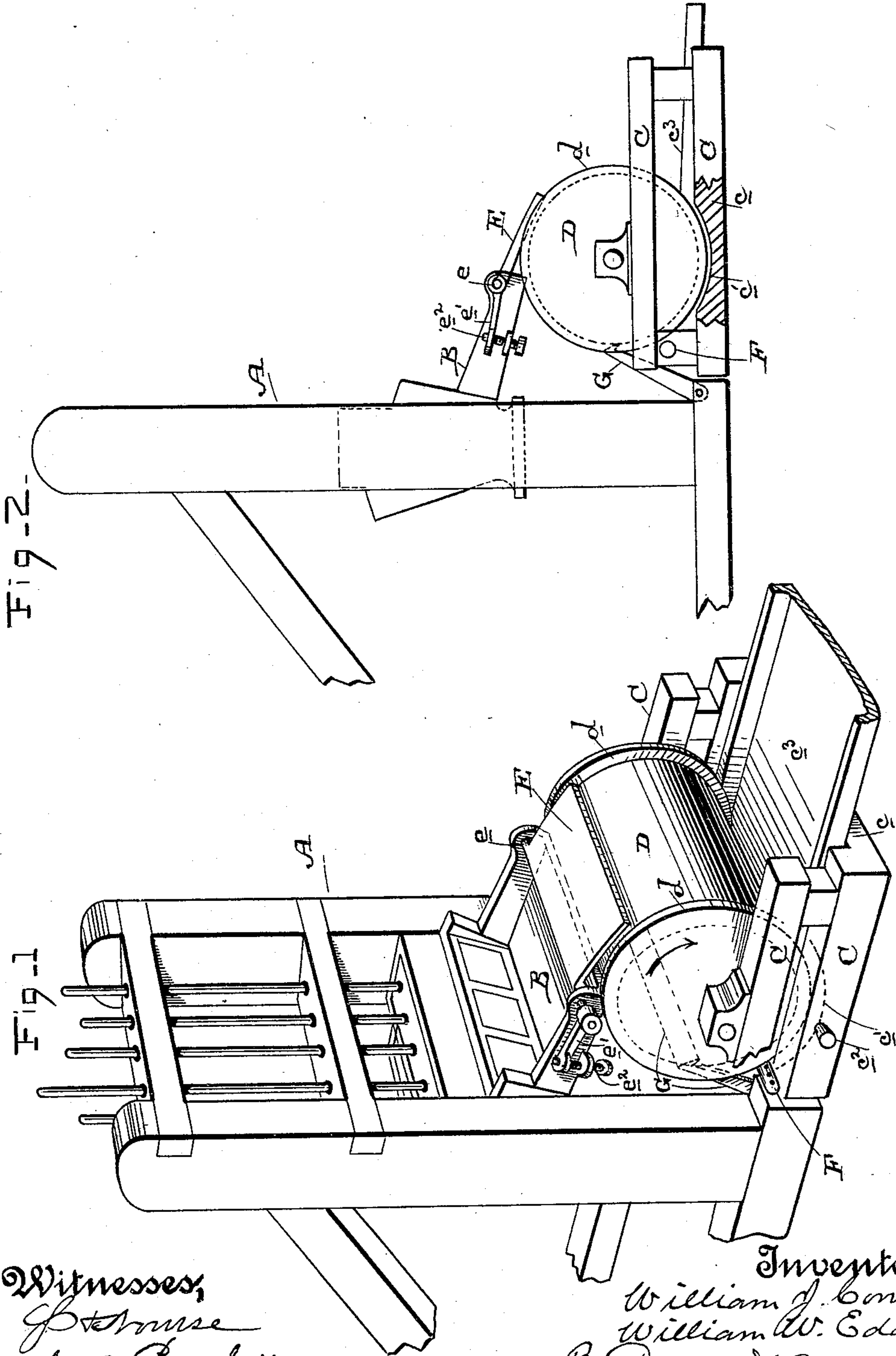


(No Model.)

W. J. CONNORS & W. W. EDDY.
AMALGAMATOR.

No. 478,922.

Patented July 12, 1892.



Witnesses,
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UNITED STATES PATENT OFFICE.

WILLIAM J. CONNORS AND WILLIAM W. EDDY, OF GRASS VALLEY,
CALIFORNIA.

AMALGAMATOR.

SPECIFICATION forming part of Letters Patent No. 478,922, dated July 12, 1892.

Application filed January 15, 1892. Serial No. 418,203. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. CONNORS and WILLIAM W. EDDY, citizens of the United States, residing at Grass Valley, county of Nevada, State of California, have invented an Improvement in Amalgamators; and we hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates to amalgamating devices; and it consists in a rotating cylinder having a suitable amalgamating-surface upon which the pulp is fed, an adjustable regulating-plate above the cylinder, a washing-pipe below, and a cleaner behind it, all of which, together with details of construction and arrangement, we shall hereinafter fully describe, and specifically point out in the claims.

