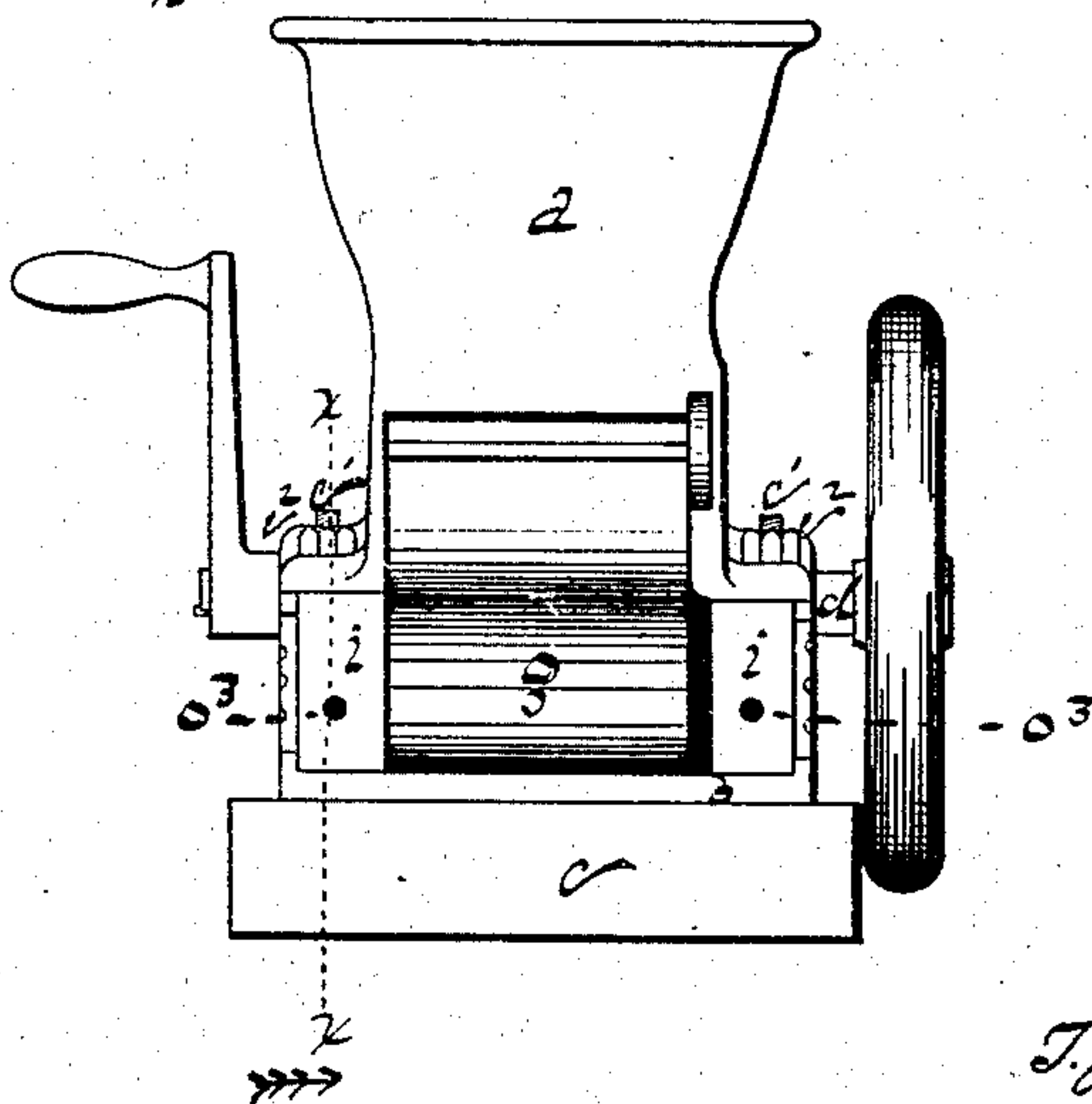
