

(No Model.)

2 Sheets—Sheet 1.

C. B. HATFIELD.
SHOE UPPER MACHINE.

No. 318,731.

Patented May 26, 1885.

Fig. 4.

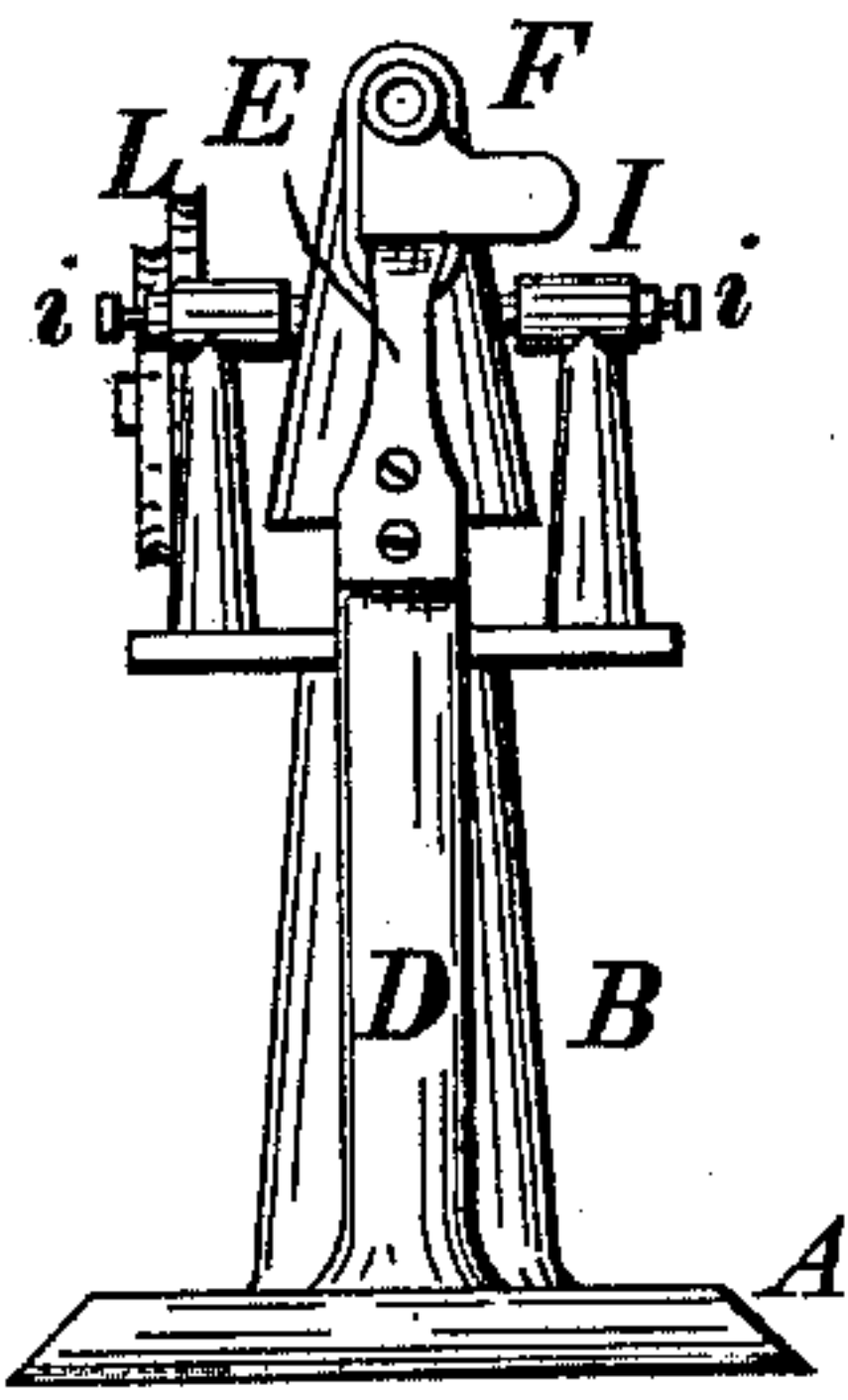


Fig. 6.

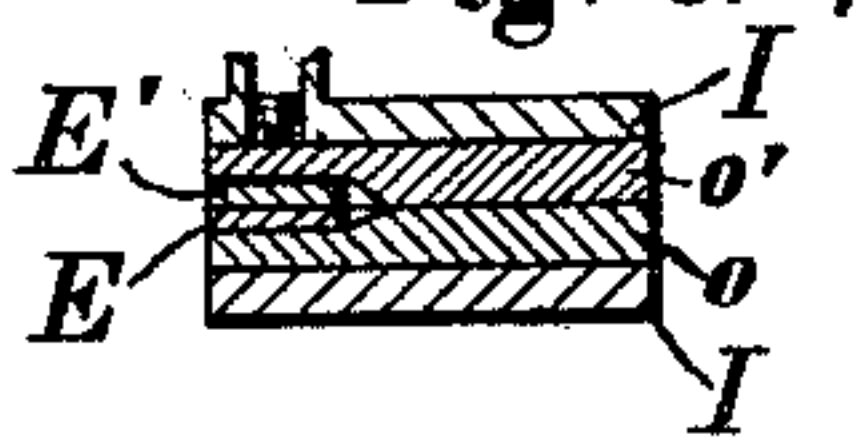


Fig. 5.

