

(No Model.)

D. KENNEDY, Jr.
CLAY GRINDING MACHINE.

No. 407,219.

Patented July 16, 1889.

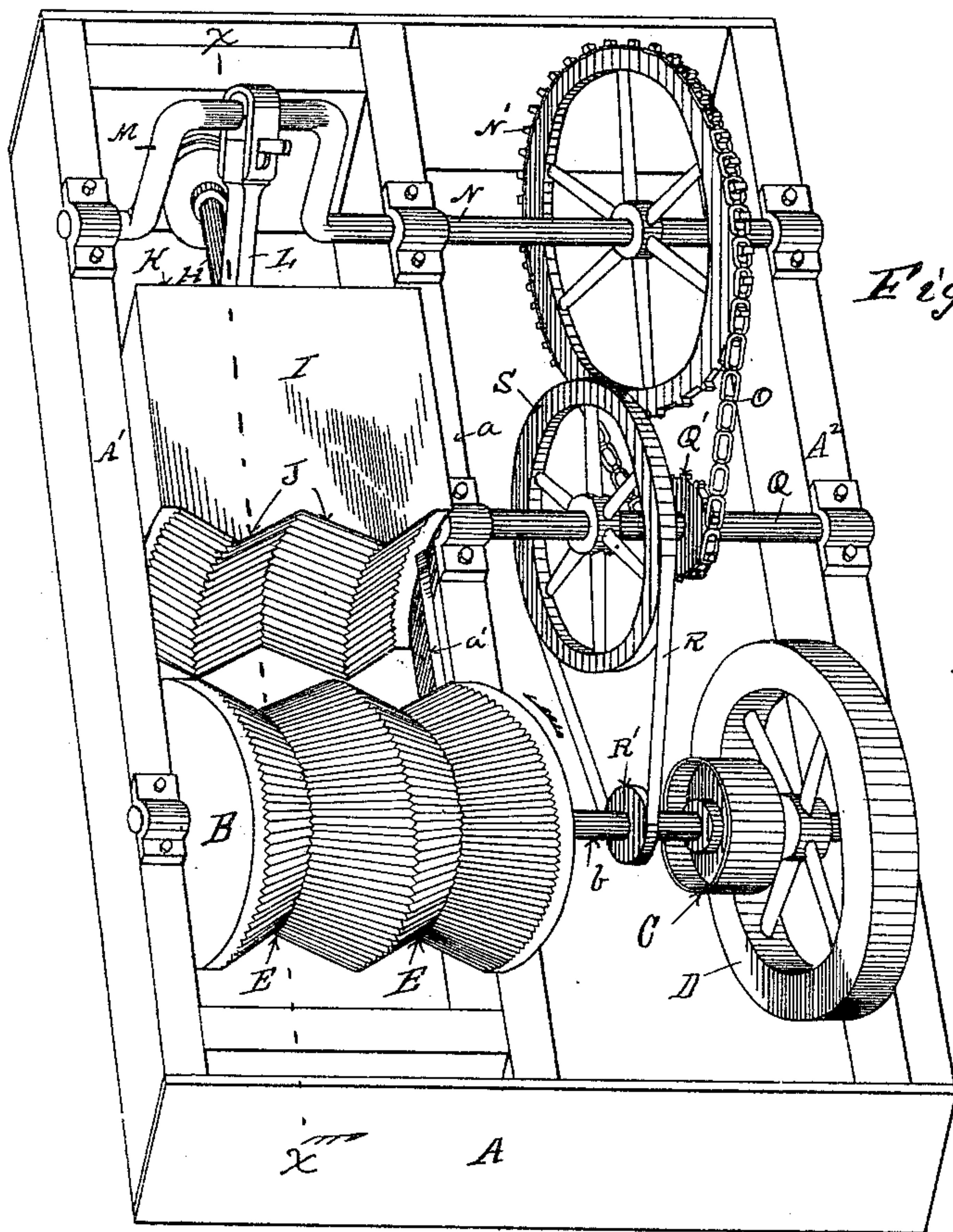


Fig. 1.

