

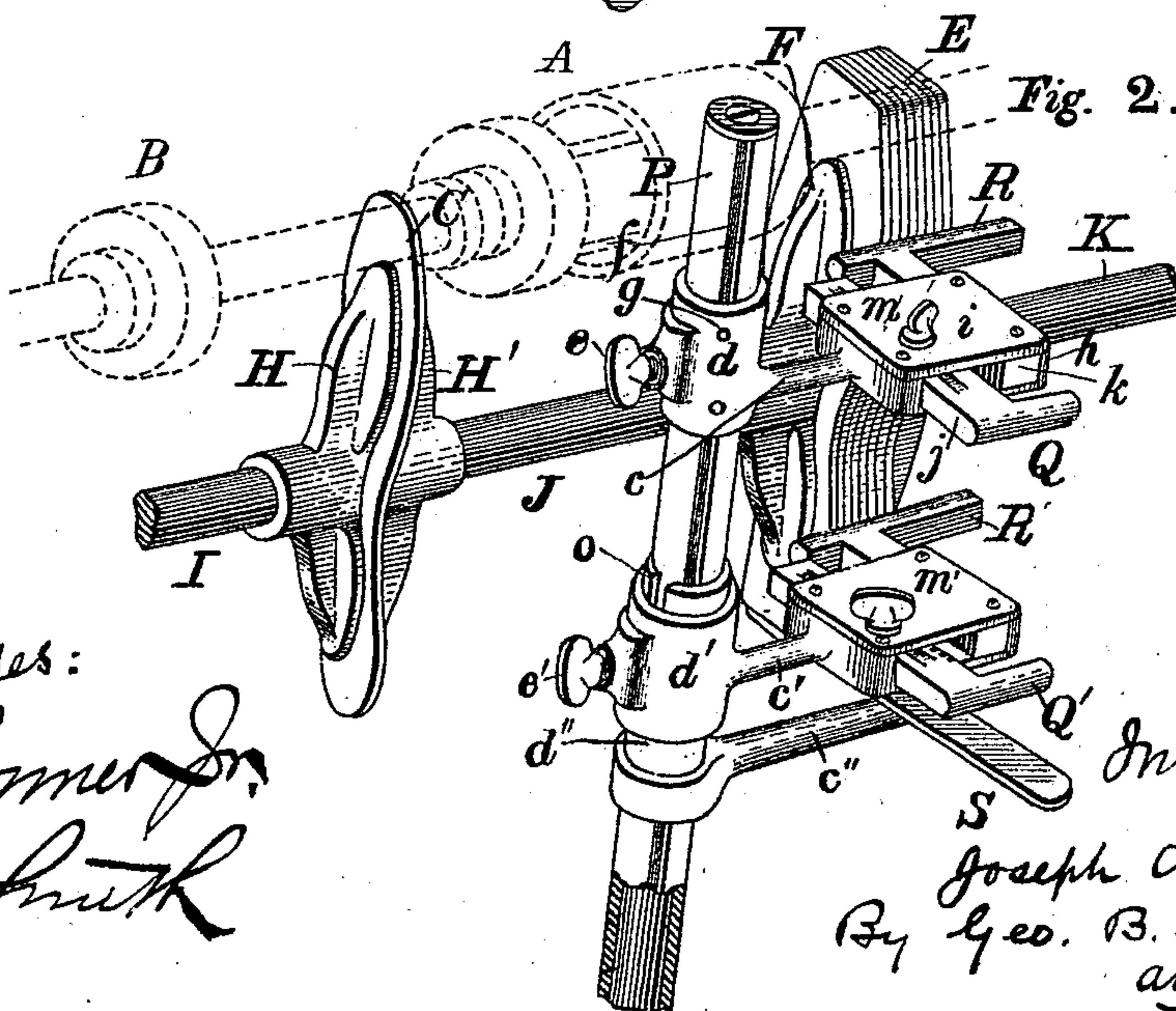