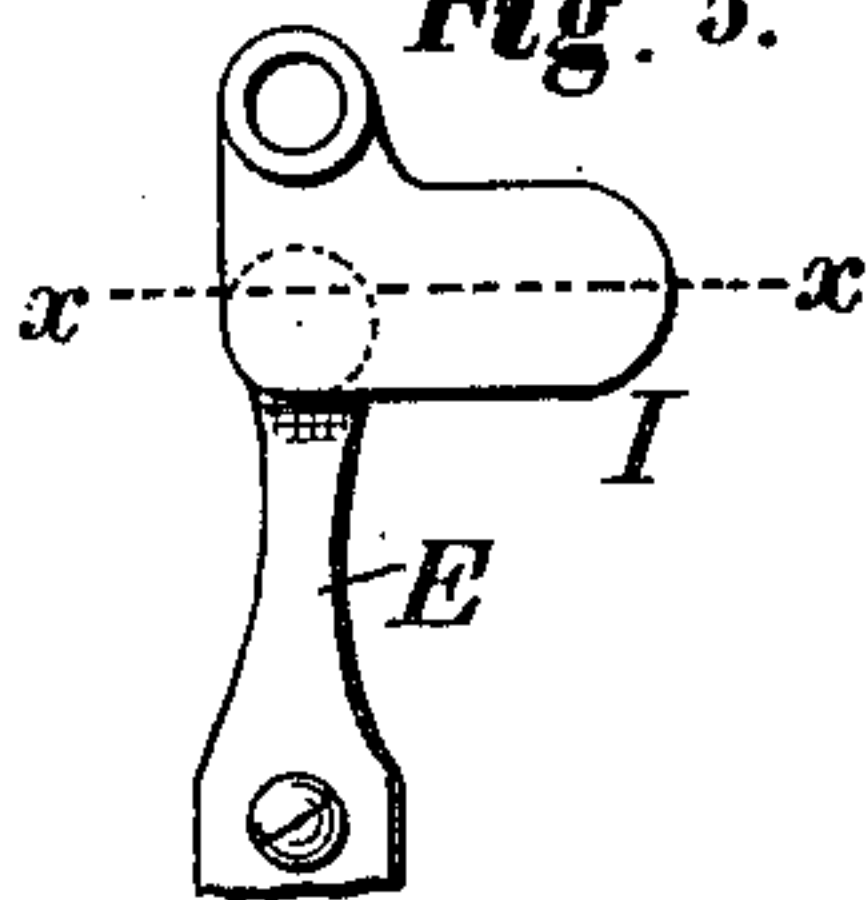


Fig. 7.