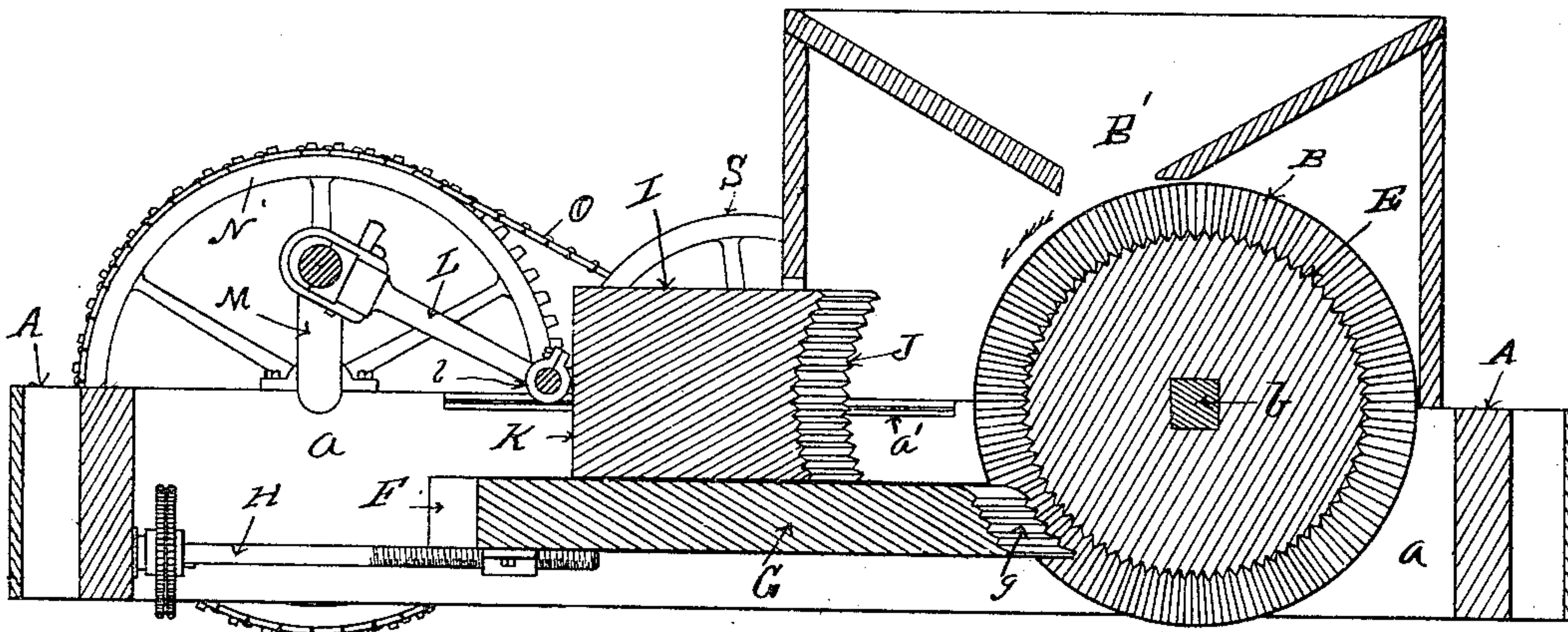


Fig. 2.

Witnesses.
G. A. McDannell.
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By *W. Stinson*

UNITED STATES PATENT OFFICE.

DAVID KENNEDY, JR., OF ERIE, PENNSYLVANIA, ASSIGNOR OF ONE-HALF
TO ERASTUS B. LIPTON, OF SAME PLACE.

CLAY-GRINDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 407,219, dated July 16, 1889.

Application filed August 20, 1888. Serial No. 283,265. (No model.)

To all whom it may concern:

Be it known that I, DAVID KENNEDY, JR., a citizen of the United States, residing at Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Clay-Grinding Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, forming part of this specification.

