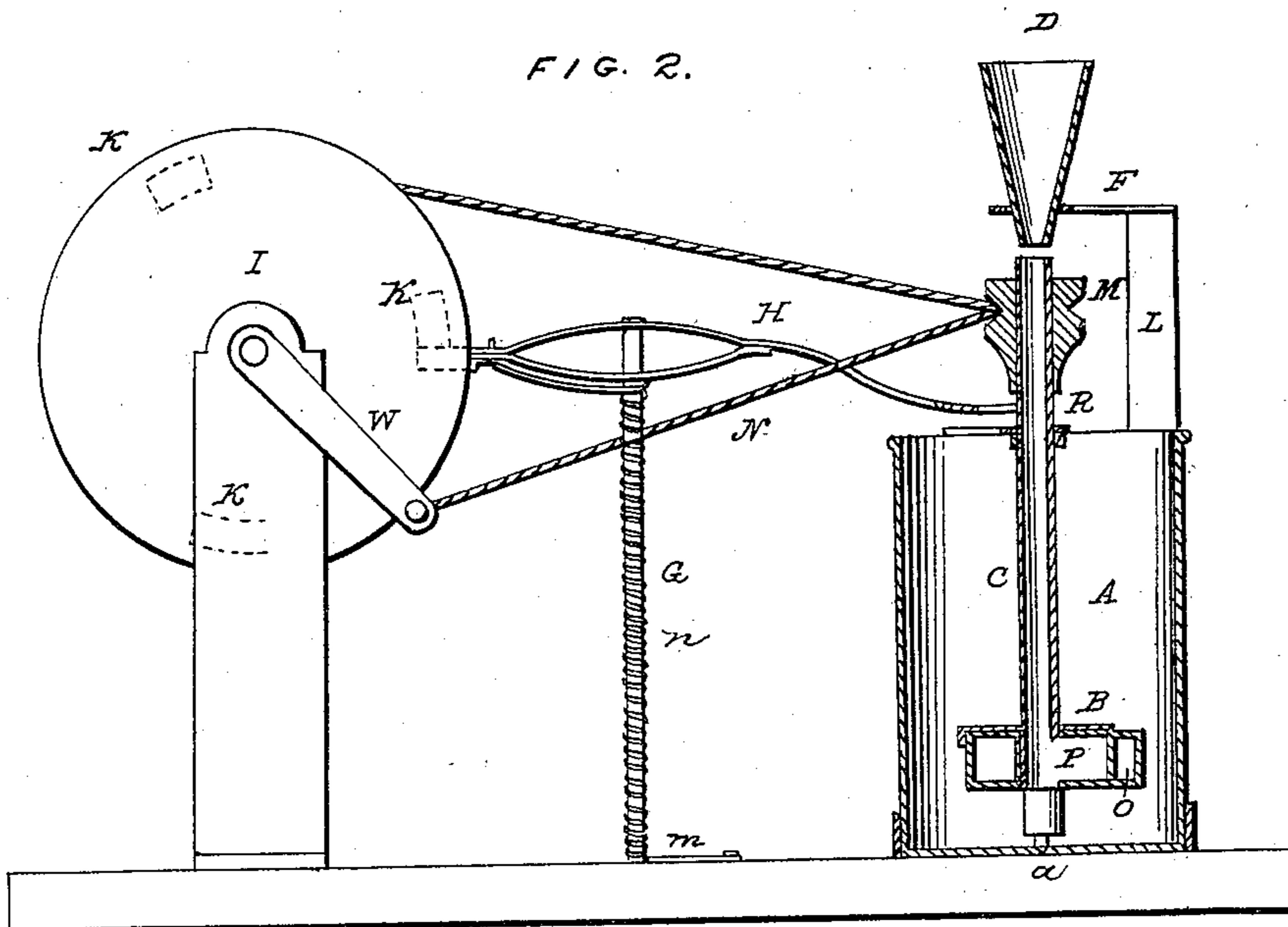
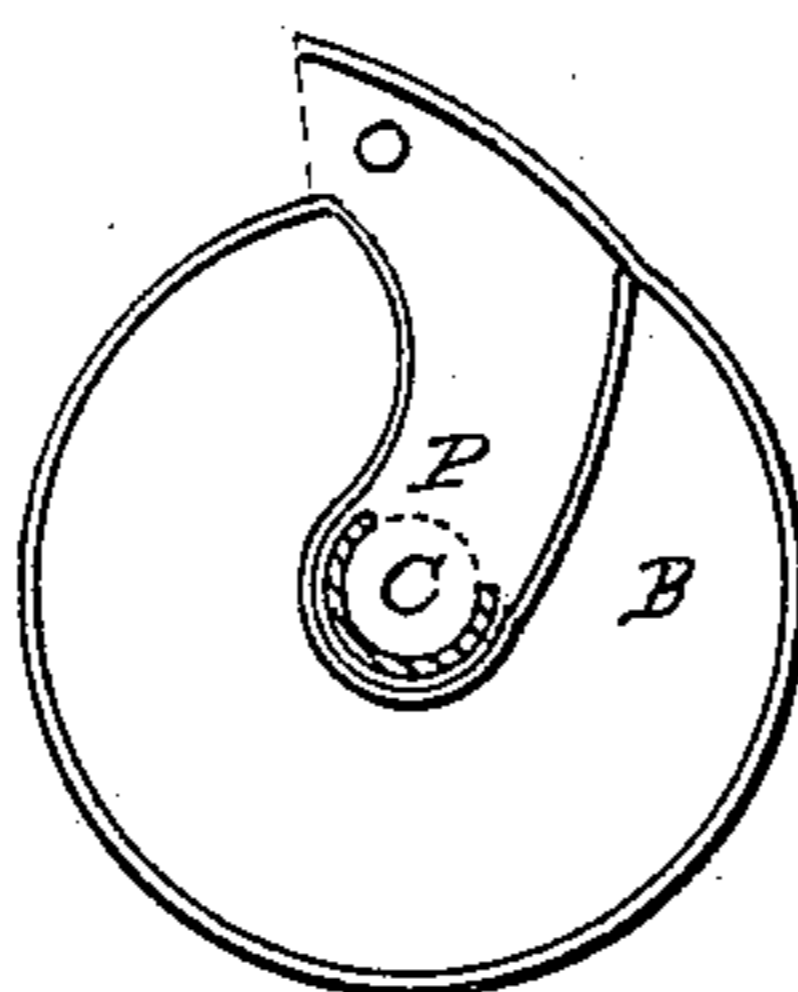