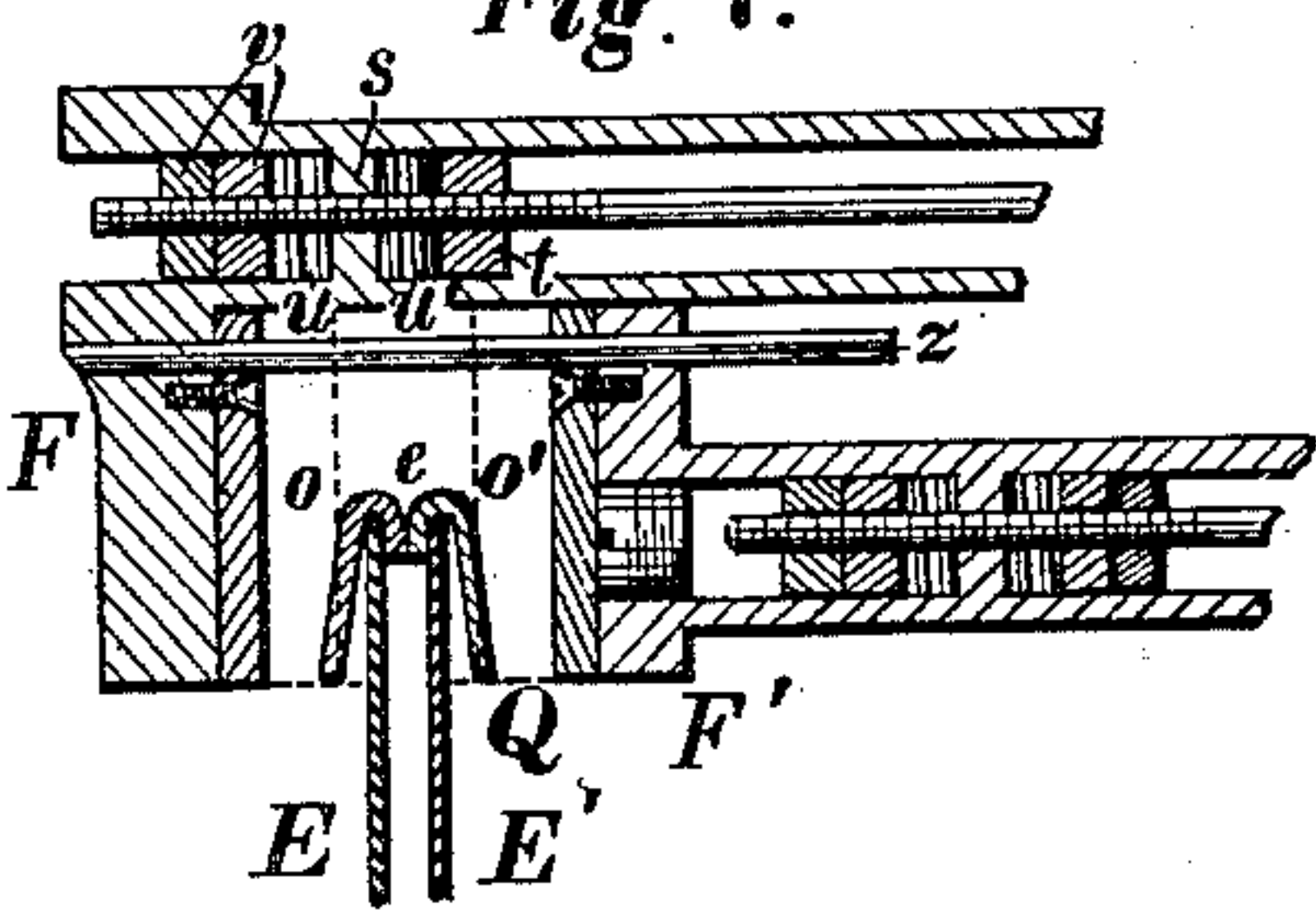


Fig. 8.

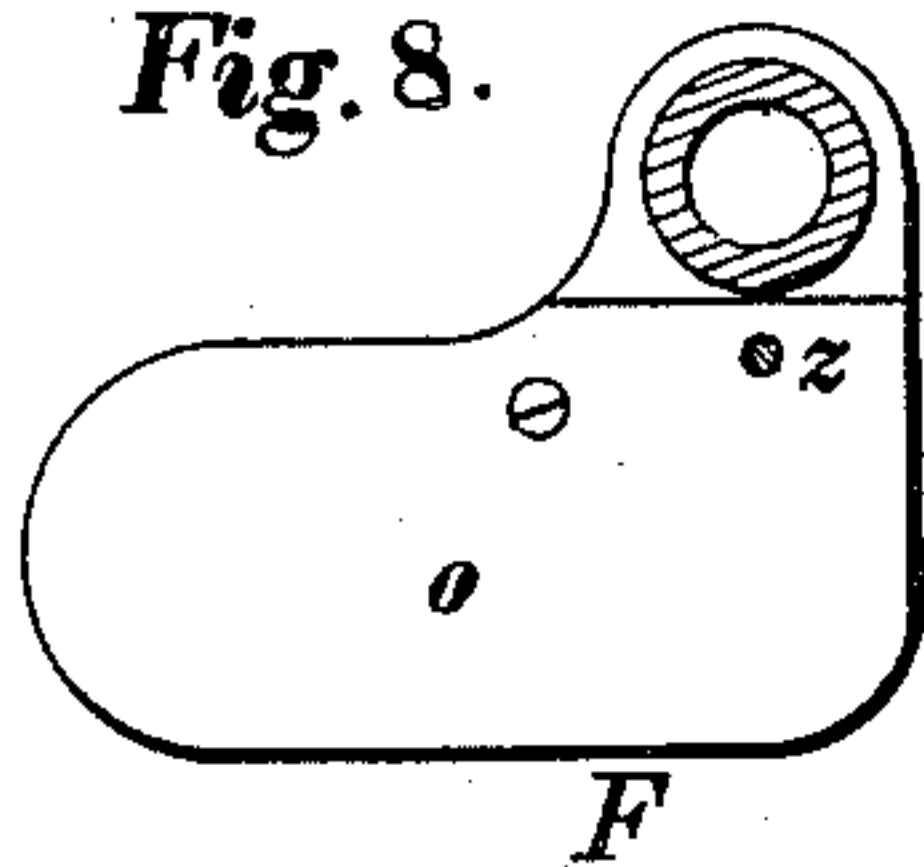


Fig. 9.