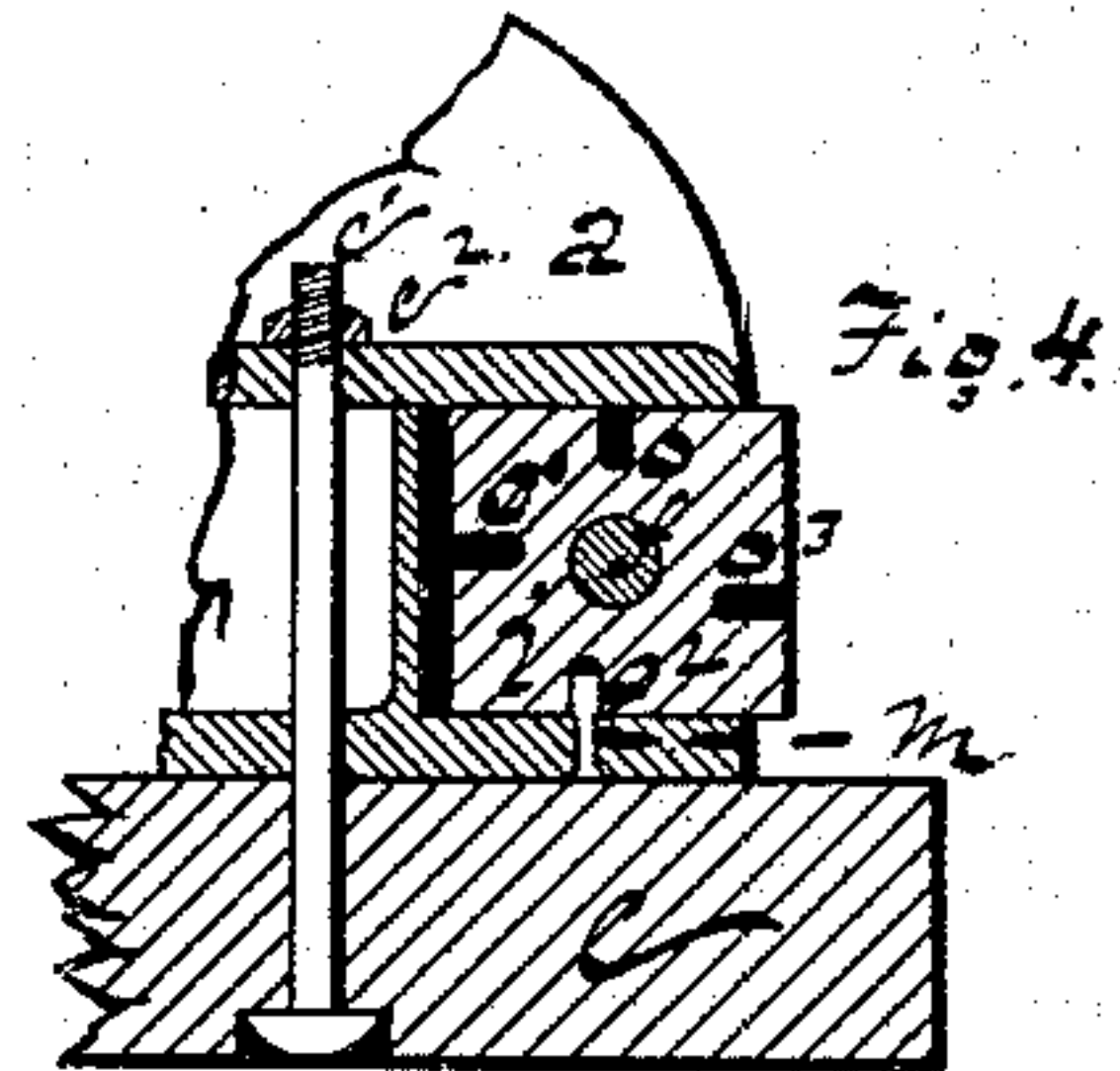
