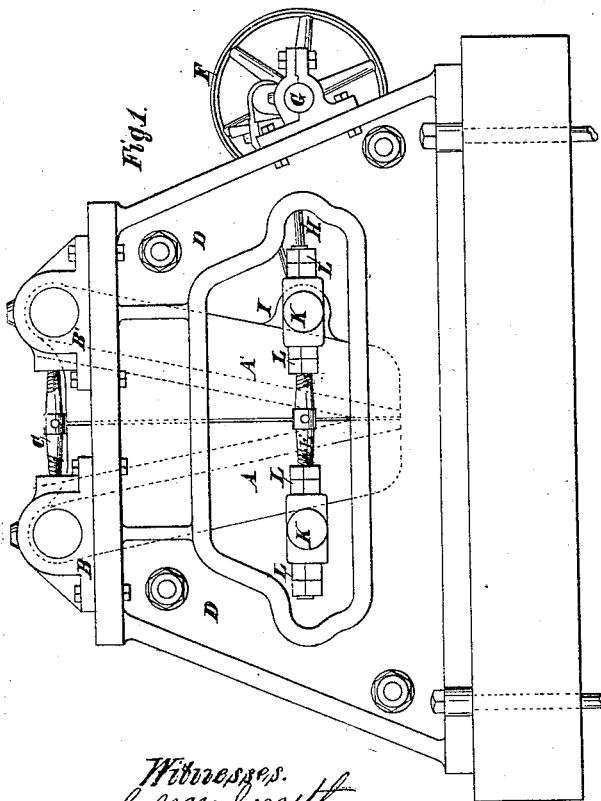
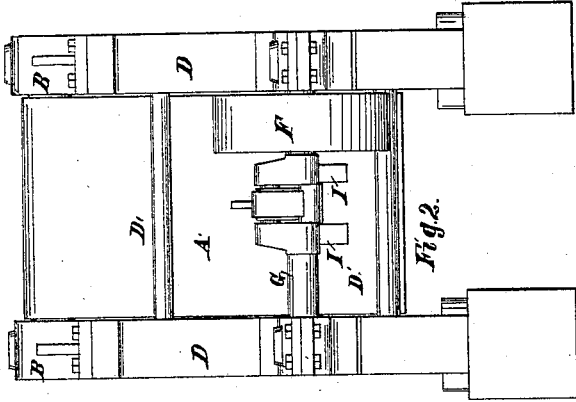


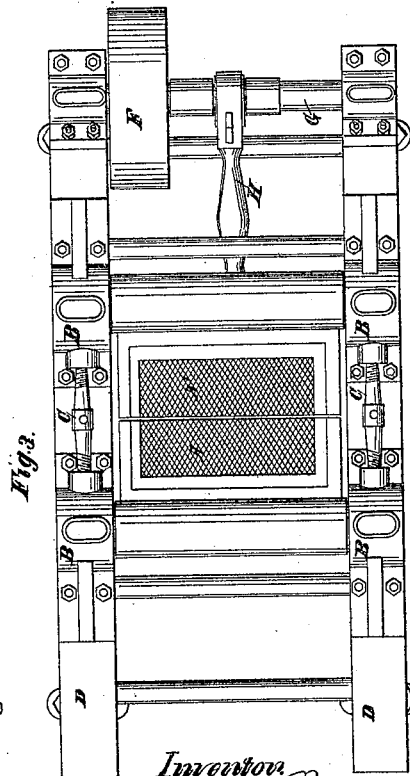
G. K. PETERSON.
QUARTZ CRUSHER.

No. 46,936.

Patented Mar. 21, 1865.



Witnesses.
C. M. Smith
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UNITED STATES PATENT OFFICE.

GEORGE K. PETERSON, OF SAN FRANCISCO, CALIFORNIA.

IMPROVEMENT IN QUARTZ-CRUSHERS.

Specification forming part of Letters Patent No. **46,936**, dated March 21, 1865; antedated March 3, 1865.

To all whom it may concern:

Be it known that I, GEORGE K. PETERSON, of the city and county of San Francisco, State of California, have invented a new and Improved Machine for Crushing and Pulverizing Quartz, Stone, and other Hard Substances; and I do hereby declare that the within is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is an elevation. Fig. 2 is an end view. Fig. 3 is a plan.

The nature of my invention consists in providing a machine for crushing ores or breaking stones of any degree of fineness desired, from a size suitable for macadamizing roads to that of an impalpable powder, so arranged and constructed as to give the largest amount of strength where the greatest strain comes.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the accompanying drawings, D D are the sides of the frame, which may be made in the form shown, or in such other form as will answer the purpose, and, connected by the bars D', making a strong frame. A A' are two vibrating crushing-plates made in the form shown in the drawings and provided with journals at their upper corners, fitted to work in the side of the frame or boxes B B' on the frame. I contemplate that one of the boxes may be made movable on the frame to adjust the crushing-plates to each other. The crushing-plates are provided with journals K K near their lower edges, which journals are provided with boxes connected by the rods E, furnished with nuts L L, to adjust the plates to crush the materials coarse or fine, as required. The journals K K are perforated, and the holes elongated perpendicularly, so that the rod E can vibrate in them. The plate A' has lugs I I on its back side, which lugs are perforated for the pin which passes

through them and the connecting-rod H, which connects the plate to the crank G, which vibrates the plates when the machine is operated. The crank G turns in boxes on the sides D, and is provided with a pulley, F, for a band from some moving power to operate the machine.

The operation of the machine is as follows: The power being applied to the crank-shaft G by pulleys, gearing, or any usual manner of working such machines, and by means of the connecting-rod H a vibratory motion is transmitted to the crushing-plate A', which being connected with the crushing-plate A by means of the side rod E before mentioned a grinding and crushing motion is produced and the quartz ore or other substance being introduced into the box formed by the two crushing-plates A A' is reduced to any degree of fineness, according to the distance which the plates have been set apart.

In the construction of my machine I make the frame of iron, also the crushing-plates. To prevent these plates from wearing out they are fitted with hard white iron shoes, which may be easily replaced when worn. By this arrangement I am not compelled to substitute new jaws, which in machines of this magnitude are very expensive and weighty.

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

1. The crushing-plates A A', connected and arranged to operate substantially as described, for the purposes set forth.

2. The mode described of connecting the journals K K of the plates A A', or such an equivalent device as will enable the operator to lengthen or shorten the rods which connect the journals K K.

GEO. K. PETERSON.

Witnesses:

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