

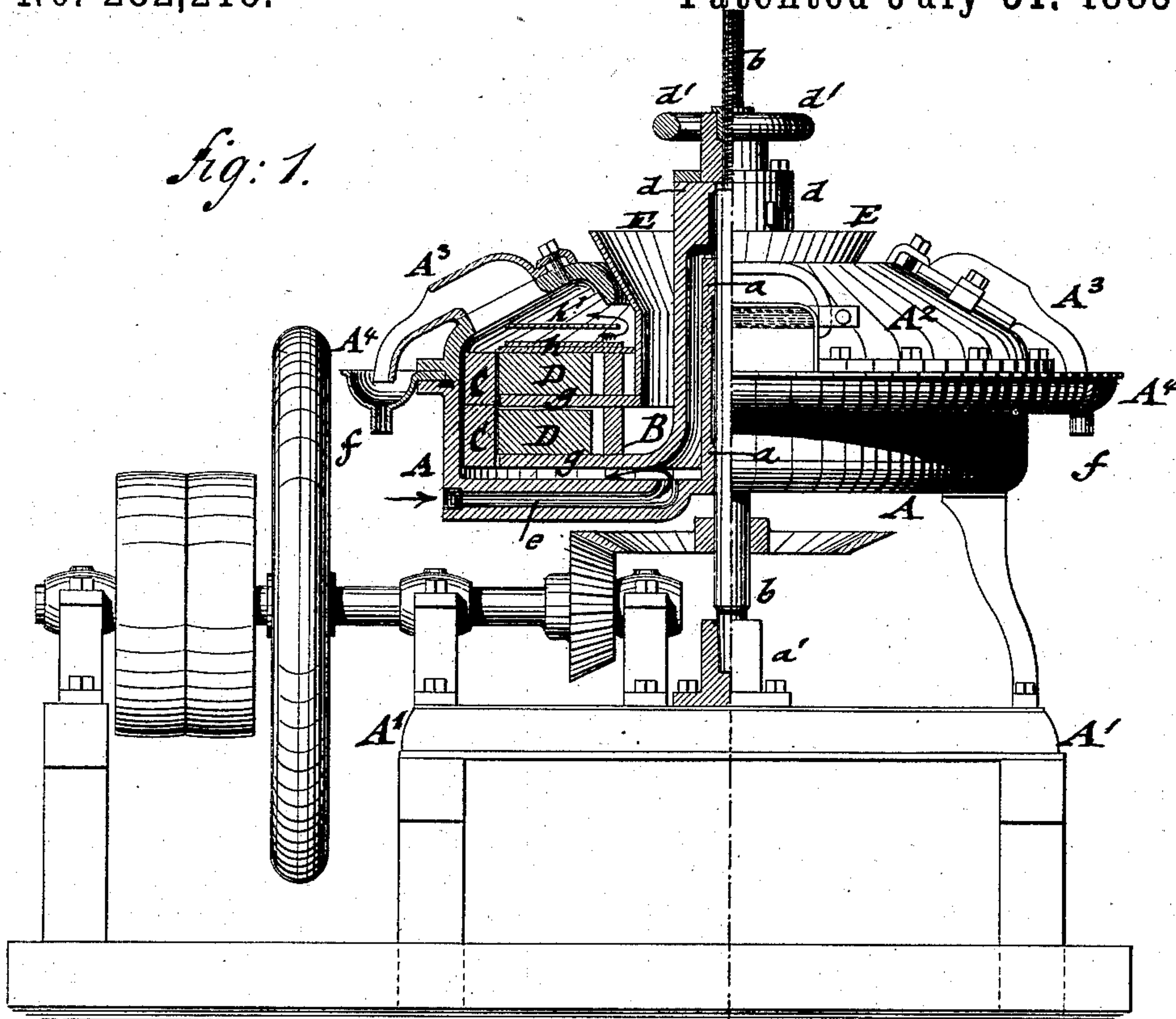
(No Model.)