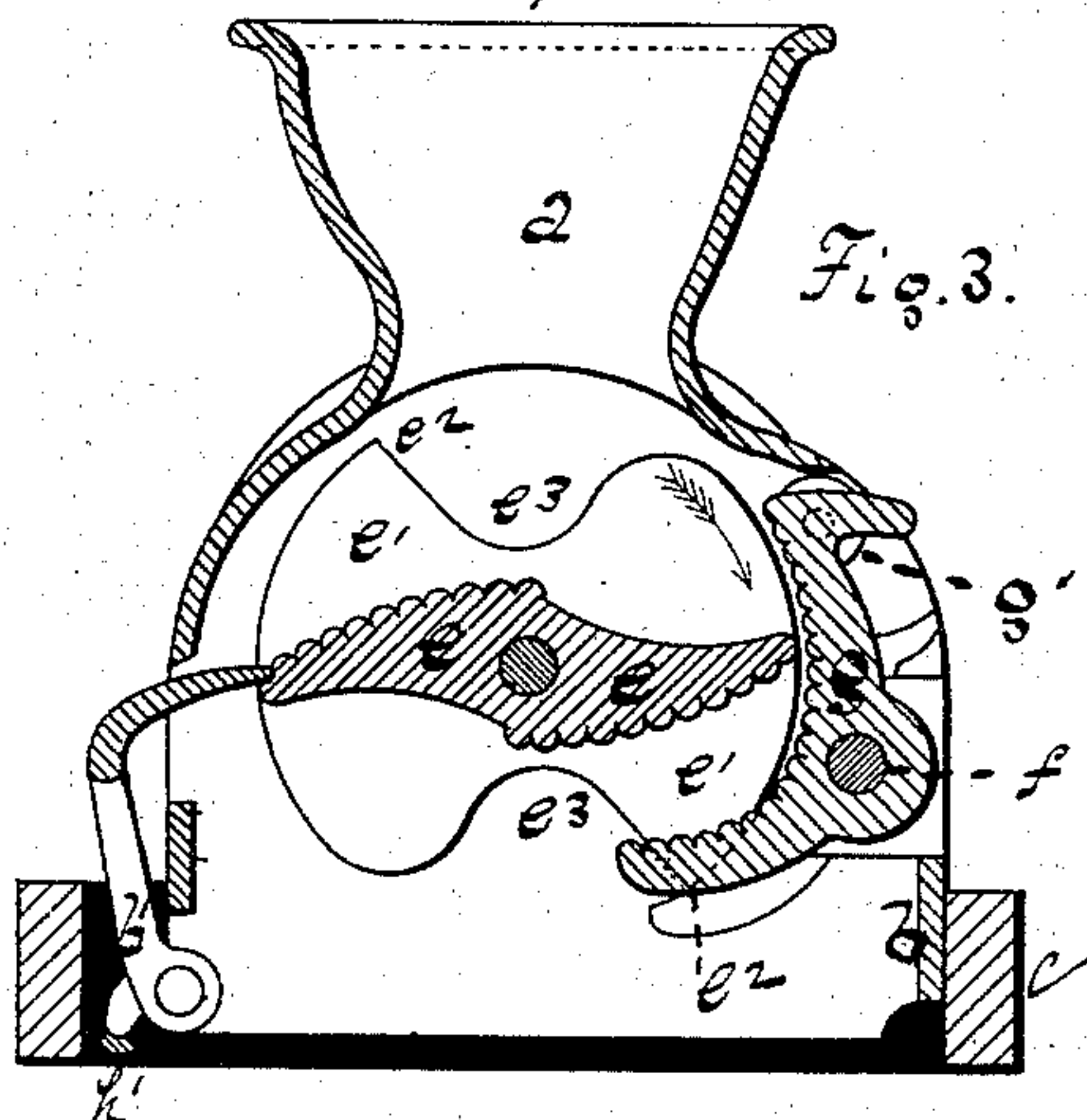
