

No. 709,104.

Patented Sept. 16, 1902.

W. A. MERRALLS.
STAMP MILL MORTAR.

(Application filed Sept. 20, 1901.)

(No Model.)

3 Sheets—Sheet 1.

Fig. 2.

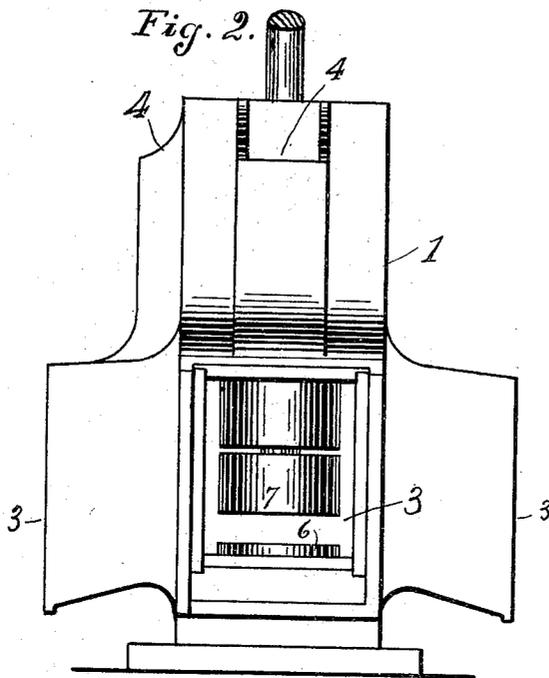
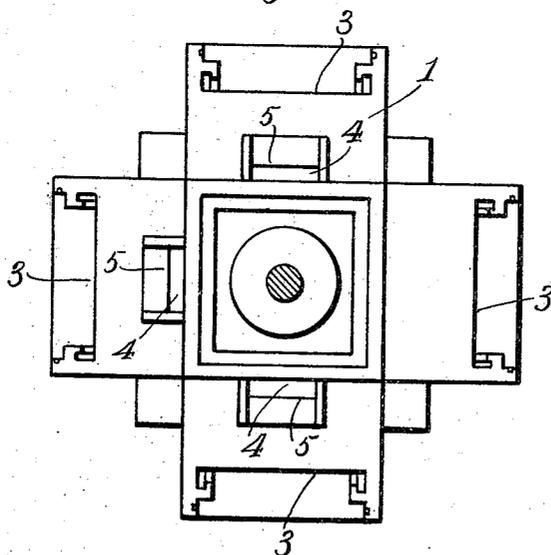


Fig. 1.



WITNESSES:

H. Lockwood-Norris.
Cecelia Powning.

INVENTOR.

W^m A. Merralls
BY *Francis W. Wright.*
ATTORNEY.

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Fig. 4.

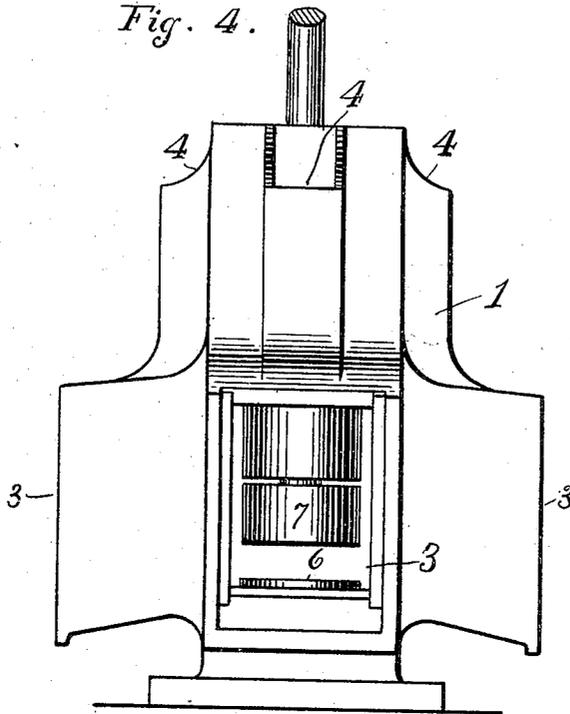
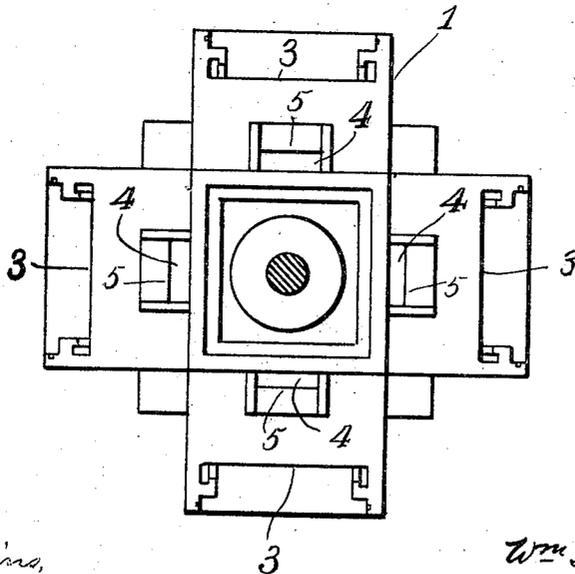


Fig. 3.



WITNESSES:

H. Lockwood-Merrins,
Lucelia Rowning.

INVENTOR.

Wm. A. Merralls
BY
Francis M. Wright
ATTORNEY.

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Fig. 5.

