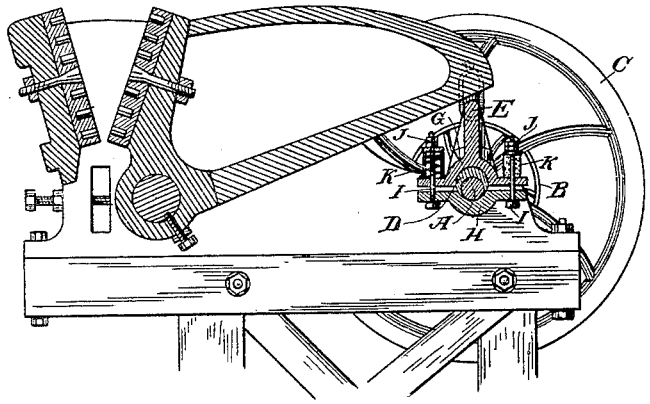
(No Model.)

M. B. DODGE.

ROCK BREAKER.

No. 419,246. Patented Jan. 14, 1890.



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UNITED STATES PATENT OFFICE.

MILES B. DODGE, OF SAN FRANCISCO, CALIFORNIA, ASSIGNOR TO PARKE & LACY, OF SAME PLACE.

ROCK-BREAKER.

SPECIFICATION forming part of Letters Patent No. 419,246, dated January 14, 1890.

Application filed December 22, 1887. Serial No. 258,769. (No model.)

To all whom it may concern:

Be it known that I, MILES B. DODGE, of the city and county of San Francisco, State of California, have invented an Improvement in a Rock-Breaker; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to certain improvements in rock-breakers; and it consists in the construction and combination of devices, which I shall hereinafter fully describe and claim.

The figure illustrates a sectional view of a rock-breaker embodying my invention.

My invention is applicable to that class of rock-breakers in which one or more reciprocating jaws are caused to move to and from each other while the rock is passed between them, this action of the jaw being effected by means of an eccentric upon a driven shaft, and the eccentric is connected with the moving jaw of the rock-breaker by connecting rods or arms in any of the well-known ways. As all the wear and strain of the work is brought upon the eccentric at one point of its circumference while it is forcing the jaw forward against the material taken between the two jaws, this eccentric soon becomes worn, so as to be untrue, and if the box is left loose it will pound and greatly add to the wear and noise. If under these circumstances any attempt should be made to take up wear upon one side, the box would be broken on account of the irregular shape of the eccentric.

A is the main shaft, having a pulley B, to which the power is applied to rotate it, and a balance-wheel C, as shown.

D is the eccentric, formed or secured upon the shaft, and having a sufficient throw to move the jaw of the rock-breaker as much as may be desired. The shaft turns in suitable journal-boxes in each end, and the eccentric has a box inclosing it, and a connecting rod or beam E, through which motion is imparted directly to the jaw of the rock-breaker, as shown in the figure. The box inclosing the eccentric consists of two parts G and H, these parts being held together by bolts I with adjusting-nuts J. In order to allow the cap of the box to accommodate itself to such irregularities as may occur in the form of the eccentric by reason of the unequal wear upon its surface, I employ spiral, rubber, or other elastic springs K, which surround the bolts I between the nuts J and the flange of the box. In the figure the bolts are shown as passing through the flanges of the box and the corresponding flanges of the cap. It will be manifest that these elastic buffers may be made of any material which will give sufficient elasticity for the purpose, and they serve to hold the cap closely against the eccentric, so that as it rotates within the box it will always have a perfect fit, while the cap is allowed sufficient motion to accommodate itself to the irregular shape of the eccentric caused by the unequal wear.

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

A rock-breaker having the fixed and movable jaws, an eccentric or crank-shaft with intermediate connecting mechanism whereby the movable jaw is caused to approach to and recede from the fixed jaw, in combination with bearings in which the eccentric turns, each bearing being composed of two parts, one of which is rigidly connected to the eccentric rod or plate and the second yieldingly connected to the first by means of bolts and intermediate springs, so as to present a rigid bearing when the jaws approach each other and a yielding or elastic one when they are separated, substantially as described.

In witness whereof I hereunto set my hand.

MILES B. DODGE.

Witnesses:
S. H. NOURSE,
H. C. LEE.