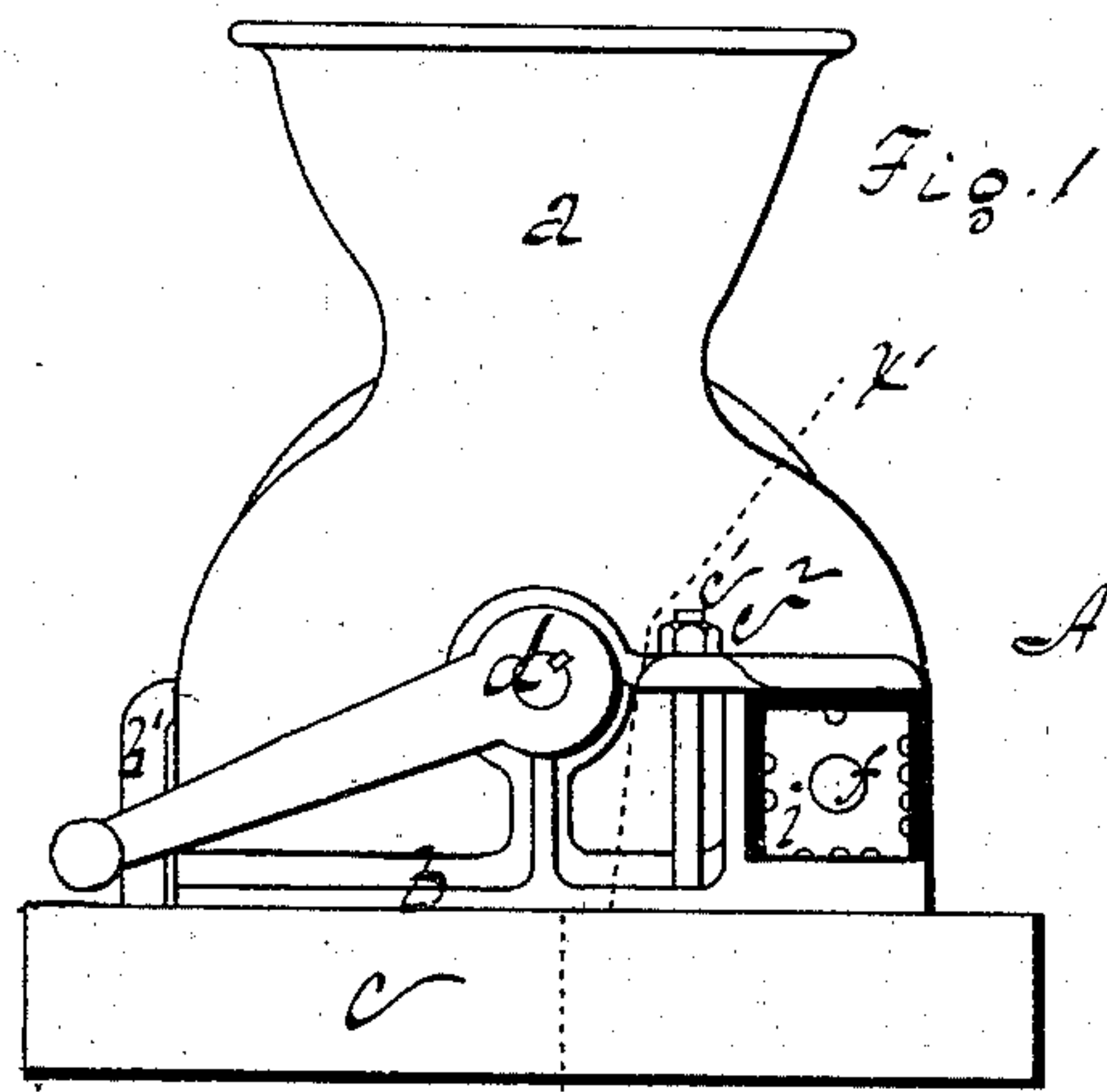