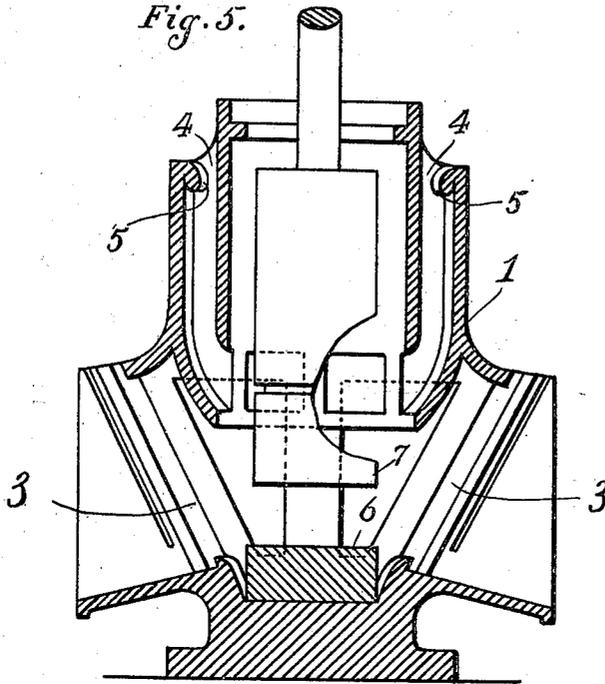
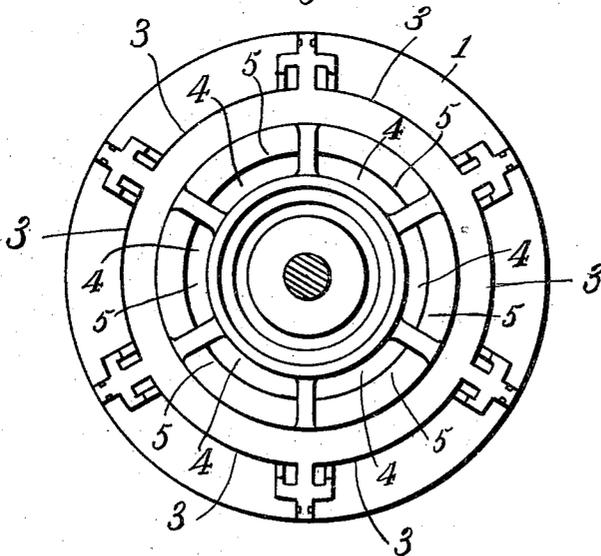


Fig. 6.



WITNESSES:

K. Lockwood Nevins.
Lucia Cowling.

INVENTOR.

Wm. A. Merralls

BY

Francis M. Wright.

ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM A. MERRALLS, OF SAN FRANCISCO, CALIFORNIA.

STAMP-MILL MORTAR.

SPECIFICATION forming part of Letters Patent No. 709,104, dated September 16, 1902.

Application filed September 20, 1901. Serial No. 75,961. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. MERRALLS, a citizen of the United States, residing at San Francisco, in the county of San Francisco and State of California, have invented certain new and useful Improvements in Stamp-Mill Mortars, of which the following is a specification.

My invention relates to improvements in stamp-mills, the object of my invention being to provide a stamp-mill which shall reduce as much as possible the cost of milling ores, so as to make it profitable to mill exceeding low grade ores. Ores that to-day using the old forms of stamp-mill would not pay can be made profitable by using my improved stamp-mill for pulping the ore.

For some time among mill-men the need has been felt of a machine which would reduce the cost in the following ways: first, by reducing a large quantity of ore with a single stamp; secondly, by obtaining this large capacity with small horse-power; thirdly, by reducing the wear and tear of shoes and dies to a minimum, said shoes and dies being very expensive in mountainous regions, where as a rule mines are located.

My invention therefore resides in the novel construction, combination, and arrangement of parts for the above ends hereinafter fully specified, and particularly pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improved stamp-mill. Fig. 2 is a side elevation thereof. Fig. 3 is a plan view of a modified form of the invention. Fig. 4 is a side elevation of said modification. Fig. 5 is a vertical section of a further modification, and Fig. 6 is a plan view of the same.

Referring to the drawings, 1 represents my improved mortar erected upon a suitable base or foundation and having on each side thereof an opening 3 in the lower portion of the mortar wherein to receive the screens through which the pulp is discharged. In the upper portion of the mortar are provided three feed-holes 4. Into said feed-holes 4 discharge chutes (not shown) from any suitable feed-

ers, which may be of any common construction. At the entrance of each feed-hole the outside wall thereof is formed with an inwardly-overhanging lip 5, (shown in Fig. 5,) which serves to contract the mouth of the feed-hole and to limit the size of the pieces of ore fed therethrough.

In the modification of the invention shown in Figs. 3 and 4 I provide a mortar with a feed-hole on each of the four sides thereof, and in the modification in Figs. 5 and 6 the mortar is circular in form and the ore is fed into separate feed-holes 4 all around the mortar, six such feed-holes being shown.

By the above construction the ore is fed equally onto the die 6, so that when the shoe 7 drops instead of using only one-quarter of the crushing area of the die, as in the old form of stamp-mills, the entire area is used. Hence the capacity is greatly increased by reason of this manner of feeding. For these and other reasons it is possible for me to reduce ores of a much lower grade with profit, as the size of the building is reduced, the foundations are much less expensive, the expense for power is reduced, and the wear and tear are greatly reduced.

I claim—

1. A stamp-mill mortar provided with stationary means for feeding the ore onto the die from the outside inward simultaneously from two opposite directions, whereby the ore is fed evenly upon the die, substantially as described.

2. A stamp-mill mortar provided with stationary means for feeding the ore onto the die inward simultaneously from all sides of the mortar, whereby the ore is fed evenly upon the die, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses.

WILLIAM A. MERRALLS.

Witnesses:

FRANCIS M. WRIGHT,
CECELIA POWNING.