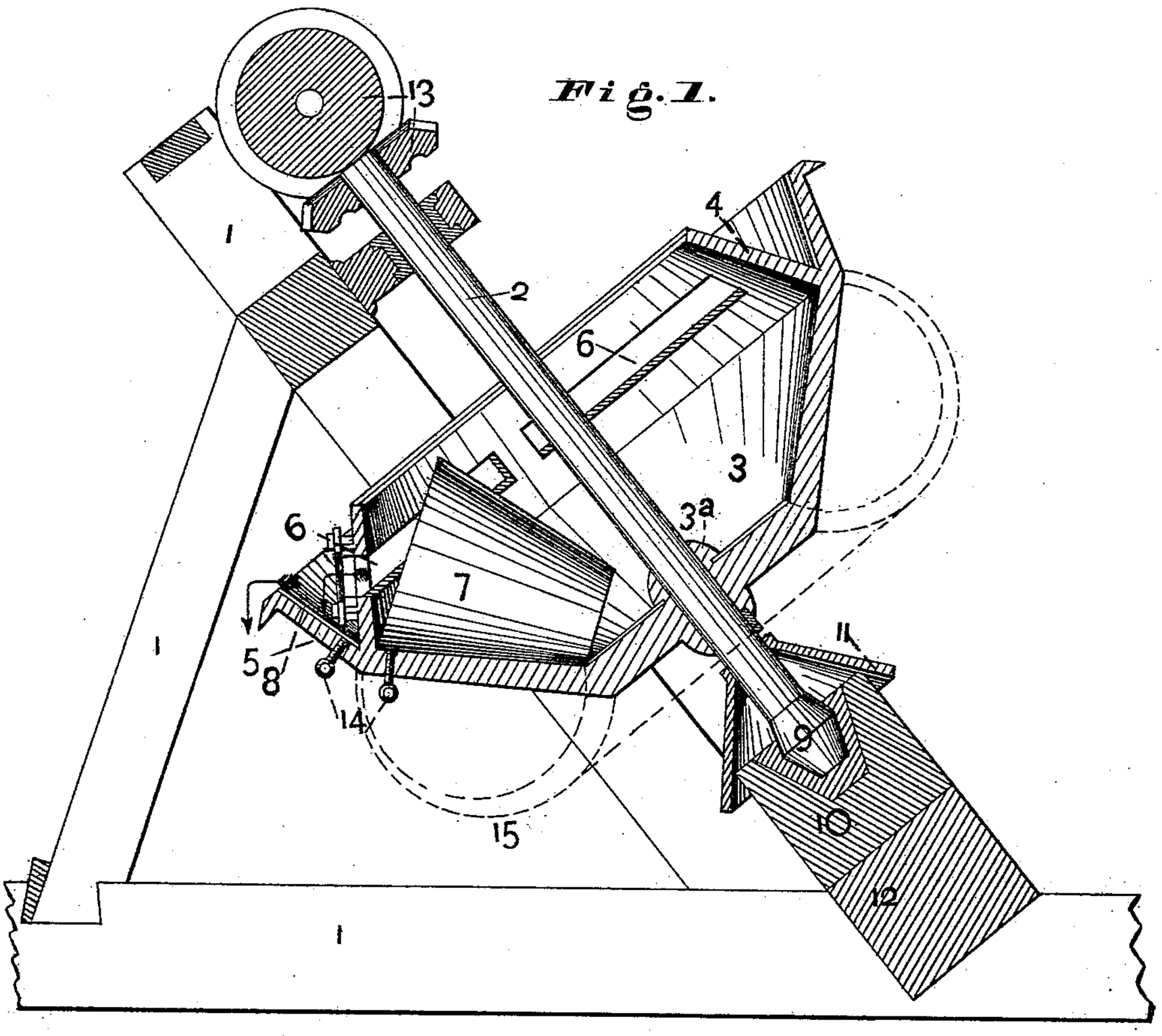
2 Sheets—Sheet 1.

E. Y. HARRISON.

Machinery for Pulverizing and Amalgamating Ores.

No. 212.139. **Patented Feb. 11, 1879.**

Fig. 1.



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ATTYS

2 Sheets—Sheet 2.

E. Y. HARRISON.

Machinery for Pulverizing and Amalgamating Ores.

No. 212,139. **Patented Feb. 11, 1879.**

Fig. 2.