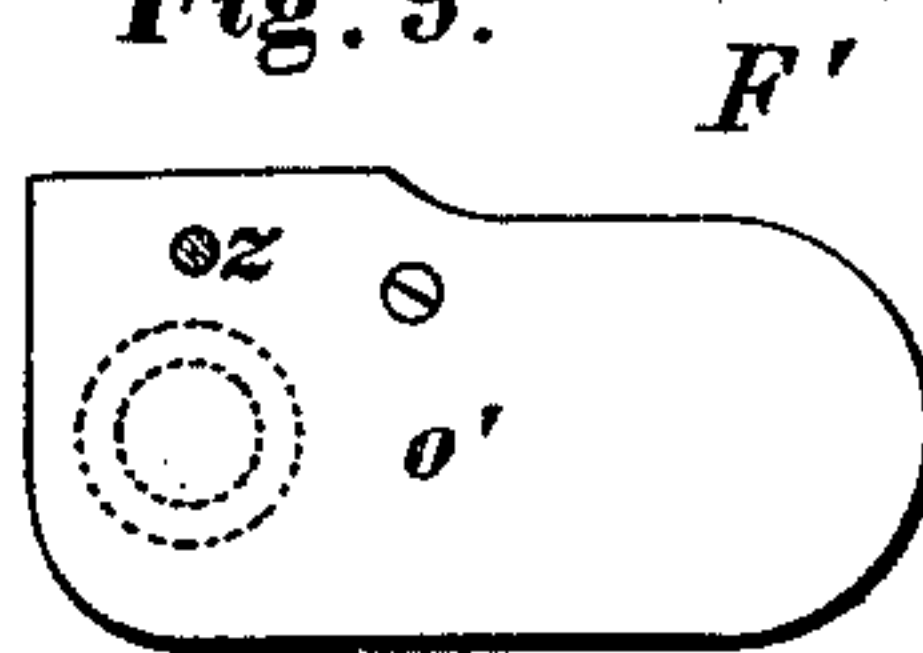


Fig. 1.

