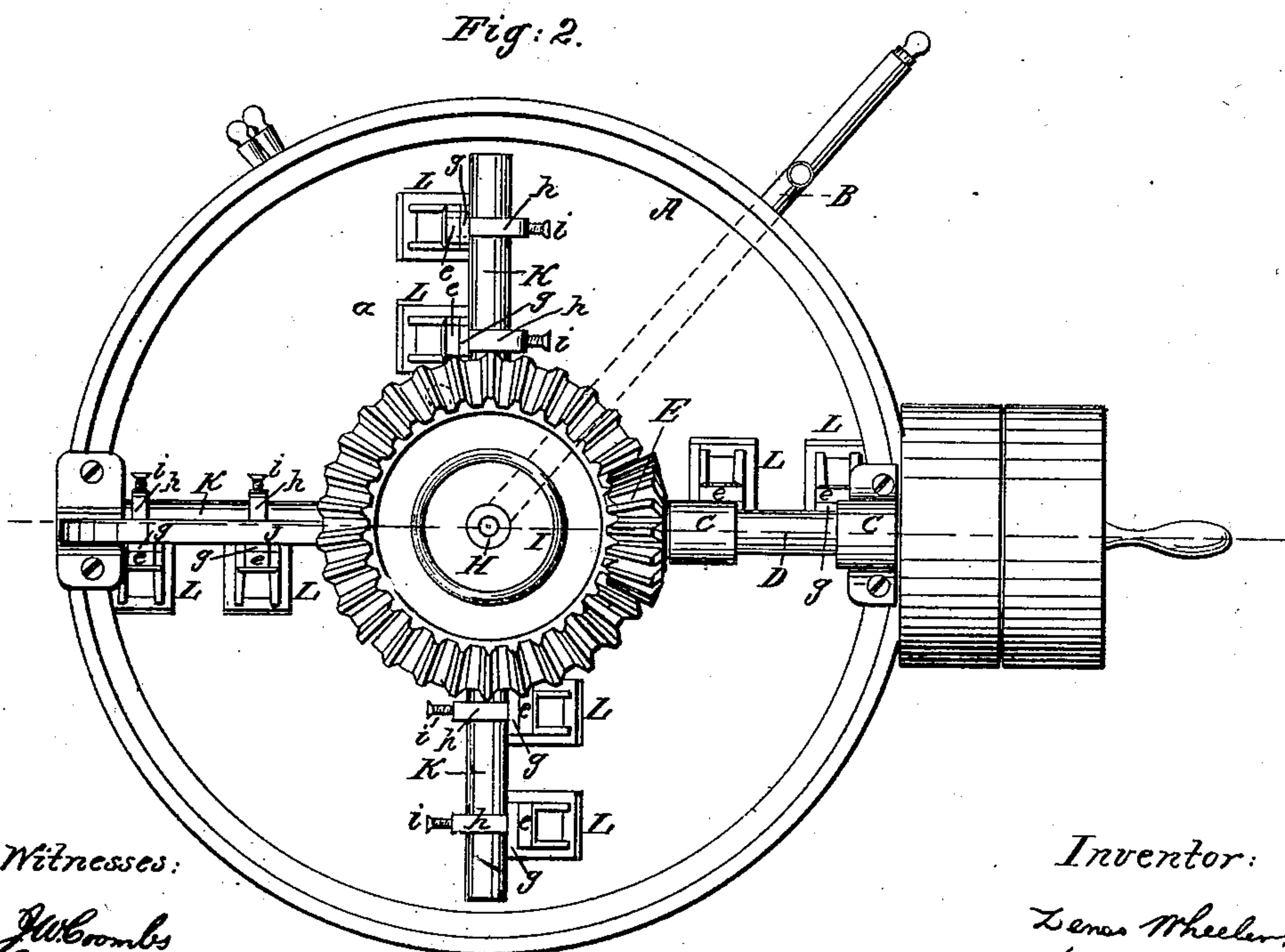