T. J. & G. M. CLARK.  
Fruit-Grinding Mills.

No. 156,983.

Patented Nov. 17, 1874.



Witnesses.

Emmet Horton.

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# UNITED STATES PATENT OFFICE.

THOMAS J. CLARK AND GEORGE M. CLARK, OF HIGGANUM, CONN.

## IMPROVEMENT IN FRUIT-GRINDING MILLS.

Specification forming part of Letters Patent No. 156,983, dated November 17, 1874; application filed September 2, 1874.

*To all whom it may concern:*

Be it known that we, THOMAS J. CLARK and GEORGE M. CLARK, of Higganum, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements pertaining to Fruit-Grinders, of which the following is a specification, reference being had to the accompanying drawings, where—

Figure 1 is a side view of a fruit-grinder embodying our said improvements. Fig. 2 is an end view of the same—the end A. Fig. 3 is a view of the same in central vertical longitudinal section. Fig. 4 is a detail view in vertical section, on the plane indicated by the dotted line  $xx$  to section extending to the dotted line  $x'x'$ .

This invention is a machine for grinding apples, grapes, and other fruits; and the parts in which the invention consists will be particularly pointed out and specified in a claim at the end of this specification.

The letter  $a$  indicates the exterior shell or case, made by preference of cast-iron, its upper part formed into the shape of a hopper to receive the fruit, and its lower part swelling into semi-cylindrical shape to contain the grinding mechanism. The case  $a$  sits upon the base-casting  $b$ , and both are secured to the frame  $c$  by bolts and nuts  $e^1 e^2$ . On the shaft  $d$ , which may be rotated in the direction indicated by the arrow, is hung the rotary double-cam grinder  $e$ , the grinding surfaces of its two cams to be, by preference, fluted or corrugated so as to have better grinding or grating effect. At one end of the machine, upon the shaft  $f$ , is hung the rocking-apron  $g$ , which, by preference, has a fluted or corrugated face. This apron has a peculiar rocking motion given by the roll  $g'$  attached at one end of the apron, and bearing upon the edge of the cam-plate  $e'$ , which is attached to one end of the grinder  $e$ , and rotates with it, the weight of the lower part of the apron  $g$  serving to keep the roll  $g'$  against the cam-plate  $e'$ . This rocking motion of the apron  $g$  is such that when the roll  $g'$  bears at either of the points  $e^2$  upon the cam-plate  $e'$ , the top of the apron and the tip of the advancing cam  $e$  are separated by quite an interval, forming a maw into which the fruit may drop between the two. As the cam  $e$

continues to revolve from this point the apron is held about stationary till the cam has passed on downward, and crushed or ground the mouthful of fruit just taken in, but as the roll  $g'$  approaches one of the points,  $e^3$ , the upper end of the apron swings forward, and the lower end backward, giving the crushed fruit a chance to fall below and escape.

The machine will—with an obvious modification of the cam-plate  $e'$ —work with only one of the cams  $e$ , but it will grind twice as much with the two cams  $e$ .

The letter  $b'$  indicates a scraper, actuated by the spring  $h'$ , bearing against the double-cam grinder  $e e$ , for the purpose of removing any pomace that may stick to the grinder.

We have devised a novel method for adjusting the apron  $g$  toward or from the double-cam grinder, so as to regulate the fineness of the grinding.

The shaft  $f$  is hung by its ends in the journal-blocks  $i i$ , which support one end of the case  $a$ . These blocks rest on the base  $b$ , from which project upward pins  $m$ , one for each journal-block, which will fit in and correspond to either of the holes  $o o^1 o^2 o^3$ , made one in each side of the block. When the pin  $m$  fits into the hole  $o$  the apron is at its nearest position of adjustment to the double-cam grinder. When in  $o^1$  it is a little farther removed, in  $o^2$  still farther removed, and in  $o^3$  farthest removed, these holes  $o o^1 o^2 o^3$  being drilled at points to effect such adjustment. The different adjustments are made by loosening the nuts  $e^2$ , and turning the journal-blocks.

We claim as our invention—

1. The rotary double-cam grinder  $e$ .
2. The rocking apron  $g$ .
3. The rotary cam-grinder  $e$ , double or single, in combination with the rocking apron  $g$ , when both are constructed and designed to operate substantially as shown and described.
4. The journal-block  $i$  having holes  $o o^1$ , &c., in its sides at different distances from the corners, and fitting to a corresponding pin  $m$ .

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GEORGE M. CLARK.

Witnesses:

S. G. NORTH,  
CLINTON B. DAVIS.