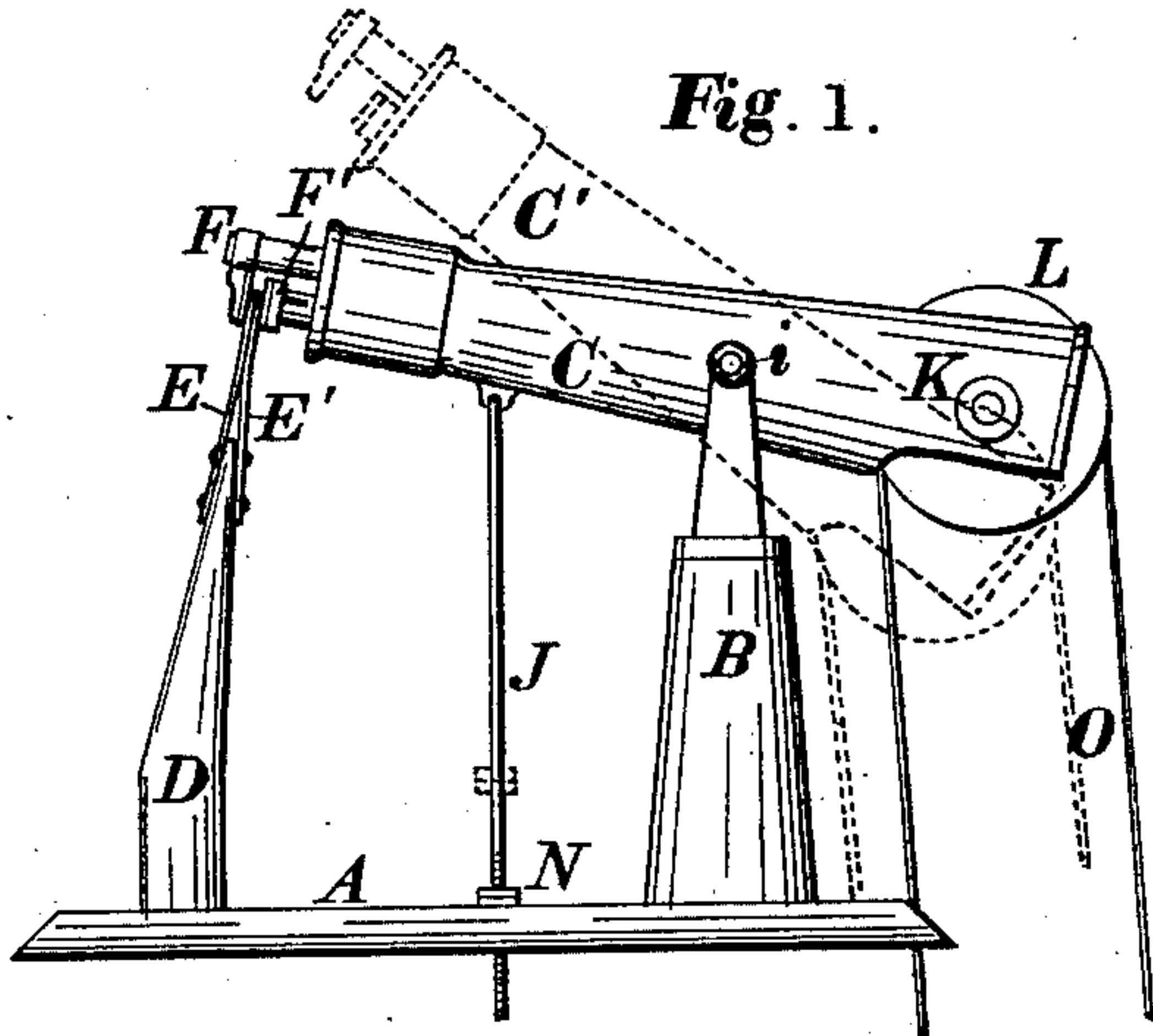


Fig. 2.