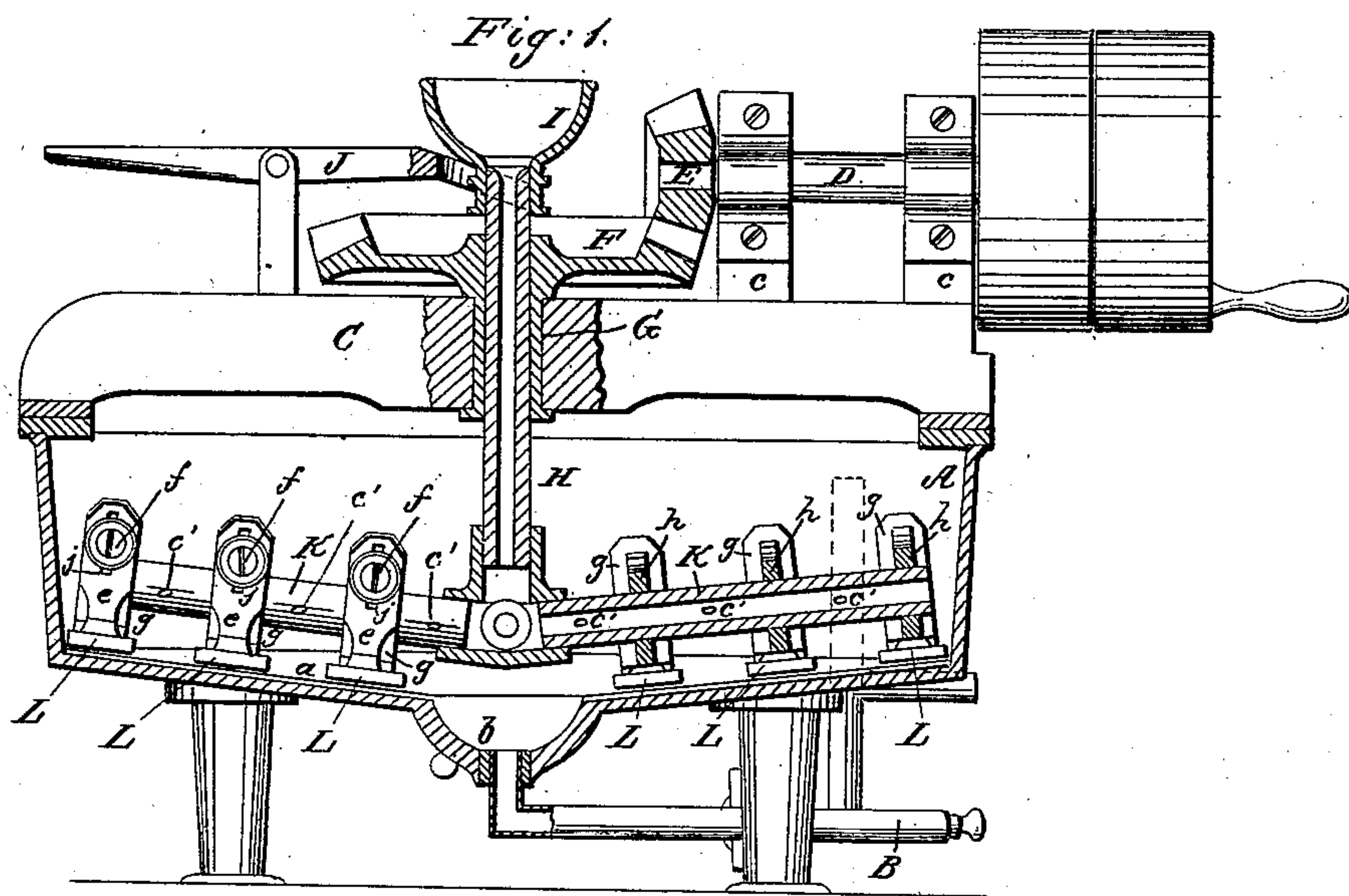