H. E. PARSON.  
ORE PULVERIZING MACHINE.

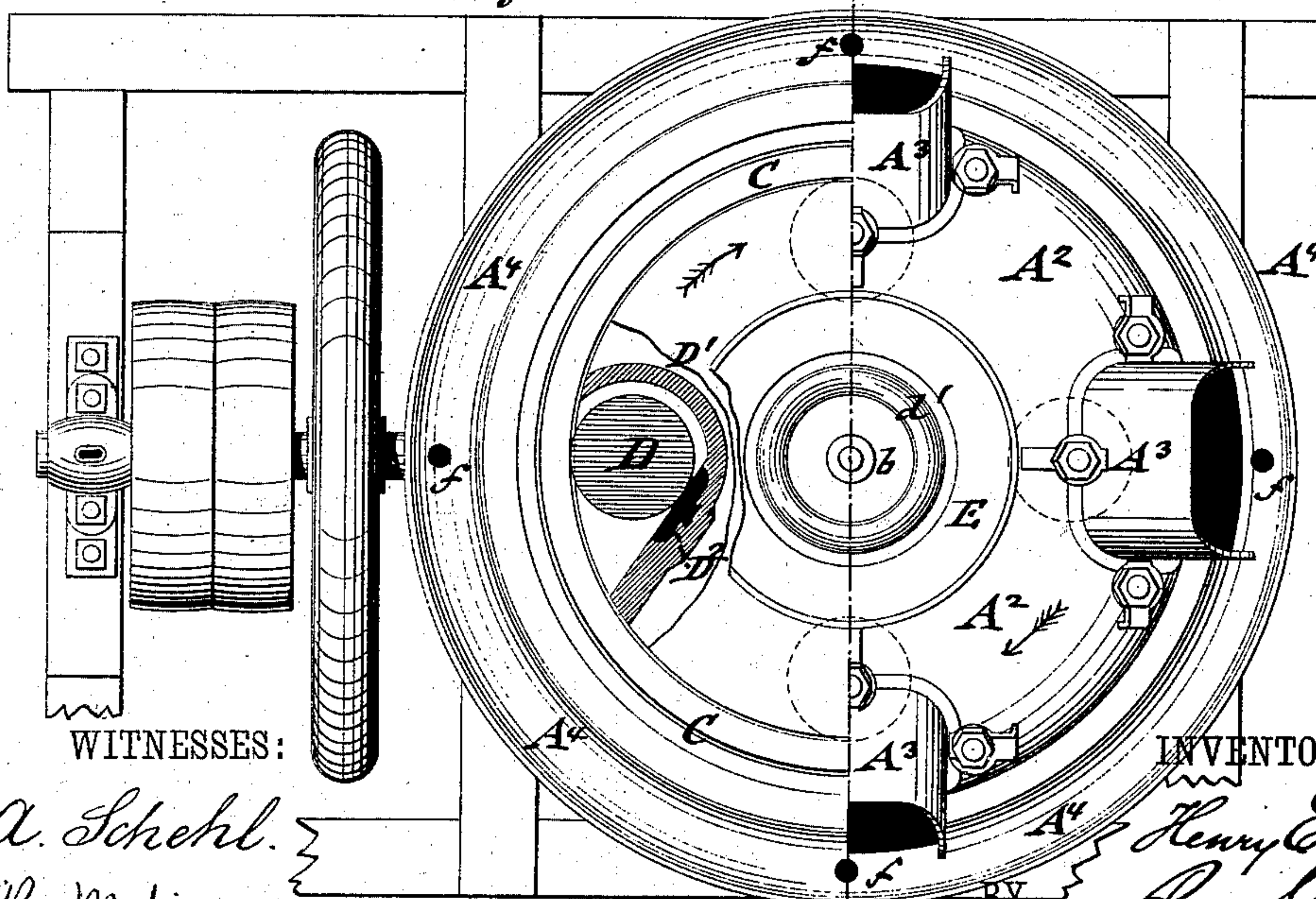
No. 282,218.

Patented July 31, 1883.

*fig: 1.*



*fig: 2.*



WITNESSES:

*A. Schehl.*  
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INVENTOR

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# UNITED STATES PATENT OFFICE.

HENRY E. PARSON, OF NEW YORK, N. Y.

## ORE-PULVERIZING MACHINE.

SPECIFICATION forming part of Letters Patent No. 282,218, dated July 31, 1883.

Application filed March 2, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY E. PARSON, of the city, county, and State of New York, have invented certain new and useful Improvements in Ore-Pulverizing Machines, of which the following is a specification.