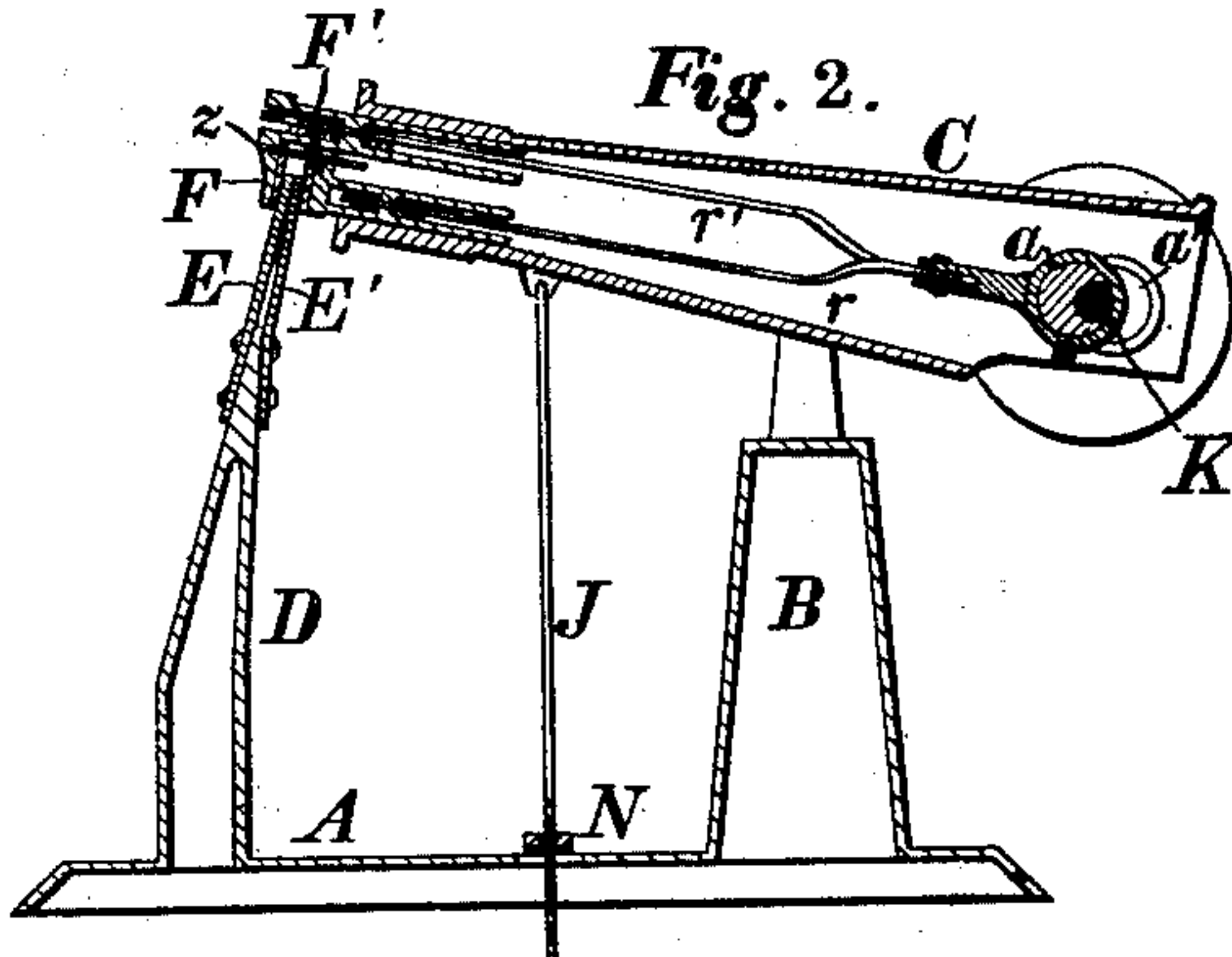
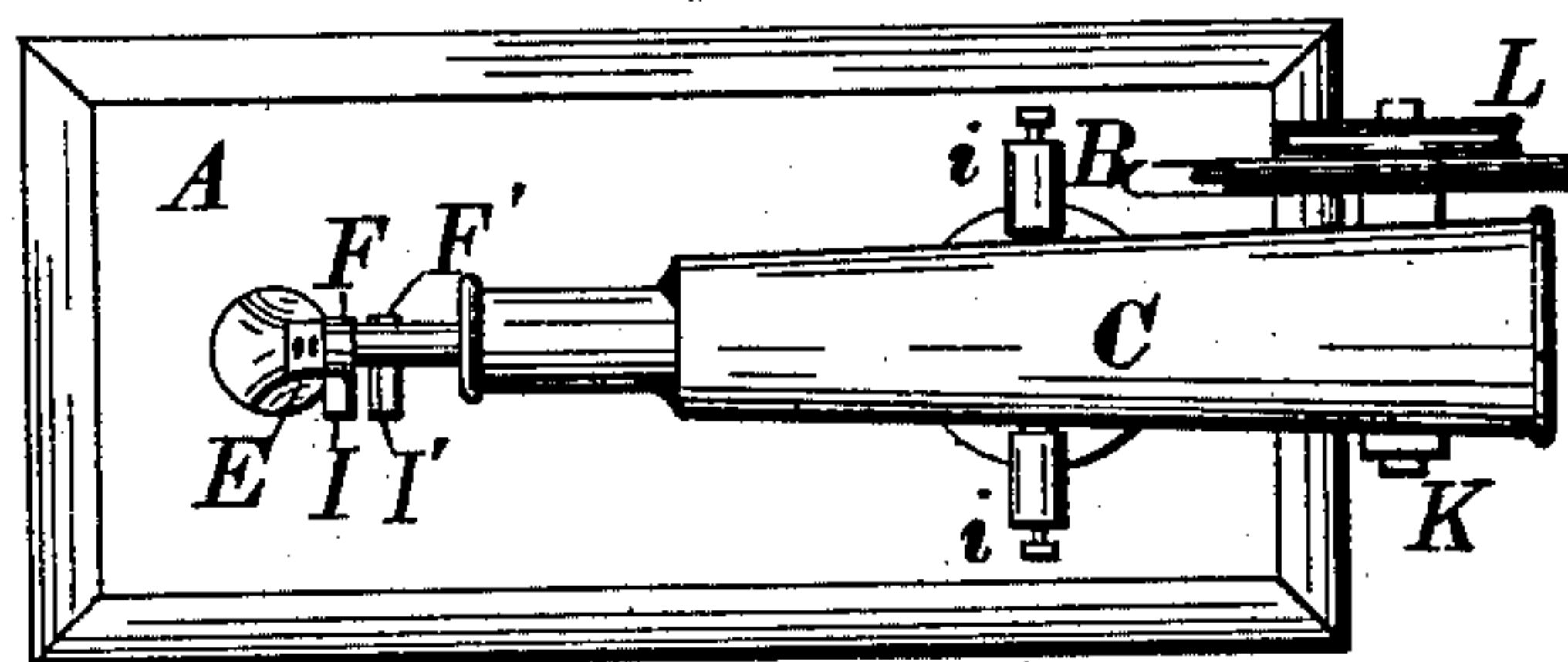


