G. D. Crocker,

Ore Stamp.

No. 108,570. Patented Oct. 25, 1870.

Fig. 1.

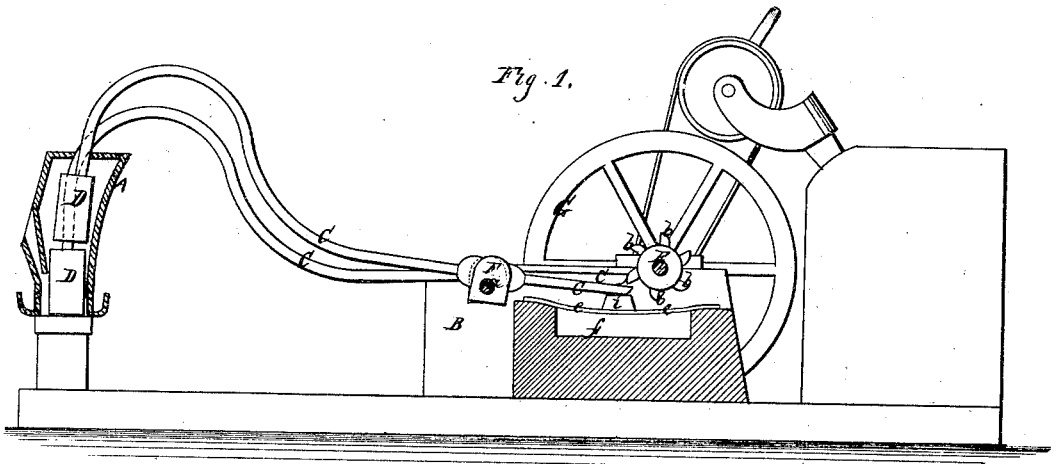
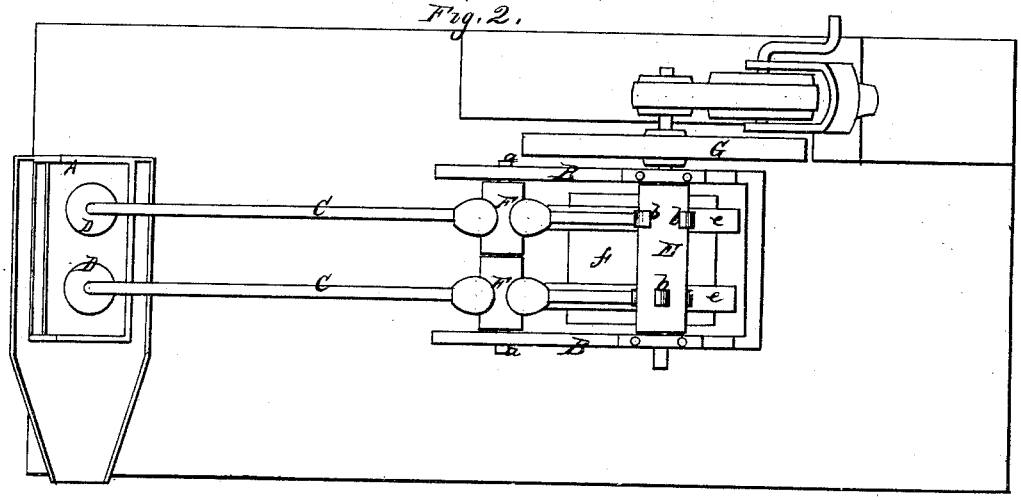


Fig. 2.



Witnesses.

Geo. H. Strong

H. Ratliff Boone

Inventor

Geo. D. Crocker.

United States Patent Office.

GEORGE D. CROCKER, OF VIRGINIA CITY, NEVADA.

Letters Patent No. 108,570, dated October 25, 1870.

IMPROVEMENT IN STAMP BATTERIES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that I, GEORGE D. CROCKER, of Virginia City, county of Storey, State of Nevada, have invented an Improved Stamp-Battery; and I do hereby declare the following description and accompanying drawing are sufficient to enable any person skilled in the art or science to which it most nearly appertains to make and use my said invention or improvement without further invention or experiment.

My invention relates to certain improvements in the construction and operation of stamps, such as are used for pulverizing quartz or metal-bearing rock in order to reduce it to a proper degree of fineness to permit of the extraction of the metal by amalgamation or otherwise; and

It consists in constructing the stamps so that they can be operated upon the principle of the trip-hammer, thereby rendering the stampers more effective, with a less expenditure of power than the ordinary stamps, which are lifted vertically by cams and allowed to drop upon the ore.

In order to explain my invention so that others will understand its construction and operation, reference is had to the accompanying drawing forming a part of this specification, in which—

A represents the mortars of my battery, which is constructed in any manner suitable to accommodate the style and movement of the stamps.

B is a box or frame-work, which is located a short distance in the rear of the mortar and firmly secured in place.

Bearing in the sides of this box, and near the front end, is a fixed shaft, *a*, which serves as a fulcrum for the movement of the stamps.

C C are long rods or arms of suitable strength, each being provided with a transverse hub, F, through which the fixed shaft *a* passes.

These hubs are secured upon the rods near the rear end, leaving the short arm or rear end to project toward the rear of the box B.

The long arms of the rods C project directly forward, and are curved, as shown, so their front ends shall pass down through openings in the top of the mortar.

To this end of the rods the stamps D are secured, so that the rise and fall of the arm will cause the stamps to strike upon the dies or rock in the mortar.

Near the rear end of the bar B, and having its journals bearing in its opposite sides, is a cam-shaft, E.

Secured to or formed upon this cylinder are projections or cams, *b*, arranged in such a position as to strike the extremity of the short arm of the lever or rod C, and by depressing it cause the arms to turn about their fulcrums and thus lift the stamps at the opposite end.

After the projections have passed around sufficiently to free the lever, the weight of the stamp at the extremity of the long arm of the lever, in combination with springs, *e*, which will be hereafter described, causes the stamps to fall upon the ore with sufficient force to crush it.

A recess, *f*, is made in the bottom of the box B, and straight wooden or other springs, *e*, are placed across it, directly beneath and parallel with the short arms of the levers C.

Secured upon these springs, in the proper position for giving the greatest reactionary force are blocks, *i*, against which the short arms strike before being fully depressed by the projections, so that when they are released the force of the springs will be added to the weight of the stamps in giving the blow.

G is a fly-wheel, which is secured upon the spindle of the cam-shaft E.

The cylinder can be driven by any suitable power.

By this manner of constructing and operating stamps for crushing rock, I am able to secure greater crushing capacity with a less expenditure of power than is accomplished by any other method with which I am acquainted.

The number of cams on the shaft E can be increased so as cause the stamp to strike with great rapidity and force.

Any number of stamps can be operated inside the mortar from the same cylinder.

Having thus described my invention,

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

The stamps D, in combination with the curved rods or arms C, provided with hubs F, fulcrum *a*, springs *e*, blocks *i*, and cams *b*, upon shaft E, when constructed and arranged for operation substantially as shown and described.

In witness that the above-described invention is claimed by me, I have hereunto set my hand and seal.

GEORGE D. CROCKER. [L. S.]

Witnesses:

GEO. H. STRONG,

W. RATLAFF BOONE.