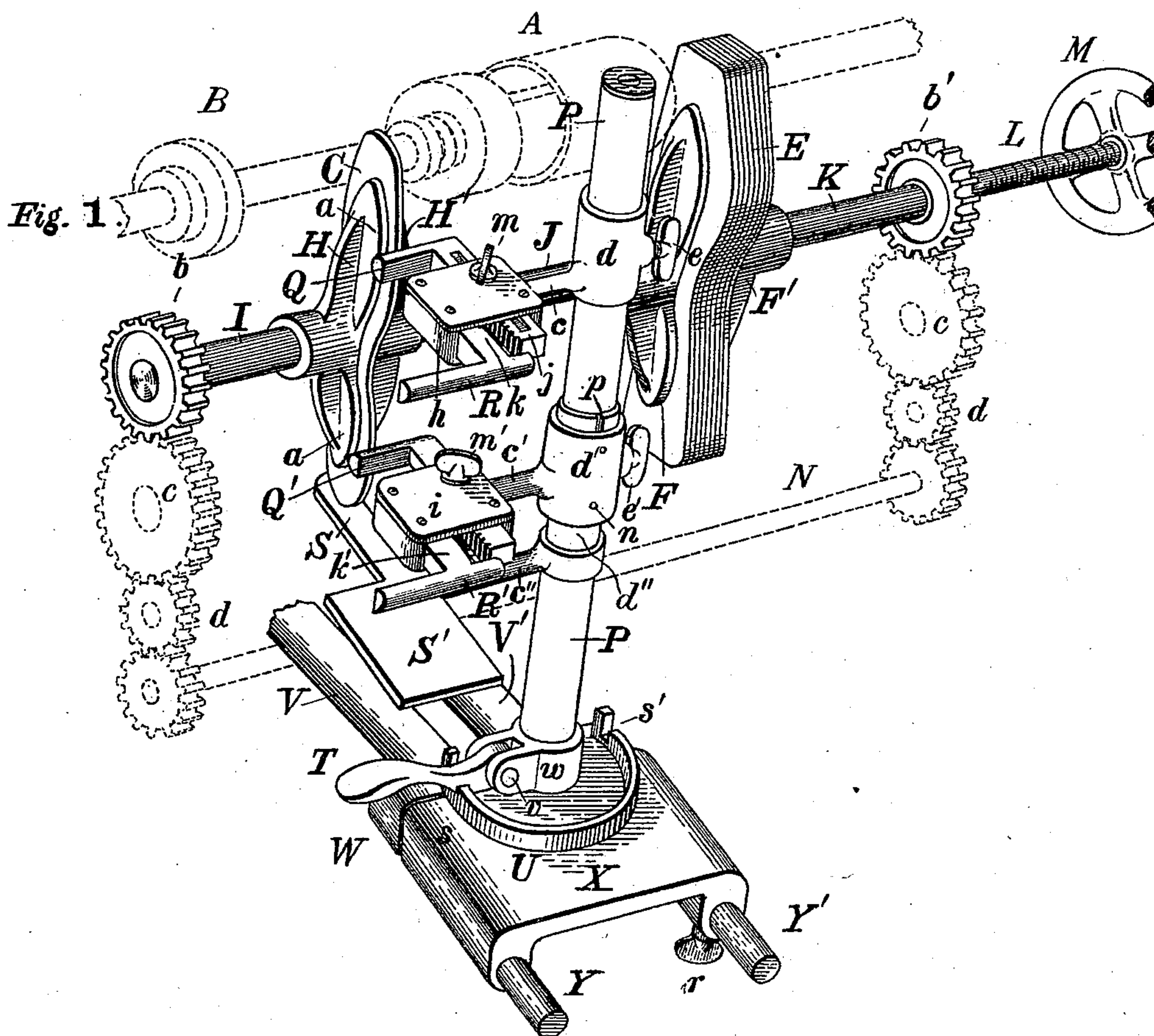
(No Model.)