Fig. 3.



WITNESSES

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(No Model.)

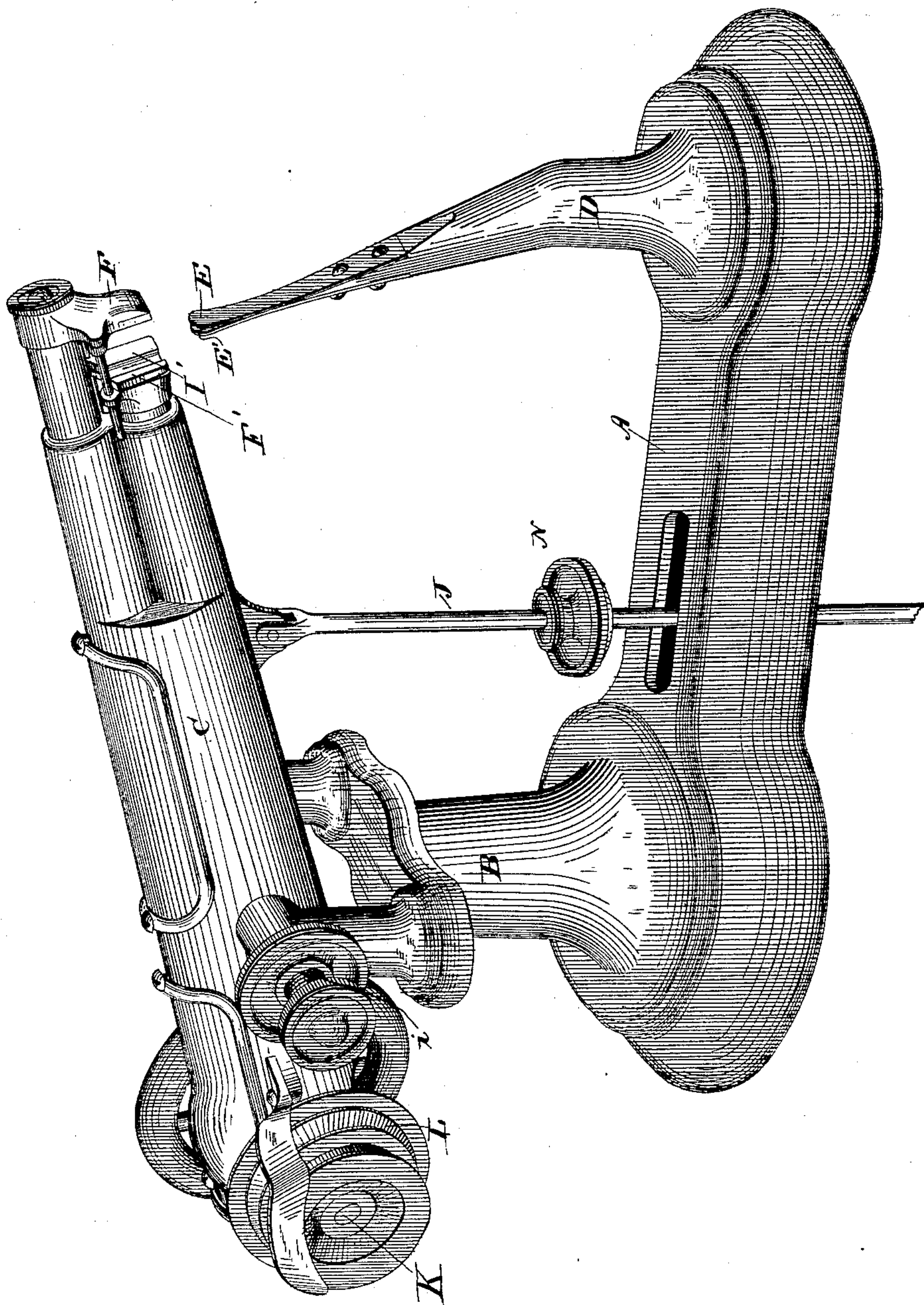
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No. 318,731.

Patented May 26, 1885.

Fig. 10.



Witnesses.
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UNITED STATES PATENT OFFICE.

CHARLES B. HATFIELD, OF ROCHESTER, N. Y., ASSIGNOR OF ONE-HALF TO
JOHN C. HEUGHES AND HENRY LOEWER, BOTH OF SAME PLACE.

SHOE-UPPER MACHINE.

SPECIFICATION forming part of Letters Patent No. 318,731, dated May 26, 1885.

Application filed January 24, 1885. (No model.)

To all whom it may concern:

Be it known that I, CHARLES B. HATFIELD, of Rochester, New York, have invented an Improved Machine for Beading Shoe-Uppers, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved machine for beading or finishing the edges of uppers for boots or gaiters, which invention is fully described in the following specification, and the novel features thereof specified in the annexed claims.

The edges of the uppers of boots or shoes after the lining has been stitched on require to be flattened or compressed after they have been turned right side out, so that the edges may present a finished appearance, the leather and lining being folded down smoothly on each side of the seam joining the two, thus preventing the appearance of a raw edge. My invention is designed to perform this operation of compressing and folding the edges, which operation is generally known in the trade as "beading."

My improved beading-machine is represented in the accompanying drawings, in which—

Figure 1 is a side elevation. Fig. 2 is a central longitudinal section. Fig. 3 is a plan view. Fig. 4 is an end elevation. Fig. 5 is an end view of the jaws and beading-irons on an enlarged scale. Fig. 6 is a section of the same on the line *x x*, Fig. 5. Fig. 7 is a section through the jaws and beading-irons on an enlarged scale. Fig. 8 is a view of the outer jaw as seen from the inside. Fig. 9 represents the inner jaw as seen from the outside. Fig. 10 is an enlarged perspective view of the machine.

My improved beading-machine consists, essentially, of a suitable base or support, A, an upright standard, B, to which the swinging arm C is pivotally attached, an arm, D, supporting the beading-irons E E', the reciprocating beading or compressing jaws F F', and mechanism for imparting a reciprocating motion to the jaws.

