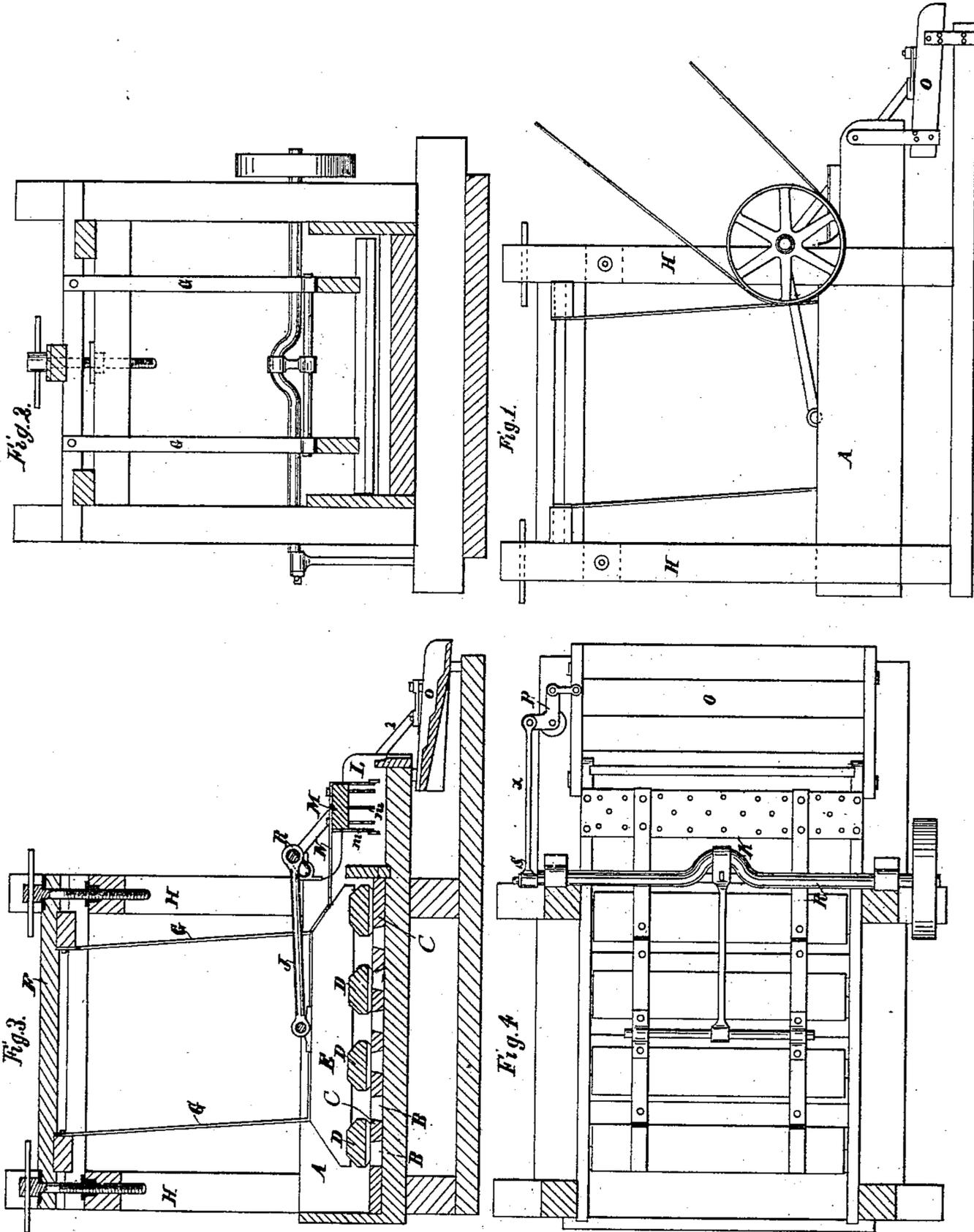


A. HUNTER.
AMALGAMATOR.

No. 64,534.

Patented May 7, 1867.



Witnesses:
Chas. D. Bond.
J. H. M. Kenzie.

Inventor:
Andrew Hunter.

United States Patent Office.

ANDREW HUNTER, OF SAN FRANCISCO, CALIFORNIA.

Letters Patent No. 64,534, dated May 7, 1867.

IMPROVED AMALGAMATOR.

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, ANDREW HUNTER, of the city and county of San Francisco, State of California, have invented a new and useful Machine for Reducing, Separating, and Amalgamating Gold, Silver, and other Metals, and for saving amalgam; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a side view.

Figure 2, an end view.

Figure 3, a longitudinal vertical section.

Figure 4, a horizontal section.

A is a box of wood or metal. B B B are blocks of wood set with end of grain up. C C C are metal dies. D D D are shoes or mullers shod with iron attached to frame E, which is suspended from adjustable frame F by rods G G. Frame F works up and down in grooves in posts H H, and is adjusted by screws I I. J is a rod connecting crank or eccentric K with frame E. L is a box for quicksilver. M is a frame with agitators and skimmers, moved in unison with frame E by rods or bars N. O is a table of wood, with steps covered with copper plates, and is suspended to a frame, or moves on a slide or rollers by means of driver P, connected by rod Q to main shaft R and crank S. The blocks B B and metal dies C C alternating, cover the entire bottom of the box A. The shoes or mullers D D extend across the entire width of said box A. The top of the mullers is covered entirely with plates of copper. The box A should be lined on sides and ends with copper.

Operation.

The pulverized ore or pulp passes into box A, the mullers D D resting on or near the blocks B B and dies C C. The machine is set in motion by means of crank or eccentric K and connecting-rod J, which gives a vibratory motion to frame E and frame M. The pulp and heavy sands passing under the mullers are reduced to a proper fineness, and the fine, free gold that may be held in suspension is amalgamated on the plates of rubbers or mullers D D and copper plates of box A. The pulp passes from box A into box L, and is there kept in agitation by means of frame M with its agitators and skimmers, keeping bright and free from dross. The pulp then passes on to table O, which has an oscillatory motion from side to side by means of crank Q and driver P, for the purpose of settling the precious metals on the plates as it passes from step to step. By reason of the thorough rubbing and the passing over the copper plates of boxes A and L and the steps of table O, a more perfect reduction and amalgamation is produced, and the precious metals are more thoroughly freed from foreign substances. The table O may be used in connection with or separately from the other parts of the machine.

Claim.

Having thus described my invention and its operation, what I claim as new, and for which I desire Letters Patent to issue, is—

The box A, with sides and ends lined with copper, in combination with the blocks B B and dies C C, substantially as described.

I claim the frame E, with shoes or mullers D D suspended to frame F by rods or bars G G, or their equivalent, worked by rod J and crank or eccentric K, as hereinbefore set forth.

I claim the movable frame F, with adjusting screws I I, or their equivalent, for adjusting mullers D D to any desired height.

I claim covering the tops of the mullers D D with copper.

I claim box L, with frame M, set with skimmers and agitators, substantially as described, and for uses and purposes as hereinbefore set forth.

I claim table O, with steps covered with copper plates, with side vibratory motion as given by driver P and rod Q.

I claim the box A, lined with copper plates, in combination with blocks B B, dies C C, mullers D D, adjusting or movable frame F, screws I I, rod J, crank or eccentric K, box L, and frame M, with agitators or skimmers, substantially as described and for the uses and purposes as hereinbefore set forth.

I claim the last-described combination in connection with the table O, with its side vibratory motion, substantially as described and for the uses and purposes as hereinbefore set forth.

ANDREW HUNTER.

Witnesses:

CHAS. R. BOND,

J. W. MCKENZIE.