No. 797,202. PATENTED AUG. 15, 1905.

C. J. HODGE.

STAMP MILL.

APPLICATION FILED MAY 13, 1901.

Fig. 1.

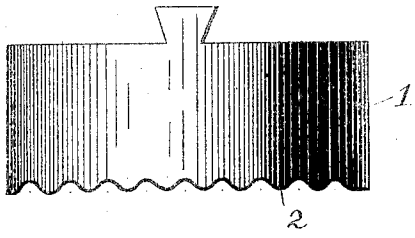


Fig. 4.

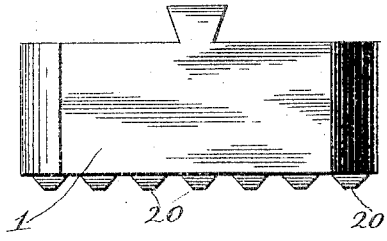


Fig. 2.

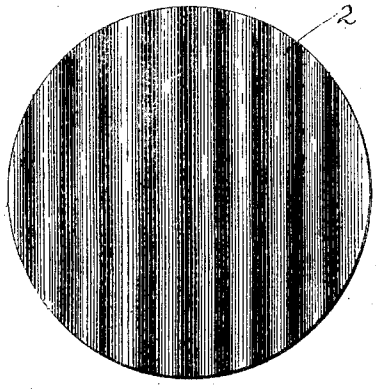


Fig. 5.

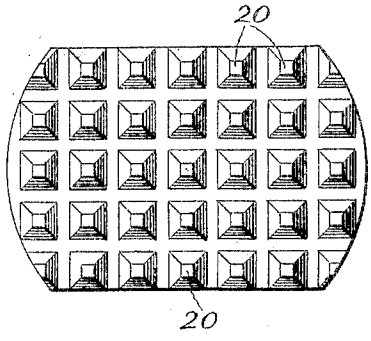
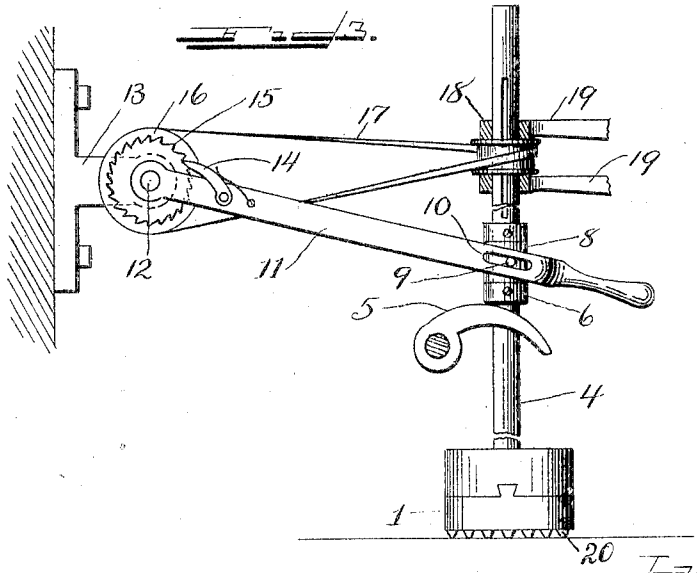


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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STAMP-MILL.

No. 797,202. Specification of Letters Patent. Patented Aug. 15, 1905.

Application filed May 13, 1901. Serial No. 59,946.

To all whom it may concern:

Be it known that I, CHARLES J. HODGE, a citizen of the United States, residing at Houghton, in the county of Houghton and State of Michigan, have invented certain new and useful Improvements in Stamp-Mills, of which the following is a full, clear, and exact specification.

My invention relates to stamp-mills for crushing or pulverizing ore and other substances; and it has for its primary object to so construct and operate the shoe that it will more minutely divide or pulverize the ore than heretofore.

With these ends in view my invention consists in certain features of novelty in the construction, combination, and arrangement of parts by which the said objects and certain other objects hereinafter appearing are attained, all as fully described with reference to the accompanying drawings, and more particularly pointed out in the claims.

In the said drawings, Figure 1 is a side elevation of my improved form of stamp-shoe. Fig. 2 is a face view thereof. Fig. 3 is a side elevation, partly broken away, of the mechanism for operating the shoe. Fig. 4 is a view similar to Fig. 1, showing a modified form of shoe; and Fig. 5 is a face view thereof.

1 is the shoe, which may be of any suitable form in plan view, but which in the particular example given in the drawings is circular, as shown in Fig. 2. The face of this shoe is provided with grooves or corrugations 2, extending from side to side thereof, so that at each stroke of the shoe the material will be divided into parallel or longitudinal strips, and by slightly rotating the shoe on its vertical axis after each stroke these longitudinal strips of the material will be again divided transversely or at an angle, causing the corrugations to strike and pulverize the larger particles which escaped crushing at the previous stroke, and so on by slightly rotating the shoe prior to each stroke every particle of material presented to the face of the shoe will be at some time struck by one of the ribs or prominent portions of the corrugations. In order that the shoe may thus rotate on its vertical axis automatically as the shoe rises and falls, it may be secured in any suitable way to a stem 4, which is raised by a tappet-arm 5 and is allowed to fall in the usual or any suitable manner, said tappet-arm engaging a collar 6, secured to the stem. Between this collar 6 and a companion collar 7 is arranged a loose collar 8, having a pin 9 projecting from the side thereof and engaging in a slot 10 in one end of a lever or arm 11, whose other end is pivoted at 12 to any suitable bracket or support 13 and carries a pawl 14, which engages a ratchet-wheel 15, connected to a pulley 16. This pulley is in turn connected by twisted belt 17 to the stem 4, which is rotatable on its vertical or longitudinal axis. This connection may be effected by means of a pulley 18, splined on the stem 4 and receiving rotation from the belt 7 during each upward stroke of the lever or arm 11. The pulley 18 may be held against vertical movement with the stem 4 by suitable stops 19, supported independently of the stem in any suitable way.

In the form of my invention shown in Figs. 4 and 5 the parallel corrugations are crossed by other corrugations at right angles, so as to form a pebbled surface 20.

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

1. In a stamp-mill the combination of a stamp-shoe having its face provided with substantially parallel corrugations extending from side to side and means for rotating said shoe on its vertical axis prior to its downward stroke, substantially as set forth.

2. In a stamp-mill, the combination of a stamp-shoe having its lower surface provided with parallel corrugations extending throughout the length of the shoe, and means for raising and lowering said shoe and imparting a rotary step-by-step movement thereto.

3. In a stamp-mill, the combination of a stamp-shoe having a flat lower surface provided with continuous corrugations extending throughout the length of the shoe, a flat surface arranged in a horizontal plane upon which said shoe is adapted to stamp and means for raising and lowering said shoe bodily away from the latter said surface and imparting a rotary step-by-step movement thereto while it is entirely clear or elevated from the said surface upon which it stamps.

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Witnesses:

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