2 Sheets—Sheet 1.

J. A. CRANE.
SOLE ROUNDING MACHINE.

No. 516,676.

Patented Mar. 20, 1894.



Witnesses:

L. A. Comer Jr.
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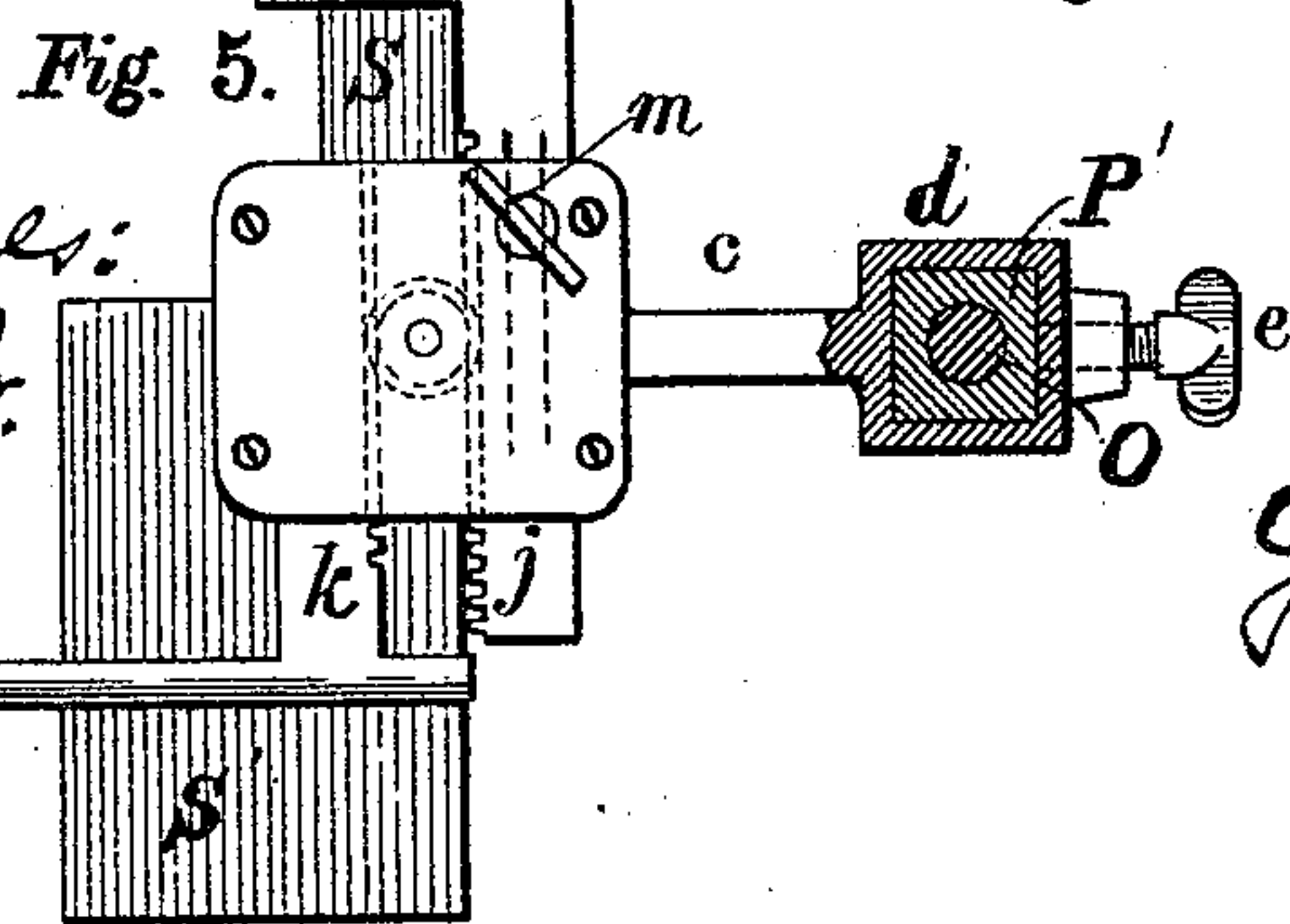