This invention has reference to an improved machine for pulverizing and amalgamating gold ores in a wet state; and it consists of a fixed annular casing provided with fixed circumferential grinding-rings, and of an interior revolving driving-frame having a central supply-hopper and horizontal partition-shelves, with pockets for the grinding-disks, which latter bear against removable cheeks of wood in the straight side walls of the pockets of the driving-frame. The ground ore passes from the hopper along the bottom shelf to the outer grinding-ring, then between the grinding-surfaces in an upward direction, then inwardly over and between mercury-coated copper plates—one at the top of the driving-frame, the other above the same in the top of the inclosing-casing—and then through discharge-spouts to the annular gutter, to be conducted off by suitable pipes.

In the accompanying drawings, Figure 1 represents a side elevation of my improved ore-pulverizing machine, one-half being shown in section. Fig. 2 is a plan of the same, one-half being shown with the top or cap of the casing removed and one of the pockets of the grinding-disk in section.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A represents an annular casing, which is supported on standards of a bed-frame, A', and provided at the center with a vertical bearing, a, for the shaft b of the driving-frame B. The step-bearing a' of the driving-frame B is supported on the bed-frame A' below the fixed casing A, the vertical shaft b receiving, by a bevel-gear, rotary motion from a horizontal driving-shaft provided with pulleys and fly-wheel. The driving-frame B is hung by its cylindrical center portion, d, to the upper threaded end of the driving-shaft b, and adjusted higher or lower thereon by means of a screw-nut and hand-wheel, d', or other suitable mechanism.

In the bottom of the casing A is arranged a radial supply-channel, e, that leads from the

circumference inwardly, then upwardly for conducting the water used in grinding the ore to the space between the bottom of the driving-frame and the bottom of the outer casing, A. The casing A is provided with fixed circumferential grinding-rings C C, and with a conically-shaped top part or cap, A<sup>2</sup>, having discharge-spouts A<sup>3</sup>, the latter terminating above an annular gutter, A<sup>4</sup>, that extends around the casing A, and is provided with pipes f f, for conducting off the water and finely-pulverized ore.

The driving-frame B is provided with a central supply-hopper, E, concentric to the cylindrical center portion, d, of the frame B, and with horizontal shelves g g, extending, respectively, from the lower edge of the supply-hopper E and the cylindrical center portion, d, toward the grinding-disks D D, said shelves being provided with pockets D' for the grinding-disks D. Each pocket is open toward the grinding-rings C, its side wall, D', being made of arc shape at the rear part and straight at the front part, the straight part of the side wall being provided with dovetailed removable plates or cheeks D<sup>2</sup>, of wood, as shown in Fig. 2, against which the grinding-disks D D bear during the revolutions of the driving-frame. The grinding-disks D receive, by the driving-frame B, motion around their own axes, and simultaneously a centrifugal motion, so as to bear with considerable force against the grinding-rings C C. The ore that passes up with the water between the grinding-rings C C and grinding-disks D D is reduced to a considerable degree of fineness, and then passed inwardly between a mercury-plated copper plate, h, secured to the top shelf of the driving-frame B and a second mercury-coated copper plate, h', above the same, the latter being secured to the top part or cap, A', of the casing A, below the level of the opening of the discharge-spouts, as shown clearly in Fig. 1. The ore passes from the inner end of the copper plate h to the upper plate, h', and then, in outward direction, over the same and through the discharge-spouts A<sup>3</sup> into the gutter A<sup>4</sup>. The mercury-coated upper plates, h h', serve to retain the finer particles of gold-dust during the passage of the ore over the same, so that they are amalgamated directly with the mercury coating of



the plates, while the rest is passed off through an amalgamator for further treatment.

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

5 1. The combination, with an annular inclosing-casing, A, provided with fixed interior circumferential grinding-rings C C, of a revolving driving-frame, B, provided with a central supply-hopper, E, horizontal shelves *g g*, pockets D', and grinding-disks D D, substantially  
o as and for the purpose set forth.

2. The combination of the casing A, grinding-rings C C, and grinding-disks D D, with revolving driving-frame B, provided with horizontal shelves *g g*, and pockets D' for the grinding-disks, said pockets being formed of arc-shaped walls at one side and straight walls at the other side, the latter being provided with exchangeable wooden blocks or plates, sub-  
o stantially as specified.

3. In an ore-pulverizing machine, the combination, with an annular inclosing-casing provided with fixed interior circumferential grinding-rings, C C, of a driving-frame, B, horizontal shelves *g g*, pockets D' D', grinding-disks D D, and mercury-coated copper plates *h h'*, located, respectively, on the top plate of the driving-frame and in the top part or cap of the casing A, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

H. E. PARSON.

Witnesses:

CARL KARP,  
SIDNEY MANN.