The swinging arm C is preferably made hollow, and it is attached to the upper forked end

of the standard B by means of the pivots *i i*, or otherwise connected therewith, so that the arm can swing up and down, as indicated in the full and dotted lines in Fig. 1, to bring the reciprocating jaws into the proper relation with the yielding beading-irons to compress the edge of the shoe-upper or to remove them therefrom, for the purpose of permitting the placing of the upper on the beading-irons. The end of the swinging arm carrying the reciprocating jaws has a constant tendency to rise upward imparted to it by a spring or by the greater weight of the other end, and the arm is drawn downward by a treadle attached to the treadle-connection J, which is provided with a stop-nut, N, by which the downward movement of the arm is limited. At its outer end the arm is provided with suitable journals for the shaft K, which carries the pulley L, about which passes the driving-belt O, a suitable guard being provided to keep the belt on the pulley. The arrangement is such that when the pulley is depressed, as indicated by the dotted lines in Fig. 1, the belt is slacked and the pulley ceases to rotate, while when the jaws F F' are swung downward so as to embrace the beading-irons E E' the belt is tightened, and the pulley, which reciprocates the jaws by means of the eccentrics *a a'* and rods *r r'*, is caused to revolve. By this arrangement the jaws remain at rest, except when they are at work beading or compressing the edge of the shoe-upper on the beading-iron. The eccentrics *a a'* are placed on the shaft K diametrically opposite to each other, so that they impart to the jaws a reciprocating movement to and from each other. The connecting-rods *r r'* are threaded and screwed into the eccentrics, being provided with jam-nuts by which the length of the rod can be adjusted. A slight amount of elasticity is provided between the connections and the jaws, which may be done in any preferred way—as, for instance, in the manner represented in Fig. 7. The shank of the jaw is made hollow and provided with a collar, *s*, through which the rod passes. On each side of the collar *s* are placed the springs *u u'*, one of which bears against the collar *t* on the rod, and the other against the jam-nuts

v, so that a slight amount of yielding is permitted in the jaws relatively to the rod. While it is not necessary to provide elasticity in both directions, as herein described, I prefer to do so, as I thereby secure a smoother movement of the jaws. I provide one of the jaws with a pin, Z, to act as a guide.

The beading-iron consists of one or two yielding or flexible metallic strips, attached to a suitable support, and arranged in such relation to the swinging arm and reciprocating jaws that the shoe-upper can be subjected to the action of the jaws while being moved along over the irons. I prefer to make the beading-iron flexible; but one of them, if two be used, may be rigid, or one or both may be jointed or hinged to the support, a suitable spring or springs being used to separate their upper ends a short distance. In moving the upper along the beading-iron it is preferably carried from left to right in Fig. 5.

It will be observed that the compressing-jaws are provided with extensions or prolongations I I', reaching toward the right hand in Fig. 5, and that, as shown in the sectional view, Fig. 6, the inner faces of the jaws are covered with cushions o o', made of leather or other suitable material, which cushions are a little thinner opposite the beading-irons to allow for the thickness of the latter. The inner faces of the jaws may be given the proper form for this purpose, if desired. In which case the cushions are of uniform thickness throughout their length.

In Fig. 7 I have represented the upper at Q, as applied to the beading-iron, with the seam at e projecting inward between the ends thereof. It will be readily understood that in the operation of the machine the jaws F F' coming together will bead or compress the edges of the upper over the beading-iron, and that the final finish will be given to the edge by the cushions on the inner faces of the extensions of the jaws. The upper is pulled downward by the hand of the operator as it passes over the beading-iron.

My improved machine will perform the operation of beading or finishing the edges of shoe-uppers with great rapidity, and the edges of the uppers beaded thereon have a far superior appearance.

I make no claim herein to the process of beading the edges of shoe-uppers herein de-

scribed, as I design to make said process the subject-matter of another application for Letters Patent.

I claim—

1. The combination, in a shoe-beading machine, of the beading-irons E E' and reciprocating jaws F F', substantially as described. 60

2. The combination, in a shoe-beading machine, of the beading-irons E E' and reciprocating jaws F F', having extensions I I', substantially as and for the purposes set forth.

3. In a shoe-beading machine, the separate yielding beading-irons E E', substantially as described. 65

4. The combination, with the yielding beading-irons E E', of the base A, standard B, swinging arm C, reciprocating jaws F F', and suitable mechanism for imparting reciprocating motion to the jaws, substantially as described. 70

5. The combination, with the yielding beading-irons E E', of the swinging arm C, shaft K, pulley L, reciprocating jaws F F', and treadle-connection J, substantially as described. 75

6. The combination, with the shaft K, eccentrics a a', and rods r r', of the reciprocating beading-jaws F F', attached to the rods by a suitable yielding connection, and the beading-irons E E', substantially as described. 80

7. In a shoe-beading machine, the combination, with the beading-irons E E', of the reciprocating jaws F F', provided on their opposing faces with the cushions o o', substantially as described. 85

8. In a shoe-beading machine, the combination, with a beading or turning iron adapted to receive the work turned right side out, of automatic compressing-jaws operating on both sides of the edge of the work to simultaneously compress the same while it is still on the turning-iron, substantially as described. 90

9. In a shoe-beading machine, the combination, with a beading or turning iron having yielding jaws and adapted to receive the work turned right side out, of automatic compressing-jaws operating on both sides of the edge of the work to simultaneously compress the same while it is still on the turning-iron, substantially as described. 100

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Witnesses:

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