

M. B. DODGE.

Ore Mill.

No. 54,512.

Patented May 8, 1866.

Fig. 1.

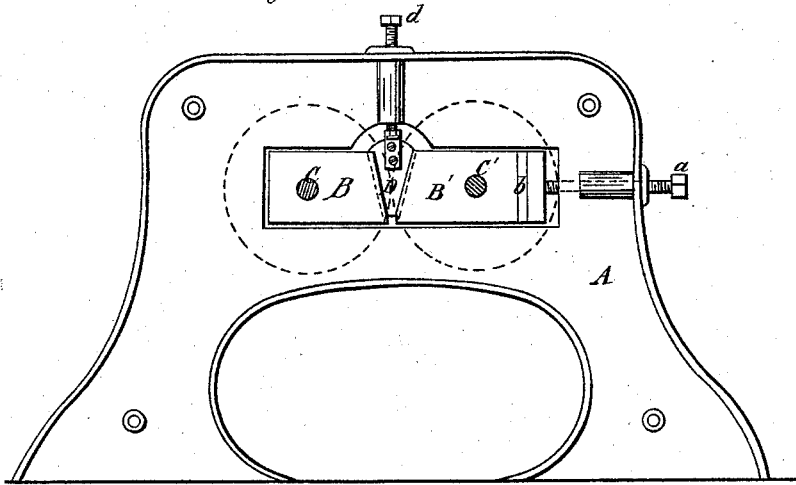


Fig. 2.

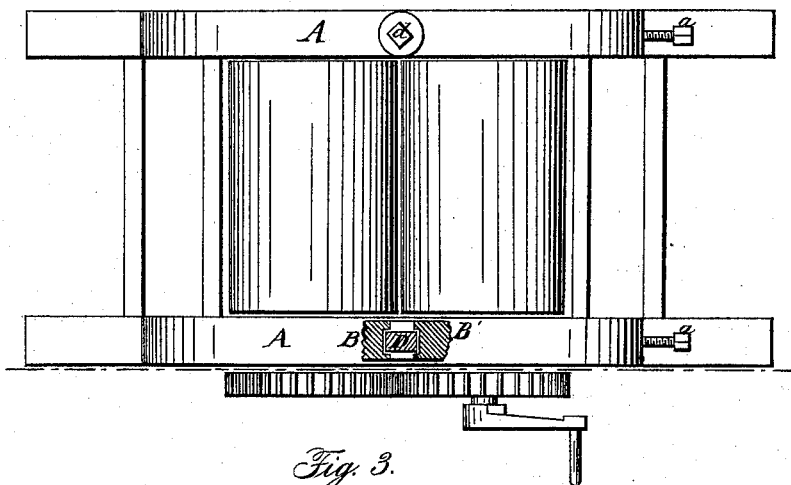
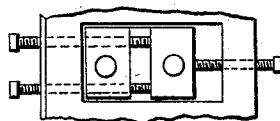


Fig. 3.



Witnesses:

Wm. H. Houghton
C. L. Spruff

Inventor:

M. B. Dodge

UNITED STATES PATENT OFFICE.

M. B. DODGE, OF NEW YORK, N. Y.

IMPROVEMENT IN QUARTZ-CRUSHERS.

Specification forming part of Letters Patent No. 54,512, dated May 8, 1866.

To all whom it may concern:

Be it known that I, M. B. DODGE, of the city, county, and State of New York, have invented a new and useful Improvement in Crushing-Rollers; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a sectional side elevation of this invention. Fig. 2 is a plan or top view of the same.

Similar letters of reference indicate corresponding parts.

This invention consists in the arrangement of adjustable wedges, or their equivalents, in combination with the boxes of the crushing-rollers, one or both of which are made adjustable in such a manner that by the action of said wedges the distance between the crushing-faces can be adjusted with the greatest nicety, and that all the pressure exerted by the set-screws bearing on the adjustable boxes of said crushing-rollers, and also the rebound of the springs acting on the backs of said adjustable boxes, is sustained by the wedges, and thereby the crushing-faces of the rollers are relieved from all unnecessary strain, rendering the same free in their motions and less liable to wear out than rollers of the ordinary construction.

A represents a frame, of cast-iron or any other suitable material, which forms the bearings for the boxes B B', supporting the axles C C' of the crushing-rollers. One pair of boxes, B, are stationary, and the other pair, B', are made adjustable by means of set-screws a, and between the set-screws and boxes pieces b of india-rubber or other elastic material are interposed to render at least one of the crushing-roll-

ers yielding, and allow it to give in case a piece of iron or other substance too hard to be crushed gets in between the crushing-faces of the rollers. The inner ends of the boxes B B' are tapering, and wedges D are fitted in between them, as clearly shown in Fig. 1 of the drawings. These wedges are made adjustable by set-screws d, and by forcing them down the crushing-faces of the rollers are set apart, whereas by raising them the crushing-faces are allowed to close up. By these means the crushing-faces can be set as close as may be desirable without permitting them to bear against each other, all the strain of the set-screws a, and also the rebound of the springs b, being sustained by the wedges D.

Instead of using wedges, set-screws might be passed through the boxes B and made to bear with the points on the boxes B', to keep the crushing-rollers at the proper distance apart, as seen in Fig. 3. This arrangement I consider a mechanical equivalent to the wedges.

By this arrangement the power required to drive the crushing-rollers is much reduced, and furthermore their crushing-faces are prevented from wearing out as quick as those of ordinary crushing-rollers, and the rollers can be adjusted with the greatest accuracy, according to the fineness to which the material to be crushed is to be reduced.

What I claim as new, and desire to secure by Letters Patent, is—

The combination of the wedges D with the boxes B of crushing-rollers, when arranged to limit the approach of said rollers, as herein described.

M. B. DODGE.

Witnesses:

M. M. LIVINGSTON,
W. HAUFF.