

(No Model.)

W. MOLLER.
AMALGAMATOR.

No. 272,742.

Patented Feb. 20, 1883.

Fig. 1.

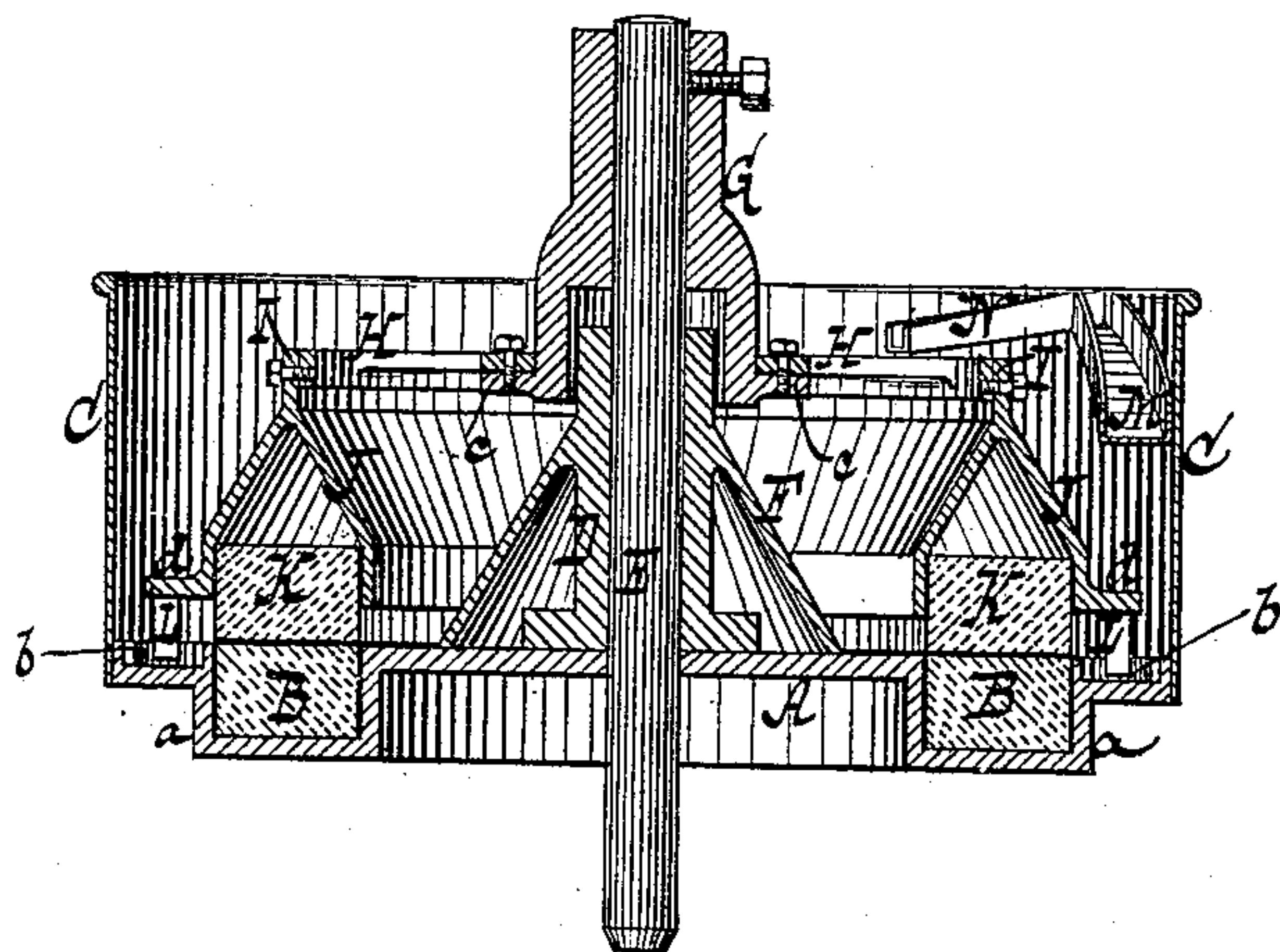
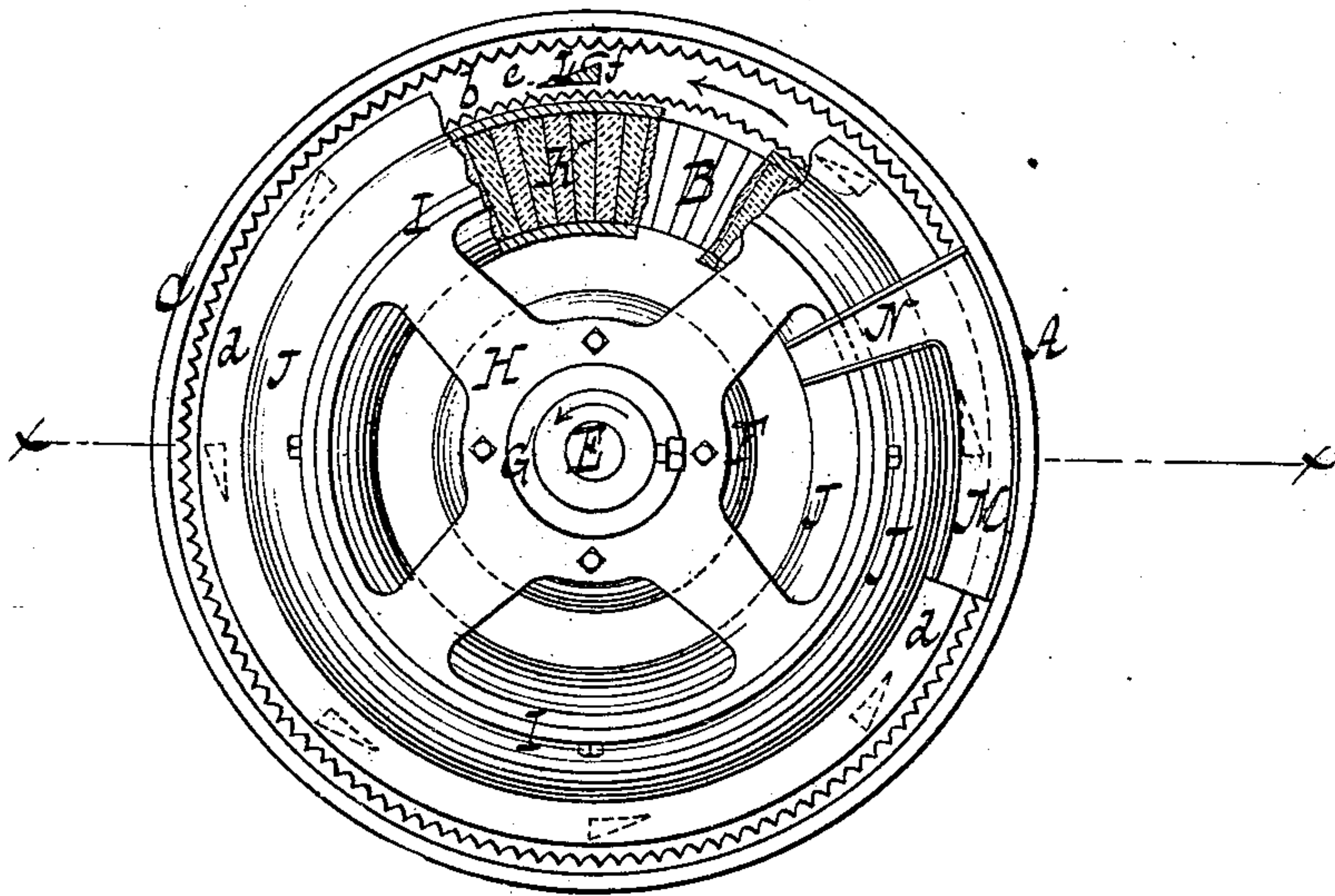