Z. WHEELER.
Ore Amalgamator.

No. 39,251.

Patented July 14, 1863



Witnesses:

W. Brombs
G. W. Reed

Inventor:

Zenas Wheeler.
per Mundell & Co.
Attorneys.

UNITED STATES PATENT OFFICE.

ZENAS WHEELER, OF SAN FRANCISCO, CALIFORNIA.

IMPROVED MACHINE FOR COLLECTING AMALGAM AND MERCURY FROM ORE PULP.

Specification forming part of Letters Patent No. 39,251, dated July 14, 1863.

To all whom it may concern:

Be it known that I, ZENAS WHEELER, of San Francisco, in the county of San Francisco and State of California, have invented a new and improved device for separating amalgam and pulverized mercury from the waste matter or pulp which escapes from the ordinary gold and silver amalgamators; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a vertical central section of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in both figures.

This invention consists in the employment or use of a tub provided with a concave bottom, having a central receiving-chamber, and using in connection therewith perforated revolving tubular arms provided with pads, all being arranged in such a manner, as herein-after fully shown and described, to effect the desired end.

To enable those skilled in the art to fully understand and construct my invention, I will proceed to describe it.

A represents a wooden tub, of any convenient size, and provided with a bottom, *a*, of concave form, said bottom being covered with a metallic plate, or constructed entirely of metal, as may be desired. At the center of the bottom *a* there is a chamber, *b*, of semi-spheroidal form, and having an inclined tube, B, extending from its lower end.

C is a cross-bar, which is secured to the upper edge of the tub A, and has two vertical bars, *c c*, attached to it, in which a driving-shaft, D, is fitted, said shaft having a bevel-pinion, E, on its inner end, which pinion gears into a bevel-wheel, F, on the upper part of a sleeve or collar, G, the latter being fitted and allowed to rotate freely in the cross-bar C. (See Fig. 1.)

H is a tubular shaft, which passes through the sleeve or collar G of the wheel F, and is allowed to slide freely up and down therein; but the wheel F is made to rotate the shaft H by means of the well-known device of a

feather and groove. To the upper end of the shaft H there is affixed a funnel, I, and a lever, J, is connected with the upper end of the shaft H for the purpose of raising it when required.

K represents four tubular arms, which are attached radially to the lower end of the tubular shaft H, and communicate therewith. These tubular arms extend nearly to the side of the tub A, and they are perforated at their lower parts, as shown at *c'* in Fig. 1.

To the arms K there are attached a series of pads, L, which are composed of flat plates attached to the lower ends of vertical bars *e*, which are secured by set-screws *f* to plates *g*, the latter being attached to the arms K by clasps or bands *h*, which encompass said arms and are secured thereto by set-screws *i*. The set-screws *f* pass through oblong slots *j* in the bars *e* and into the plates *g*. This arrangement, it will be seen, admits of the pads L being adjusted higher or lower, and also in a more or less inclined position.

The pads L may be of wood, metal, india-rubber, or any other material best calculated for collecting mercury.

The operation of the machine is as follows: The pulp, after being acted upon by the ordinary gold or silver amalgamating machines, is placed in the tub A, and rotary motion communicated to the tubular shaft H and arms K through the medium of the gearing previously described. The pads L, as they rotate through the pulp, will collect the particles of fine or pulverized mercury and amalgam, which, as they attain a certain size and increase in weight, roll down into the chamber *b*. The pulp is diluted with water through the tubular shaft H and arms K. As the mercury and amalgam accumulate in the chamber *b*, they may be drawn off through the tube B, the latter being provided with a plug or cock, and an upright tube may be attached to tube B to show the height of the mercury and amalgam in the chamber *b*, said tube being of glass or having openings covered with glass. The tub A also may be provided with a siphon for drawing superfluous water from the tub, or it may be provided with waste-cocks for that purpose.

Having thus described my invention, what

I claim as new, and desire to secure by Letters Patent, is—

1. The tub A, provided with the concave bottom *a* and chamber *b*, in combination with the rotating pads L, as and for the purpose specified.

2. In combination with the pads L, concave bottoms *a*, and chambers *b* of the tub A, the

tubular shaft H and arms K, all arranged for joint operation as and for the purpose specified.

ZENAS WHEELER.

Witnesses:

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