

C. P. STANFORD.  
Feeding Device for Quartz Crushers.

No. 21,030.

Patented July 27, 1858.

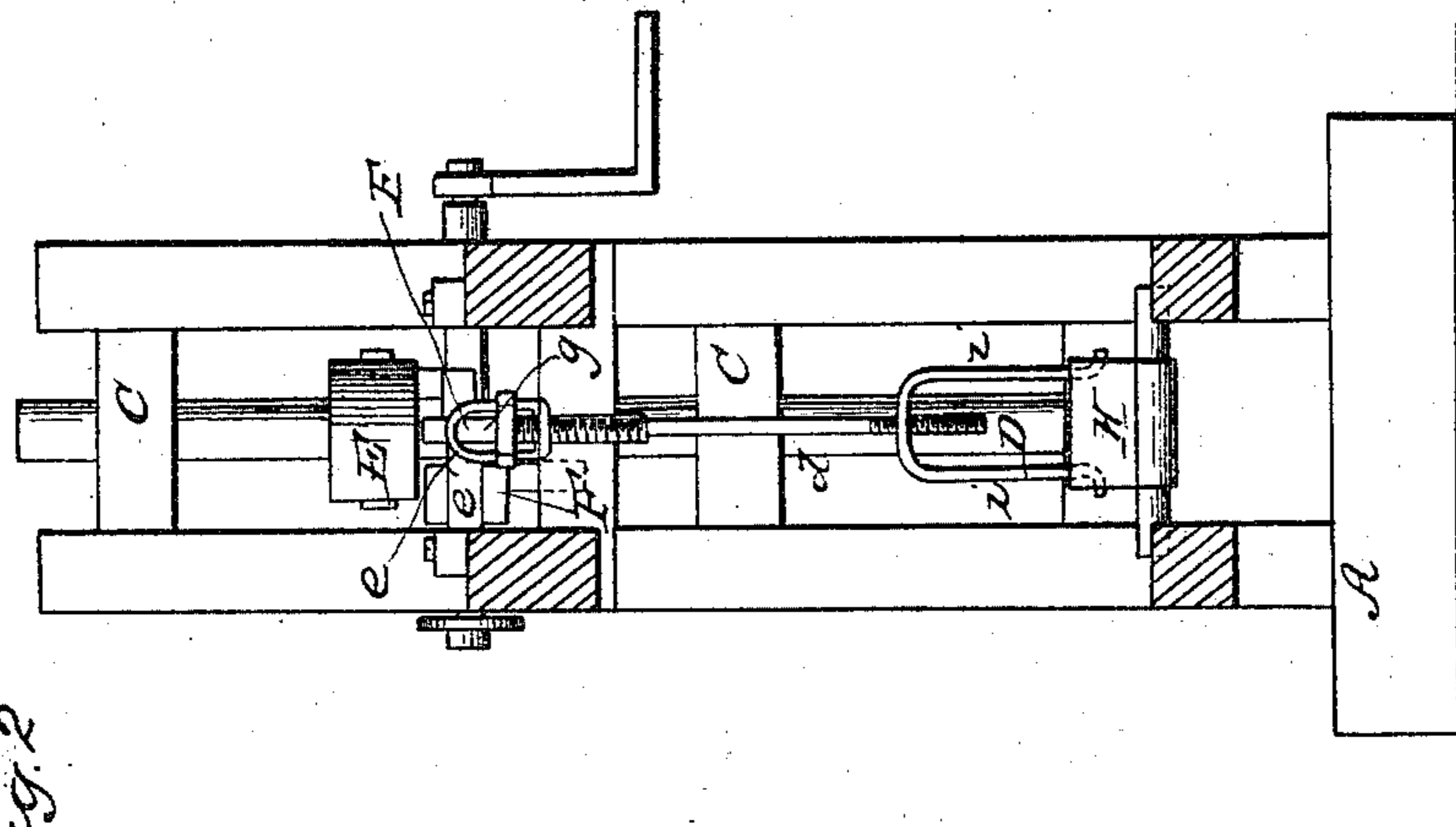


Fig. 2

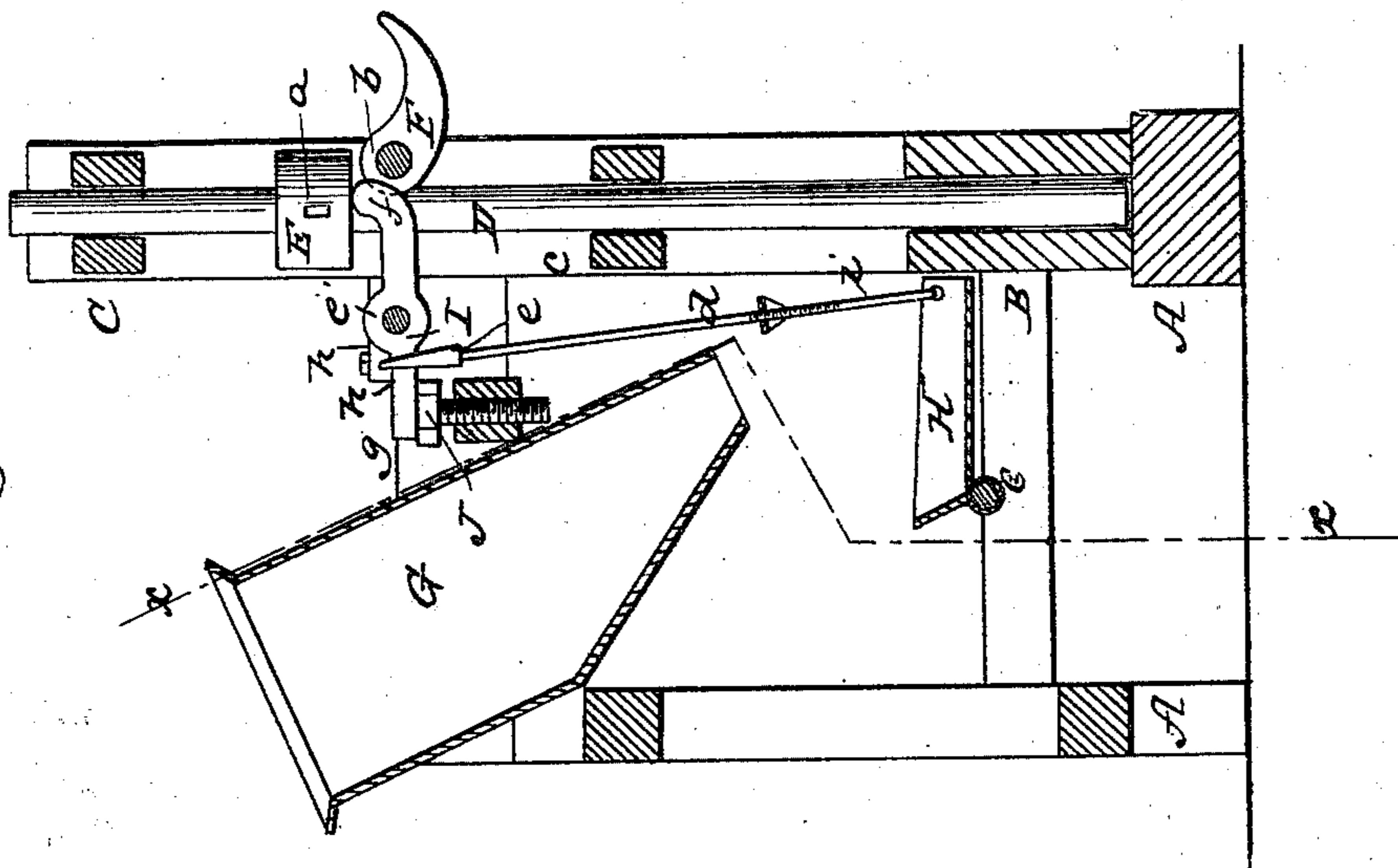


Fig. 1

# UNITED STATES PATENT OFFICE.

C. P. STANFORD, OF MOUNT GREGORY, CALIFORNIA.

FEEDING QUARTZ, &c., TO MACHINES FOR CRUSHING AND GRINDING THE SAME.