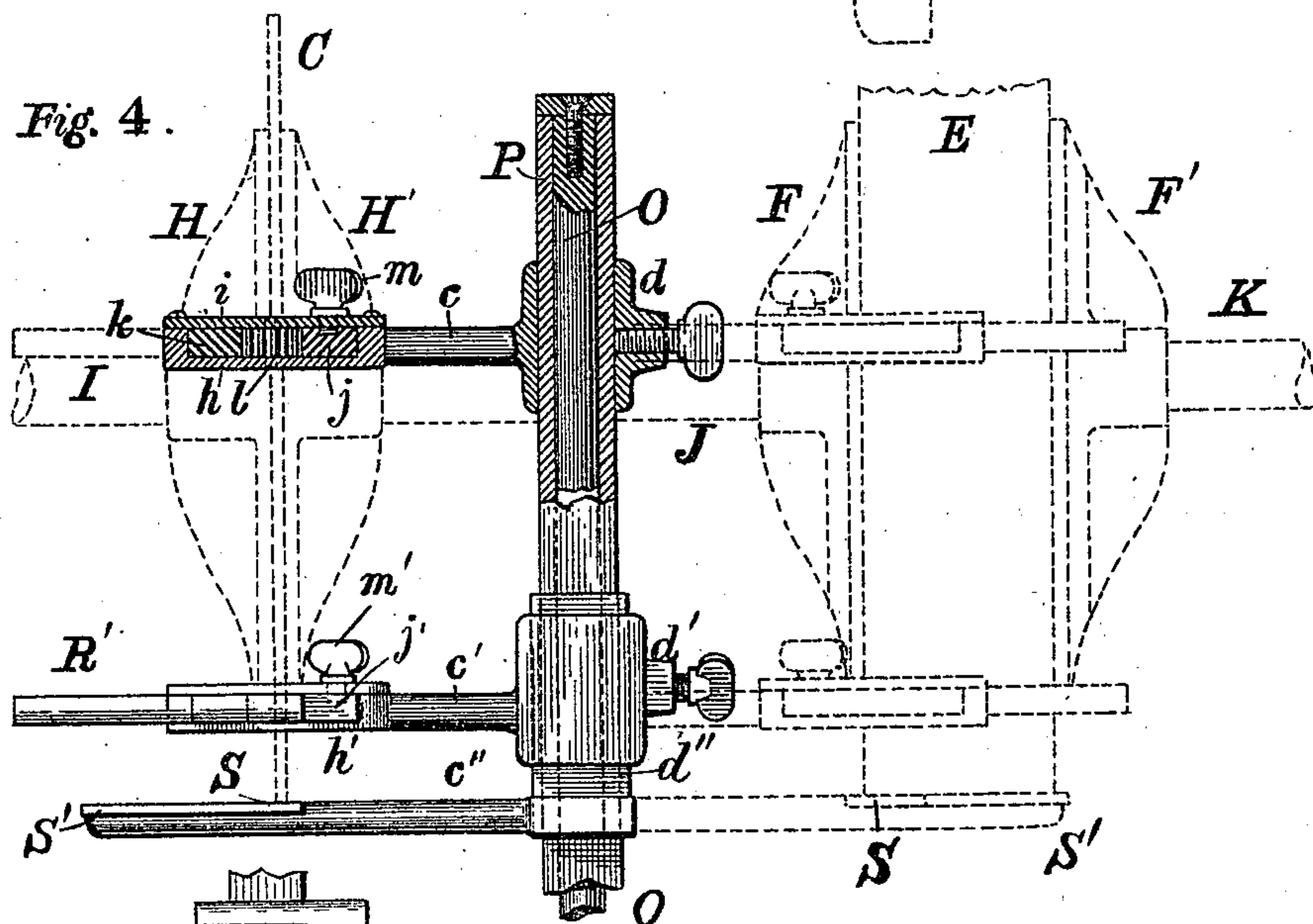
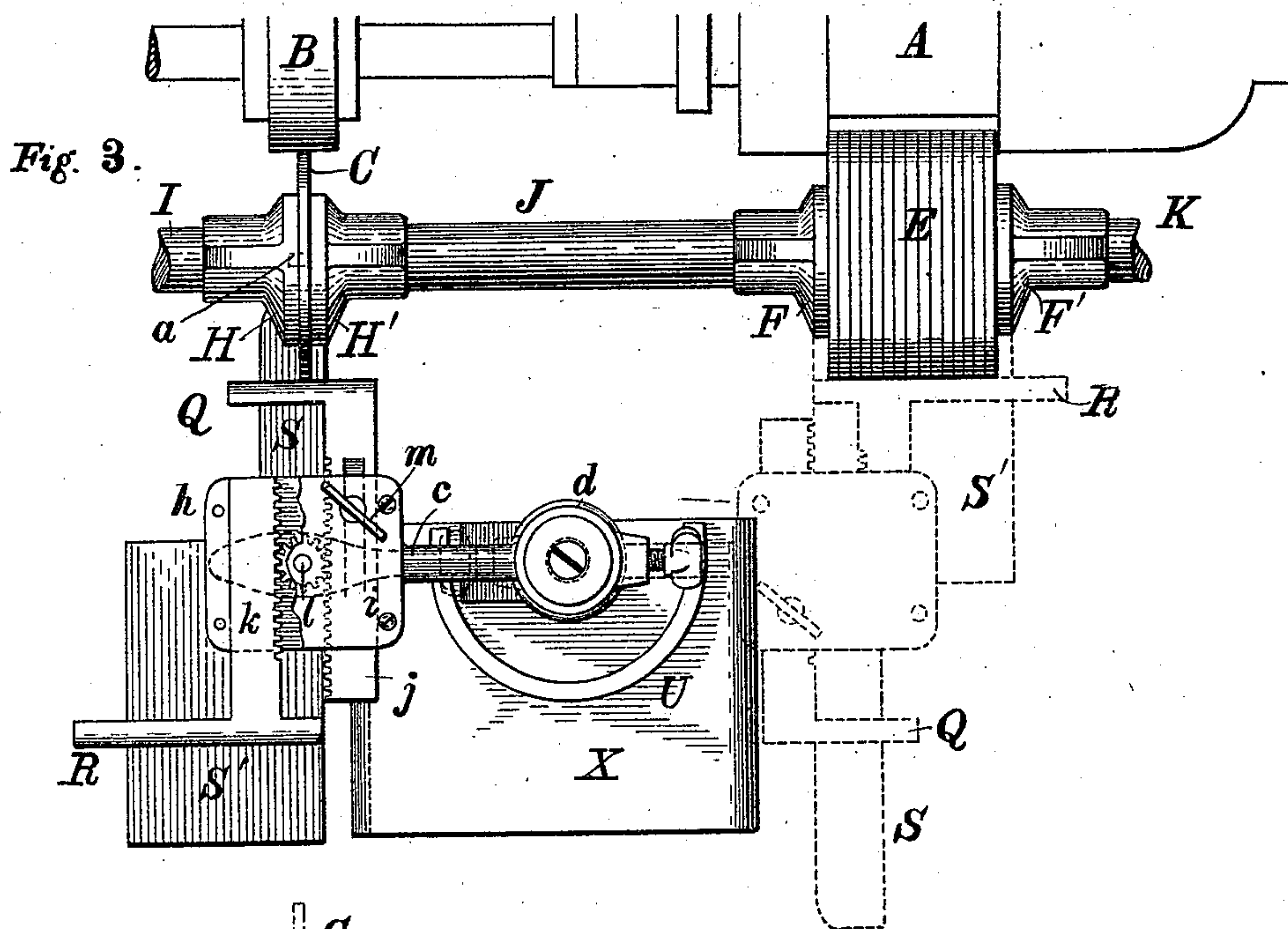
Inventor:

Joseph A. Crane,
By Geo. B. Selden,
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Witnesses:
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UNITED STATES PATENT OFFICE.

JOSEPH A. CRANE, OF ROCHESTER, NEW YORK, ASSIGNOR TO THE LOEWER
SOLE-ROUNDER COMPANY, OF SAME PLACE.

SOLE-ROUNDING MACHINE.

SPECIFICATION forming part of Letters Patent No. 516,676, dated March 20, 1894.

Application filed July 28, 1893. Serial No. 481,759. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH A. CRANE, a citizen of the United States, residing at Rochester, New York, have invented certain Improvements in Sole-Rounding Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to an improved construction of the blank or stock guides employed on machines for rounding shoe-soles first described in the patent of Loewer and Blair, No. 407,735 dated July 23, 1889, with improvements by Loewer patent No. 502,421, dated August 1, 1893.

My improvement is fully described and illustrated in the following specification and the accompanying drawings,—the novel features thereof being specified in the claims annexed to the said specification.

My improved blank or stock-guide for sole rounding machines is represented in the accompanying drawings, in which—

Figure 1 is a perspective view, showing the stock guides in contact with the pattern. Fig. 2 is a perspective view, showing the stock guides in contact with the sole-blanks. Fig. 3 is a plan view. Fig. 4 is an elevation, partially in section. Fig. 5 is a plan view representing a modification.

The machines of the type mentioned comprise a rotary cutter, a pair of revolving sole-clamps, and a revolving pattern or former, the arrangement being such that the blanks are dressed to the shape of the pattern while being presented to the cutter as they revolve under the control of the pattern. My invention relates to the construction of the stock guides which are used to enable the operator to quickly and accurately set the stock or blanks in the proper position between the sole-clamps, so that they may be dressed all around into soles corresponding exactly in shape with the pattern employed.

In the accompanying drawings, in which only so much of the machines in question is shown as is necessary to understand my invention, A, Fig. 1, represents the rotary cutter and B the guide or wheel against which the pattern C bears as it revolves. E represents the stock or sole-blanks, clamped between the clamps F F'. It will be understood

that the rotary cutter and guide are supported by a suitable frame, and that the guide and cutter are of substantially equal diameters, and arranged in substantially the same axial line. It will also be understood that the pattern and sole-clamps are supported in a suitable frame on the same axial lines, and that provision is made for securing the relative movement of the cutter-frame and the frame carrying the pattern and sole-clamps. It will also be understood that the pattern and sole-clamps revolve simultaneously.

The pattern-clamps H H' are supported on the shafts I J, and the sole-clamps on the shafts J K. The pattern clamps H H' are connected together by dowel-pins *a a*, which pass through holes in the pattern,—provision being made for shifting one of the pattern-clamps laterally to permit the insertion of the patterns between them. In the arrangement shown, the shaft J slides lengthwise in the journal in the supporting frame, when there are no blanks between the sole-clamps, for this purpose,—being held up to the pattern when in place by a suitable spring. The shaft K is forced lengthwise by the screw L and hand-wheel M, or other suitable device, to secure the blanks firmly between the sole-clamps F F'. At their outer ends the shafts I and K are provided with gears *b b'*, by which, through a train of gearing *c d* or other suitable mechanism simultaneous revolution is imparted to the pattern and the sole blanks, from the shaft N.

My improved blank-guide is so constructed that, after having been adjusted by contact with the pattern, it is swung around into position to determine the proper location of the blanks between the clamps, with reference to the particular pattern employed.

The blank-guide is preferably made double, so as to bear against the side of the ball and of the heel of the pattern, and it is also provided with a contact surface or rest which bears against one end of the pattern, and which, in the ensuing adjustment determines the position of the blanks lengthwise of the sole-clamps.