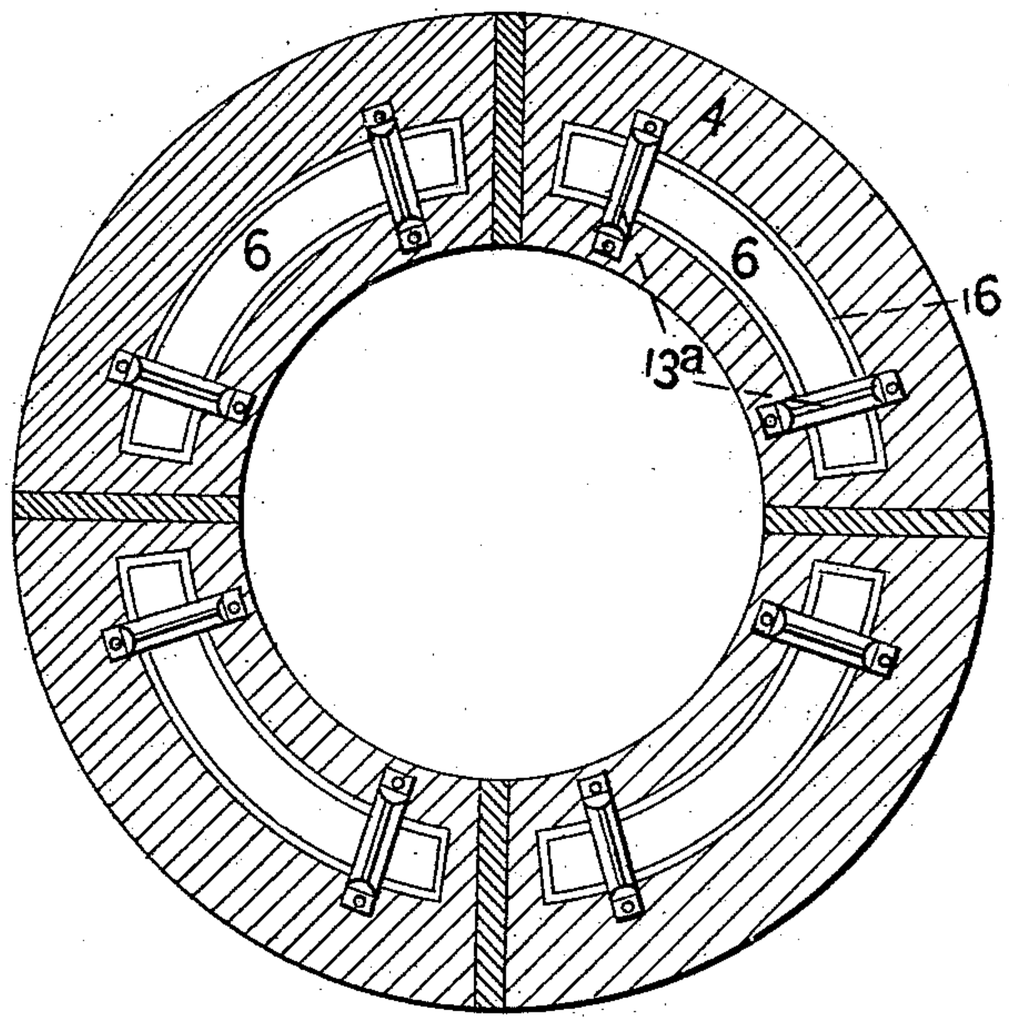


Fig. 3.

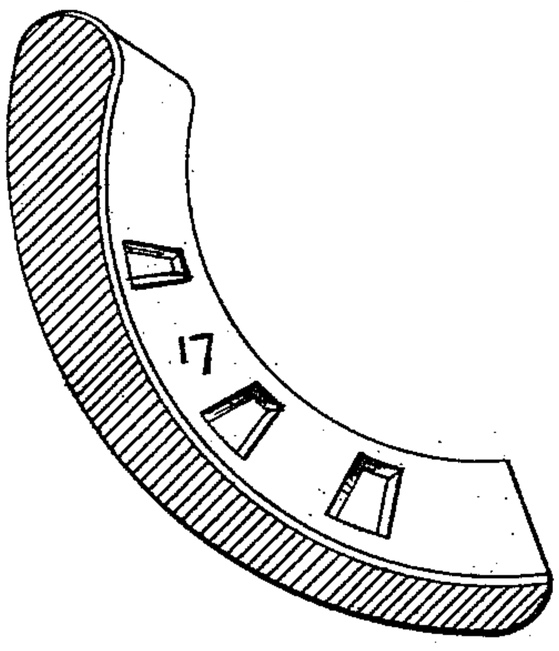
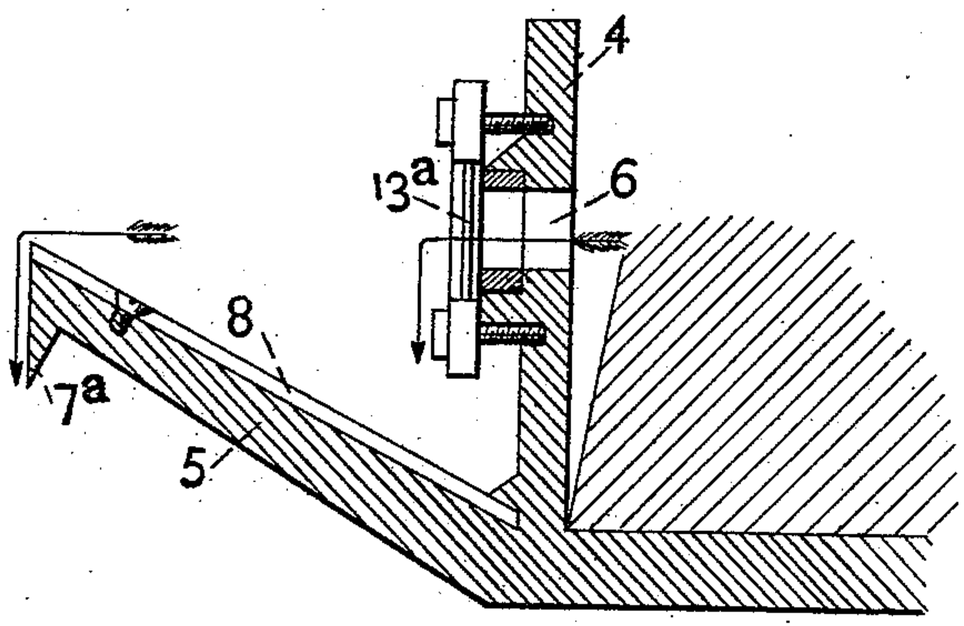