Specification of Letters Patent No. 21,030, dated July 27, 1858.

*To all whom it may concern:*

Be it known that I, CHARLES POWEL STANFORD, of Mount Gregory, in the county of El Dorado and State of California, have invented certain new and useful Improvements in Devices for Feeding Quartz and other Substances to Machines for Crushing the Same; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1, is a vertical longitudinal central section of my improvement. Fig. 2, is a vertical transverse section of the same, *x, x*, Fig. 1, indicating the plane of section.

Similar letters of reference indicate corresponding parts in the two figures.

This invention consists in arranging a lever in connection with the shoe, from which the quartz or other substance is fed to the pan or mortar in such a manner, that it is agitated by the dropping of the stamper, whenever the crushing surfaces come close enough into contact so as to make a fresh supply desirable.

To enable others skilled in the art to fully understand and construct my improvement, I will proceed to describe it.

A, is a frame which forms the support for the pan or mortar B, and the cross ties C, C, form the guides for the stem D, of the stamper.

E, is a ring or collar forming a tappet, which is rigidly attached to the stem D, by means of a wedge *a*, and a cam or wiper F, which is attached to a horizontal shaft *b*, serves to lift the stamper by striking against the tappet E.

G, is the hopper box from which the quartz or other substance is carried to the shoe H. The back end of this shoe rests on a rock shaft *c*, and its front end is suspended by means of a rod *d*, which terminates in a loop *e*, and hangs on a lever I, which is attached to a rocking shaft *e'*, in such a position, that its front end *f*, comes in contact with the tappet E, on the stem D, whenever said tappet is allowed to descend to a certain depth. The back end *g*, of the lever I, rests on a set screw J, which serves to adjust the same. Several notches *h*, are made in the

upper edge of the lever I, which serve to keep the loop *e*, in the proper position. The lower end of the rod *d*, is provided with a screw thread, screwing into a stirrup *i*, whereby the shoe may be more or less inclined according to the substance to be fed to the mortar.

The operation is as follows:—The quartz or other substance is brought into the shoe H, through the hopper G, and the shaft *b*, is revolved so that the wiper F, strikes against the tappet E, and lifts the stamper up. In dropping down the tappet E, strikes the front end *f*, of the lever I, thereby agitating the shoe H, and causing some of the quartz or other substance to drop into the mortar. As soon as a certain quantity of quartz has been fed to the mortar by these means, the stamper is prevented by the lumps under its crushing surface to descend low enough to bring the tappet E, in contact with the lever I, and no more quartz or other substance is dropped from the shoe into the mortar until the substance contained in this latter is fine enough to allow the stamper in descending to bring the tappet E, in contact with the lever I. The amount of feed may be regulated by the screw J, and it is easily understood, that by raising the head of said screw, the feed is diminished, while by lowering said head and consequently raising of the front end *f*, of the lever I, the feed is increased. The degree to which the shoe H, is agitated may be further increased or diminished by shifting the loop *e*, farther from or nearer to, the center of the rocking shaft *e'*.

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

The arrangement herein described of a lever I, which is adjustable by a set screw J, in connection with a shoe H, in such a manner, that said shoe is agitated by the dropping of the stamper and some of the quartz or other substance is caused to fall into the pan or mortar at such a time and in such a quantity as desired.

CHARLES P. STANFORD.

Witnesses:

THOS. C. KELLAM,  
JAMES J. SIMRIL.