Fig. 2.



WITNESSES:

Otto Hufeland
William Moller

INVENTOR

William Moller

BY *Van Santvoord & Hauff*

ATTORNEYS

UNITED STATES PATENT OFFICE.

WILLIAM MOLLER, OF YONKERS, NEW YORK.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 272,742, dated February 20, 1883.

Application filed January 11, 1883. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM MOLLER, a citizen of the United States, residing at Yonkers, in the county of Westchester and State of New York, have invented new and useful Improvements in Amalgamators, of which the following is a specification.

This invention relates to an amalgamator in which the pulp, after having been formed in the amalgamating-gutter, is returned automatically to a grinding mechanism until a complete amalgamation is effected.

The peculiar construction of my amalgamator is pointed out in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section in the plane *x x*, Fig. 2. Fig. 2 is a plan or top view.

Similar letters indicate corresponding parts.

In the drawings, the letter A designates the amalgamating-pan, which is provided with an annular depression, *a*, into which is placed the stationary grinder B. This grinder is by preference made of stone, and it extends all round in the depression *a*, being composed of a series of segments, which are fitted closely together. Outside of the depression *a* is formed the gutter *b*, which is intended for the reception of the quicksilver. To the edge of this gutter is firmly secured a cylinder, C, of sheet-iron or other suitable material, which forms the outside wall of the pan. In the center of the pan is firmly secured a boss, D, which is bored out to form the bearing for the shaft E, and to the outside of which is secured the conical deflector F. This deflector may be cast solid with the boss; or it may be made separate therefrom and fastened to it by any suitable means. The shaft E receives a revolving motion by any suitable means, preferably by means of a pulley secured to its lower end, but not shown in the drawings. On the upper end of said shaft is firmly secured a boss, G, which is provided at its bottom end with a circular flange, *c*. On this flange is firmly secured a spider, H, to the outer circumference of which is bolted a ring, I, of cast-iron or other suitable material, and cast solid with this ring, or otherwise firmly connected to the same, is an annular hood, J, intended for the reception of the upper grinder, K. This grinder, like the lower grinder, B, is preferably made of stone

in segments, which are fitted close together in the hood J, and fastened therein by set-screws or other suitable means. On the outside of the hood J, at its bottom edge, is formed a circular flange, *d*, to which are firmly secured the shoes L, which are provided with sharp points *e* and inclined faces *f*, as shown in Fig. 2, so that by their action the pulp contained in the gutter *b* is forced outward. The inner walls of the gutter are corrugated, as shown in Fig. 2, so that recesses are formed, in which the quicksilver contained in the gutter *b* can lodge, and thereby the disadvantage of having the quicksilver carried round and round in the gutter by the action of the shoes L is avoided. On the interior of the cylinder C, which forms the outside wall of the pan A, is firmly secured a scoop, M, which extends down as close as practicable to the gutter *b*, and which communicates at its upper end with a radial chute, N, extending over the ring I.

At the beginning of the operation the pulverized ore is fed over the chute N into the interior of the pan A, and as the shaft E is caused to revolve in the direction of the arrow shown near it in Fig. 2 the ore gradually works out between the grinders B K into the gutter *b*, which contains the quicksilver. By the action of the shoes L the ore and the quicksilver are intimately mixed, and as the pulp thus formed accumulates in the gutter *b* it gradually rises up on the scoop M and passes over the chute N back into the interior of the pan, being carried outward toward the grinders by the deflecting-cone F, while the ring I and hood J prevent the escape of the pulp on the outside. The pulp, therefore, having no other escape, is compelled to pass out between the grinding surfaces when it again reaches the gutter *b*, and during this passage the particles of ore are brought in intimate contact with the quicksilver, so that by continuing the operation for a suitable length of time a complete amalgamation is effected.

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

1. The combination, substantially as hereinbefore described, of the pan A, containing the stationary grinder B, the gutter *b*, formed outside of this grinder, the movable grinder K, secured to the ring I, the shoes L, working in the gutter, the scoop M, and the chute N.

2. The combination, substantially as herein-
before described, of the pan A, containing the
stationary grinder B, the gutter b, formed out-
side of this grinder, the movable grinder K,
5 secured to the ring I, the deflector F, the shoes
L, working in the gutter, the scoop M, and the
chute N.

3. The combination, substantially as herein-
before described, of the pan A, the gutter b,

the corrugated walls of this gutter, and the 10
shoes L.

In testimony whereof I have hereunto set
my hand and seal in the presence of two sub-
scribing witnesses.

WILLIAM MOLLER. [L. S.]

Witnesses:

W. HAUFF,

CHAS. WAHLERS.