Fig. 4.



WITNESSES:
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UNITED STATES PATENT OFFICE.

EDWARD Y. HARRISON, OF AVOCA, VICTORIA.

IMPROVEMENT IN MACHINERY FOR PULVERIZING AND AMALGAMATING ORES.

Specification forming part of Letters Patent No. **212,139,** dated February 11, 1879; application filed April 7, 1876.

To all whom it may concern:

Be it known that I, EDWARD YOUNGMAN HARRISON, of High street, Avoca, in the Colony of Victoria, engineer, have invented certain Improvements in Machinery for Pulverizing and Amalgamating Ores, of which the following is a specification:

These improvements have reference to that class of pulverizing and amalgamating machines in which a mechanical pulverizer rolls around the inside of a rotating basin set at an angle like what is commonly known as the "Berdan basin." The side and bottom of the Berdan basin form one continuous curve, so as to accommodate themselves to a ball or spherical pulverizer; but I make my basins with a flat bottom and sides, placed at such an angle to each other as to accommodate themselves to a conical pulverizer resting and revolving on the side or wall; second, I introduce a ledge projecting inward from the upper part of the side or wall, in which ledge are openings for the passage of the material treated.

The latter improvements may be applied and adapted to an ordinary Berdan basin, if that shape of bottom be preferred.

Referring now to the drawings hereto attached, Figure 1 shows a cross-sectional elevation of basin with my first and second improvements. Fig. 2 is a plan of ledge in Fig. 1. Fig. 3 is a representation of my drag; and Fig. 4, a cross-section, on a larger scale, of that portion of the basin shown in Fig. 1.

In Fig. 1 the framing, which may be of either wood or iron, is marked 1. 2 is the shaft supporting the basin; 3, inner surface of basin; 3^a, a support or connection of the basin to the shaft; 4, the ledge; 5, outer projection, forming ripple or catch; 6, opening in the ledge through which the pulverized material is discharged; 7, conical roller; 8, copper plate, to be coated with mercury; 9, conical end of shaft, held in proper bearings in foot-step 10; 11, cover of foot-step fixed on shaft; 12, plumber-block supporting shaft 2; 13, driving and pinion wheels; 14, plugs for cleaning out basin. 15 is a dotted line, showing how the basin may be modified, so that a ball may be used instead of the conical roller, in which case the ledge 4 and outer projections, 5, would become improvements on the ordinary Berdan basin.

In Fig. 2 the opening is marked 6, the glands 13^a, the wrought-iron band around the opening which serves to hold down a grating 16, and the ledge or upper wall 4.

In Fig. 3 is represented a drag, the upper surface of which is covered with copper plates 17. This drag is more especially suitable for grinding burned pyrites, and is made to fit the inner surface of the basin. The shape of the drag may be modified so as to fit a Berdan basin.

In Fig. 4, 6 is the opening; 13^a, wrought-iron bands; 4, ledge; 5, outer projection or wall; 7^a, lip, and 8 the copper plate.

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

1. In combination with the inclined shaft 2, the basin 3, attached to the shaft, provided with the wall 4, having the opening 6 and ledge 5, substantially as described.

2. In combination with an inclined shaft supported in bearings above and below, a basin attached to said shaft, having the wall 4 and ledge 5, as described.

EDWD. Y. HARRISON.

Witnesses:
EDWD. WATERS,
W. S. BAYSTON.