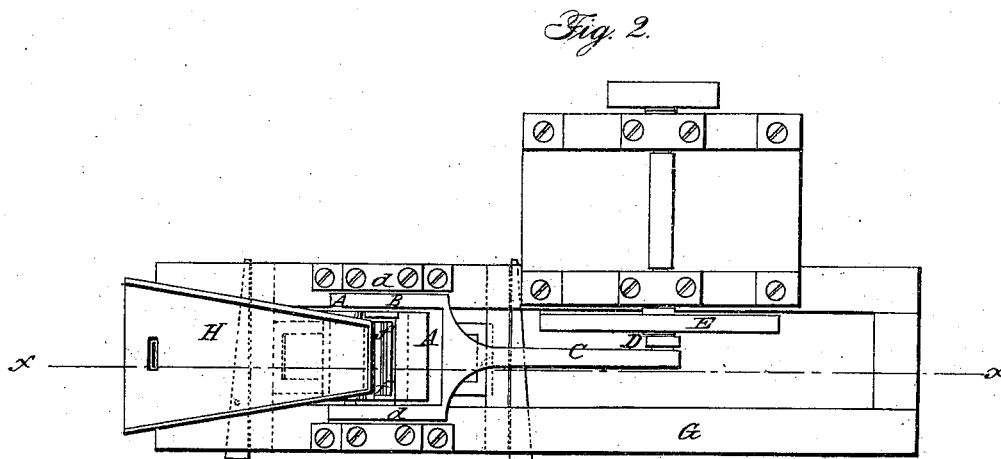
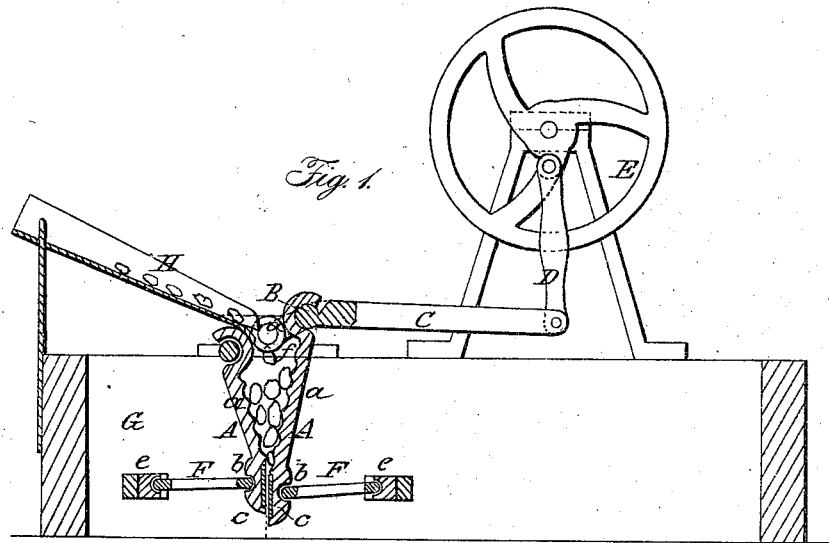


J. FLECK.
Ore Crusher.

No. 52,837.

Patented Feb. 27, 1866.



Witnesses:

Chas. Fusch
Wm. Grein

Inventor:

Jno. Fleck
By *[Signature]*
Atty

UNITED STATES PATENT OFFICE.

JOHN FLECK, OF SANTA CRUZ, CALIFORNIA.

IMPROVEMENT IN QUARTZ-CRUSHERS.

Specification forming part of Letters Patent No. 52,837, dated February 27, 1866.

To all whom it may concern:

Be it known that I, JOHN FLECK, of Santa Cruz, in the county of Santa Cruz and State of California, have invented a new and Improved Device for Crushing Quartz; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 is a side sectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate like parts.

This invention relates to a new and improved machine for crushing quartz; and it consists in the employment or use of two jaws arranged to operate with a reciprocating motion, substantially as hereinafter fully shown and described.

A A represent two jaws, which are of iron, the upper parts, *a*, being slightly inclined from a vertical plane and corrugated at their inner sides transversely, the upper parts of the two jaws being inclined in opposite or reverse directions. The lower parts, *b*, of the jaws have a vertical position, and in their inner surfaces steel dies *c* are inserted, as shown clearly in Fig. 1. The upper ends of the parts *a* of the jaws are of hook form, and are fitted over the ends of a walking-beam or oscillating frame, B, which works on journals *d d*, and has a bar or arm, C, projecting from it, and is connected by a pitman, D, to a crank-wheel, E. The lower parts, *b b*, of the jaws A A have their outer surfaces grooved transversely to receive the inner ends of frames F F, the outer ends of which are fitted in stationary sockets *e e* in the framing G of the device, as shown clearly in Fig. 1. The upper ends of the jaws are kept in place on the frame or walking-beam B by means of small wheels *f* on the inner ends of the journals *d d* of said frame or beam.

From the above description it will be seen that as the shaft of the wheel E is rotated a reciprocating motion will be communicated to the jaws A A, and also a lateral motion, and the rock to be crushed fed by means of a trough, H, between the upper parts, *a a*, of the jaws, where it is crushed or reduced by the action of said jaws and pulverized in passing down between the dies *c c* of the lower parts, *b b*, of the jaws.

The frames F F keep the dies *c c* to their work and effect the pulverizing of the rock, while the upper corrugated parts, *a a*, serve as crackers to reduce the rock and prepare it for the action of the dies *c c*. The dies *c c*, when worn by use, may be readily removed and replaced by new ones.

The combined vertical and lateral motions of the jaws are given them through the medium of the oscillating frame or walking-beam B, and the frames F F cause the jaws to operate in the most favorable manner, giving them a crushing and a grinding action well calculated to release and pulverize the rock with a moderate expenditure of power and with but little wear and tear of the device.

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

1. The two jaws A A, provided with two upper inclined parts, *a a*, and two lower vertical parts, *b b*, in connection with the oscillating frame or walking-beam B and frames F F, all arranged to operate in the manner substantially as and for the purpose set forth.

2. The combination of the jaws A A, oscillating frame B, and the wheels *f f*, for securing the upper ends of the jaws in the frame, as herein specified.

The above-described specification of my invention is signed by me this 1st day of June A. D. 1865.

JOHN FLECK.

Witnesses:

D. W. SCOVILLE,
L. LOBER.