My improved blank-guide consists essentially of an upright or standard, O, (Fig. 4,) supporting a sleeve, P, which carries on suitable

arms the adjustable contacts, Q and R, (or also Q' and R'), one of which (Q), bears against the pattern C in one position, (Fig. 1,) and the other (R) determines the location of the sole-blanks, when the blank guide is swung into the other position, (Fig. 2.) The blank-guide also comprises a heel or toe-rest, S, which contacts with the lower end of the pattern, and in the opposite position supports the lower end of the sole-blanks when placed within the clamps, so that, when the clamps are screwed up, the blanks are properly located relatively to the pattern. The contacts are all moved simultaneously by the rotation of the sleeve P. The movement of the sleeve P about the standard O is limited by the latch T and the notched flange U. The contacts Q and R, (and Q' and R') are made adjustable relatively to each other by any suitable means, such as pivoted levers, lazy-tongs, or the racks and gears shown, so that, when the contact Q strikes against the pattern C, the contact R is moved into such position that, when swung around to the sole-clamps, its edge will locate the sole-blanks in the proper place. All the contacts are also adjustable lengthwise or up and down on the sleeve P.

Proceeding to a more detailed description of the mechanism, it will be observed that the contacts Q and R are supported by an arm *c*, attached to a socket *d*, which is movable up and down on the sleeve P, being secured in any desired position by the clamping-screw *e*. The sleeve P is provided with a longitudinal groove *f*, Fig. 2, into which a key or pin *g*, Fig. 2, in the socket *d* enters, so that the arm *c* is compelled to revolve with the sleeve, although adjustable lengthwise thereon. The arm *c* supports a recessed plate, *h*, provided with a cap *i*, and inclosing the racks *j* *k*, and pinion *l*. The racks *j* and *k* mesh with the pinion *l* on opposite sides thereof, and consequently when the contact Q, carried by the rack *j*, moves in either direction, the contact R, carried by the rack *k*, has a corresponding movement. If the contact Q moves, inward, or toward the pinion *l*, the contact R also moves inward, and vice versa. The pinion *l* is supported between the recessed plate *h* and the cap *i* on a pin or stud, or in any suitable manner. Provision is made for clamping the contacts Q and R in any position in which they may be set by means of a clamping-screw *m*, passing through the cap *i*, and bearing against one of the racks. The point of the screw preferably enters a slot in the rack.

The contacts Q' and R' (if used) are supported in a similar manner to that already described, from the socket *d'* by the arm *c'*, having plate *h'*, cap *i'*, a pinion, and racks *j'* and *k'*, and clamping-screw *m'*. The clamping screw *e'* of the socket *d'*, is however employed to fix the position of the rest S vertically or lengthwise of the sleeve P. The rest S is carried by an arm *c''*, which is provided with a socket *d''*, fitting the sleeve P and located inside the socket *d'* of the contacts Q'

and R'. The socket *d''* is slotted lengthwise, as shown at *o*, Fig. 2, so that the point of the clamping screw *e'* bears directly on the sleeve P. The socket *d''* is also provided with a spline-groove, *p*, Fig. 1, into which one or more pins *n*, Fig. 1, enter, and the socket *d''* is provided with one or more pins or a key engaging with the groove *f* in the sleeve P, so that the sockets *d'* and *d''* and the parts which they respectively carry, are compelled to swing with the sleeve. It will be observed that, by this construction, the sockets *d'* and *d''*, and the contacts Q' and R' and rest S, are made adjustable relatively to each other lengthwise of the sleeve P, and that they are all fixed in any desired position of adjustment by the clamp-screw *e'*. The operator, therefore, fixes the contact Q' and the rest S, in the proper position for any given size of pattern, by turning the single screw *e'*,—and the corresponding contact R', as already described, is set in the proper position by the adjustment of the contact Q'.

The stud or shaft O is supported in suitable relation to the pattern and sole-clamps, in any suitable manner. It may be attached to the swinging frame carrying the pattern and sole-clamps, as shown in the said patent of July 23, 1889, or it may be supported by an arm from the frame of the machine, as shown in the said patent of August 1, 1893. In the latter case it is carried by an arm or arms, V V', Fig. 1, fastened to the frame which carries the rotary cutter-head, and provided with a head W which sustains the rods Y Y', on which the block X, in which the shaft O is secured, slides,—a clamping screw *r* being provided to set the standard O and the blank-guide in any desired relation with the pattern and sole-clamps.