My invention consists in the improvements in clay-grinding machines hereinafter set forth and explained, and illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of my machine with the hopper removed. Fig. 2 is a longitudinal section of same on line $x x$ in Fig. 1.

Like letters refer to like parts in both of the figures.

In the construction of my invention shown, A is the frame-work of the machine, in which is mounted a corrugated grinding cylinder or roller B, the shaft b of which is provided with a driving-pulley C and fly-wheel D. The cylinder B is preferably made with radial V-shaped depressions E E, as and for the purpose hereinafter set forth.

In grooves F in the side piece A' and the center piece a of the frame A, I place an adjustable grinding-jaw G, adapted to be moved toward and away from the grinding-cylinder B by means of an adjustable screw H, the end g of the jaw G being grooved vertically and corrugated horizontally to correspond with the grooves E and corrugations in the cylinder B, so as to form a grinding-surface therewith. On the top of the jaw G, I place a reciprocating block I, which travels on the tracks a' . The end J of the block I is likewise grooved vertically and corrugated horizontally to correspond with the grooves E and corrugations in the cylinder B. At the point l on the opposite end K of the block I, I secure a pitman L, which connects with and is operated by a crank M on the shaft N,

which is supported at one end on the side of the frame A², driven by the sprocket-chain O from the wheel Q' on the intermediate shaft Q, which is also supported at one end on the side of the frame A². Said shaft Q is driven by a belt R from a pulley R' on the main shaft b to the belt-wheel S on the shaft Q. The object of using a belt at this point is so that in case the cylinder B, which runs at a high rate of speed, catches a stone between it and the face of the reciprocating block I, the belt R will slip before the pressure is so great upon the cylinder as to cause a breakage of the parts.

On the frame A, over and inclosing the upper part of the cylinder B, I secure a hopper B', into which the clay is fed to the machine.

In operation the grinding-jaw G is set up as close to the face of the cylinder as desired. The clay is then fed into the hopper B'. The grinding-cylinder B, rotating in the direction of the arrow at a high rate of speed, carries the clay down and out between the roller and the end g of the grinding-jaw G. Meanwhile the reciprocating block I is being moved by the crank M up to and back from the cylinder B, so that any lumps or small stones are broken up between the corrugated end J thereof and the cylinder B, from whence they pass down and out between the end g of the jaw G and the cylinder B, where they are reduced to the proper degree of fineness.

Having thus fully described my invention, so as to enable others to make and use the same, what I claim as new, and desire to secure by Letters Patent of the United States, is—

1. The combination, in a clay-grinding machine, of a rotating corrugated grinding-cylinder and a corrugated grinding-jaw, with a reciprocating crushing-block operating on tracks above the grinding-jaw, substantially as and for the purpose set forth.

2. The combination, in a clay-grinding machine, of an annularly-grooved and longitudinally-corrugated grinding-cylinder, with an adjustable vertically-grooved and horizontally-corrugated grinding-jaw and a vertically-grooved and horizontally-corrugated reciprocating crushing-block, operating upon

tracks above the grinding-jaw, substantially as and for the purpose set forth.

3. The combination, in a clay-grinding machine, of a grinding-cylinder having V-shaped radial grooves and longitudinal corrugations therein, with a grinding-jaw having transverse corrugations and vertical V-shaped grooves to correspond with the radial grooves in the grinding-cylinder, and a reciprocating crushing-block having transverse corrugations and vertical V-shaped grooves to correspond with the radial grooves in the grinding-cylinder, substantially as and for the purpose set forth.

4. The combination, in a clay-grinding machine, of the grooved and corrugated grind-

ing-cylinder B, the hopper B', and the adjustable grinding-jaw G, having a grooved corrugated grinding-face *g*, with the reciprocating block I, having a grooved and corrugated crushing-face J, the pitman L, crank M, and shaft N for operating said reciprocating block I, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

DAVID KENNEDY, JR.

Witnesses:

H. M. STURGEON,
WM. P. HAYES.