The object of our invention is to provide a simple and effective amalgamator the surface of which, being kept clean, presents a fresh surface to the pulp continually.

Referring to the accompanying drawings for a more complete explanation of our invention, Figure 1 is a perspective view of our amalgamator. Fig. 2 is a side elevation of same.

A represents, generally, a stamp-mill, which will stand for any suitable source of pulp-supply. B is the apron of the mortar. C is a frame, in which is mounted and adapted to rotate a cylinder D. This cylinder may be of any suitable character and it is preferably provided with end flanges *d* to confine the pulp. The surface of the cylinder is of a suitable amalgamating character, as by being covered with a silvered copper plate. The apron B of the mortar extends to and lies directly above the top of the cylinder. Pivoted in this apron at *e* is a regulating-plate E, which has connected with one end pivot a crank-arm *e'*, acted on by a screw *e²* to raise or lower it. By setting this screw the forward end of the plate E may be brought down into more or less close proximity to the surface of the cylinder to regulate the feed of the pulp, according to whether the battery is using a coarse or fine screen. The under surface of this regulating-plate is an amalgamating one to catch the free fine gold.

In the bed *c* of frame C is made a depression *c'*, forming a receiving-chamber. Into

this the cylinder extends at its lower portion, and from it issues a drawing-off passage controlled by a plug *c²*. From the bed *c* extends a discharge-slucice *c³*.

F is a perforated water-pipe. It extends across the lower back portion of the cylinder and is in position to direct streams of water constantly thereon, and thus to wash off the surface and carry the amalgam down into the receiving-chamber.

G is a gravity-scraper acting against the rear surface of the cylinder. Its end may be covered with rubber or other suitable protecting material.

The operation of our device is as follows: The pulp passes from the mortar down the apron B. Its feed is regulated by the adjustable plate E, which catches some of the fine gold and spreads the material evenly and thinly over the cylinder. On the cylinder, which is continually rotating, the pulp falls and is carried by it over its front. The tailings fall off into the discharge-chute, while the amalgam drops into the receiving-chamber. Particles still clinging are washed off by the sprinkler, and the water and the scraper serve to effectually clean the surface of the cylinder, so that above it always presents a clean surface to receive the pulp. Any suitable mechanism may be employed to drive the cylinder.

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

1. In an amalgamator, a rotating cylinder having an amalgamating outer surface or periphery upon which the material is fed, in combination with a feed-regulating plate having an amalgamated under surface to catch the free fine gold, substantially as herein described.

2. In an amalgamator, a rotating cylinder having an amalgamating outer surface or periphery, in combination with a feed-regulating plate contiguous to said cylinder, having a crank-arm and screw for adjusting the plate and regulating the feed, substantially as herein described.

3. In an amalgamator, the combination of a rotating cylinder having an amalgamating outer surface or periphery, an apron to feed

the material to the cylinder-surface, and a regulating-plate in the apron and extending over the cylinder, substantially as described.

4. In an amalgamator, the combination of
5 a rotating cylinder having an amalgamating
outer surface or periphery, an apron to feed
the material to the cylinder-surface, and the
swinging adjustable regulating-plate in the
apron and extending over the cylinder, sub-
10 stantially as described.

5. In an amalgamator, the combination of
the rotating cylinder having an amalgamat-
ing outer surface or periphery, the supply-
apron over said cylinder, the adjustable regu-
15 lating-plate in said apron and extending over
the cylinder, and means for cleaning the sur-
face of the cylinder as it rises, substantially
as described.

6. In an amalgamator, the combination of
20 the rotating cylinder having an amalgamat-
ing outer surface or periphery, the supply-
apron over said cylinder, the adjustable regu-
lating-plate in said apron and extending over

the cylinder, the underlying bed with its re-
ceiving-chamber and discharge-chute, and 25
means for cleaning the surface of the cylinder
as it rises, substantially as described.

7. In an amalgamator, the combination of
the rotating cylinder having an amalgamat-
ing outer surface or periphery, the supply- 30
apron over said cylinder, the adjustable regu-
lating-plate in said apron and extending over
the cylinder, the underlying bed with its re-
ceiving-chamber and discharge-chute, and
means for cleaning the surface of the cylin- 35
der as it rises, consisting of the water-sprink-
ler and the scraper, substantially as de-
scribed.

In witness whereof we have hereunto set
our hands.

WILLIAM J. CONNORS.
WILLIAM W. EDDY.

Witnesses:

JOHN MULROY,
MARTIN HOSKEN.