Upon the block X is placed a circular rib U, provided with notches, *s* and *s'*, in which the latch T engages. The latch T is pivoted at *v*, Fig. 1, to lugs on a socket *w* fastened to the sleeve P. By engagement in one or the other of the notches *s* *s'*, the latch T determines the arrangement of the sleeve P and the contacts supported thereby relatively to the pattern and sole-clamps.

The rest which supports the sole blanks at their lower ends, is widened out, as represented at S', in order to sustain all the blanks which the machine can handle at any one time.

The operation of my improved blank-guide will have been already understood, by the observant reader from the preceding description. Supposing the machine in operation, the cutter running, and the frame carrying the pattern-clamps and the sole-clamps at rest at a suitable distance from the main-frame carrying the cutter and the guide, the operator slides the pattern clamp H' laterally, and inserts a pattern, which corresponds in shape and dimensions with the soles which he next desires to cut, between the pattern-clamps,—the dowels *a*, *a*, entering holes in the pattern

and securing it in place. He then swings the blank-guide against the pattern, bringing the contact Q against the side of the ball, and securing it when so located by the clamp-screw *m*. The contact Q' (if used) is also similarly secured in place,—the rest S being brought up against the lower end of the pattern, and fastened in place at the same time with the rest S, by the clamp screw *e'*. The operator now disengages the latch T from the notch *s*, and turns the sleeve P and the blank-guides until the latch T engages with the notch *s'*. The blank-guides and rest being now in the proper position, the sole-blanks are inserted between the clamps F F', being supported on the rest S', and sustained laterally by the contact R, (and R',) and, the sole-clamps being then forced together so as to hold the blanks securely, and the blank guide being swung or moved out of the way of the revolution of the pattern and the blanks, the swinging frame is moved toward the cutter, the pattern and sole-clamps are started to revolve, and during the revolution, the blanks are dressed by the cutter to the exact form of the pattern. Practical experience with my improved blank-guide, demonstrates, in consequence of its simplicity and ease of operation, a production of nearly one-half more finished soles than by any other blank-guide which to my knowledge has been applied to machines of the type in question. The operator, having become skillful, will use only the upper or the lower contact Q or Q', according as the blanks furnished him and his judgment require or dictate, and the total production of the sole-rounding machine, with my improvement, will reach from four thousand to eight thousand pairs of perfectly finished soles daily.

Fig. 5 represents a modification, in which the sleeve P is made square on the outside, and the socket *a* of a corresponding shape,—the construction otherwise remaining the same.

I claim—

1. The herein movable blank guide for sole

rounding machines, comprising an adjustable side contact for the pattern, an adjustable side contact for the blanks and connections between them by means of which they are adapted to be adjusted, substantially as described.

2. The herein movable blank guide for sole rounding machines, comprising an adjustable side contact for the patterns, a side contact for the blanks connected to the pattern contact, connections between them by means of which they are adapted to be adjusted, and suitable end contacts for the pattern and blanks, substantially as described.

3. The combination of the relatively movable cutter, pattern and sole clamps of a sole rounding machine, and a revoluble standard supporting a movable and adjustable blank guide arranged to be placed in contact with the pattern and then adapted to be moved into position to locate the blanks between the clamps, substantially as described.

4. In a sole rounding machine a revoluble vertical sleeve or standard supporting an adjustable blank guide having two contact arms and connections between them; whereby they are adapted to be revolved to contact with the pattern and blanks, substantially as described.

5. The combination, with the cutter and revolving pattern and sole-clamps of a sole-rounding machine, of the standard O, sleeve P, on the standard arm *c*, carried thereby, contacts Q R, on said arm and suitable connecting mechanism between the contacts, substantially as described.

6. The combination, with the cutter and revolving pattern and sole-clamps of a sole-rounding machine, of the standard O, sleeve P, on said standard latch T, arm *c*, both carried by said standard contacts Q R, on arm *c* and suitable connecting mechanism between the contacts, substantially as described.

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Witnesses:

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