FIG. 3.



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THOMAS TRIPP AND GEORGE S. CURTIS, OF CHICAGO, ILLINOIS, ASSIGNORS
TO THEMSELVES, ELLIS G. L. FAXON, OF SAME PLACE, AND HENRY S.
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IMPROVED AMALGAMATOR.

Specification forming part of Letters Patent No. 54,076, dated April 17, 1866.

To all whom it may concern:

Be it known that we, THOMAS TRIPP and GEO. S. CURTIS, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Gold-Amalgamators; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and letters of reference marked thereon, making a part of this specification, in which—

Figure 1 is a top or plan view of our gold-amalgamator. Fig. 2 is a vertical central section of the kettle, cylinder, shaft, and funnel, including an elevation of the other parts of the device. Fig. 3 is a horizontal section of the cylinder.

The nature of our invention consists in introducing and distributing gold and silver bearing quartz or sand at the bottom of a lead bath by means of a vertical hollow shaft, with a cylinder attached near the bottom, having one or more side issues, to allow the quartz to pass from the shaft into the bath, when the shaft and cylinder are made to revolve; also, in filling the shaft and cylinder with quartz or sand previous to fusing the lead in the kettle; and, further, providing a hammer for rapping or jarring the shaft when in operation, for the purpose of assisting the quartz to pass down through the shaft, by which means the process of amalgamating is facilitated.

To enable others skilled in the art to make and use our invention, we will describe the method of constructing and operating the same.

A represents the kettle used for holding the fused lead, and is made of iron or other suitable material. This kettle can be set over an arch or furnace and melt the lead, or the lead can be put into the kettle after being fused elsewhere.

C shows the hollow shaft, adjusted vertically in the inside of the kettle A by means of the common step *a* and bridge-tree R, so as to revolve.

B represents the cylinder attached to the shaft C, for the purpose of better distributing the quartz in the bottom of the kettle.

P shows an opening in the shaft C, corresponding with the issue or discharge O in the cylinder B, through which the quartz or sand passes.

L represents the standard, and F the arm, which support the funnel D. The object of this funnel is to feed the hollow shaft C with quartz in a manner similar to a hopper.

M shows a pulley, on which is put any kind of metallic band running from the drive-wheel I, and used in turning the shaft C.

G represents the standard supporting the hammer H. *n* is the spiral spring, used as the power to give the required stroke of the hammer H upon the shaft C.

J shows the standards which support the wheel I, by means of the common shaft and bearings.

K shows the cams, which operate the hammer H in the usual manner. The power is usually applied to the crank W.

The gearing shown in the drawings is not essential in operating the device, but cog-wheels can be used and may be more convenient.

Operation: In order to use our invention it is first necessary to fill the cylinder B and shaft C with quartz or sand. This is an essential feature in our invention, and must be attended to before fusing the lead, to prevent the lead rising in the hollow shaft C. The melted lead must then be put in the kettle A and the shaft C put in motion with such velocity as will discharge the quartz from the issue O. This method causes a continuous supply of quartz to pass into the leaden bath, properly distributed, without agitating or materially disturbing its surface. The rising quartz will cover the top of the bath and effectually exclude the air, thus preventing the lead from oxidation. Consequently the bath can be operated much longer than when the bath is supplied with quartz from the surface, and is also much more effectual in its operation.

There is a tube inside of the drum B, which carries the ore directly from the aperture P in the hollow shaft C directly to the opening O, instead of allowing the drum B to be filled with said ore, and the opening O is so covered

by the piece X that when the drum B is revolved in the direction of the arrow the cap X removes the mercury or lead from the opening O and creates a vacuum at *y*, into which the pulp is discharged. The object of the drum B is to prevent the agitation of mercury.

Having thus fully described our device, what we claim as new, and desire to secure by Letters Patent of the United States, is—

1. The hollow shaft C, provided with the opening P, and the drum B, provided with the

aperture O, when the opening P and aperture O are connected by a tube arranged within said drum, and all are combined and operated substantially as herein shown and described.

2. The hammer H, when operated upon the shaft C, for the purposes described.

THOMAS TRIPP.
GEO. S. CURTIS.

Witnesses:

GEO. L. CHAPIN,
ALBERT HAYWARD.