

(No Model.)

C. A. WOOD.
SEWING MACHINE.

No. 283,449.

Patented Aug. 21, 1883.

Fig. 1.

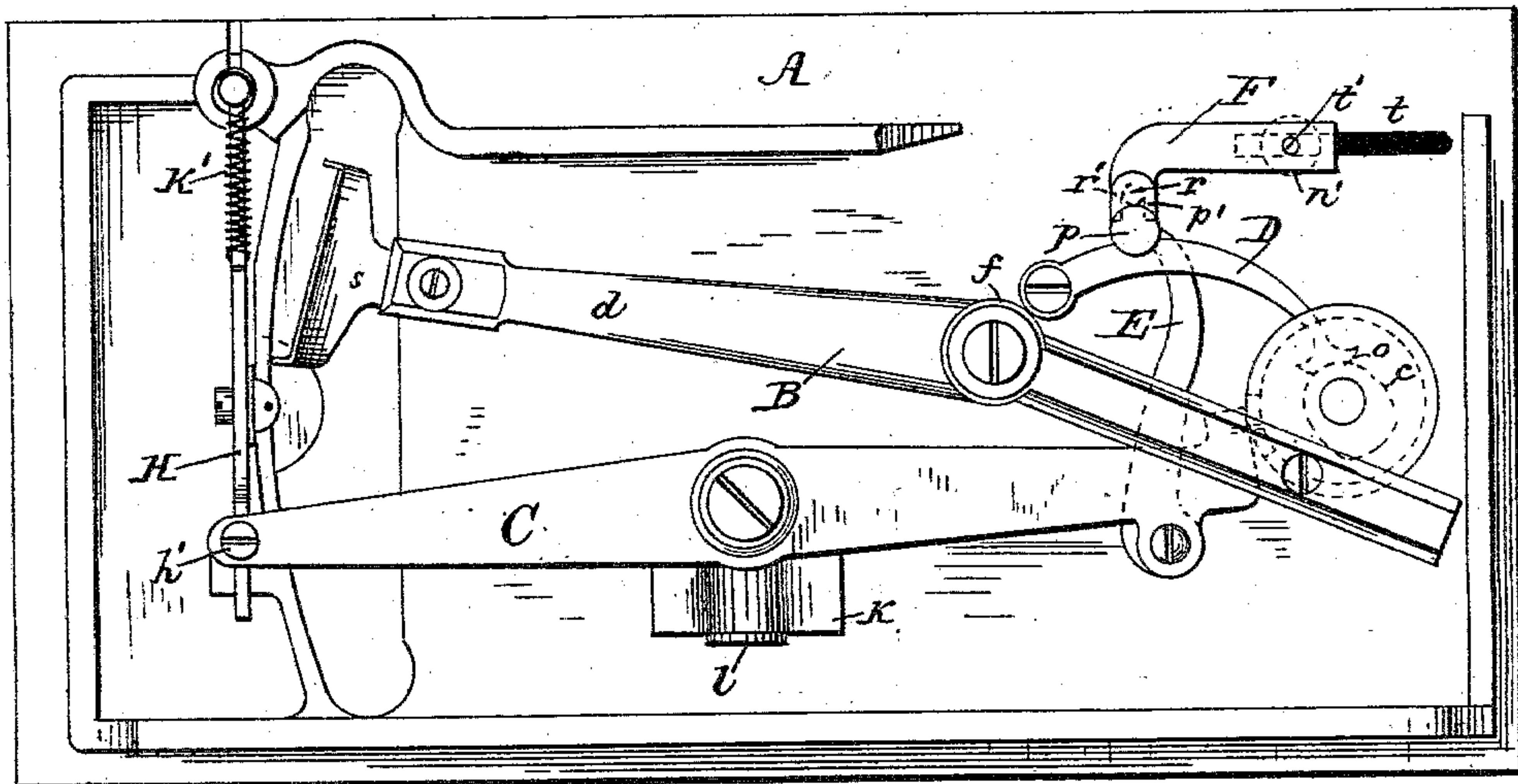


Fig. 2.

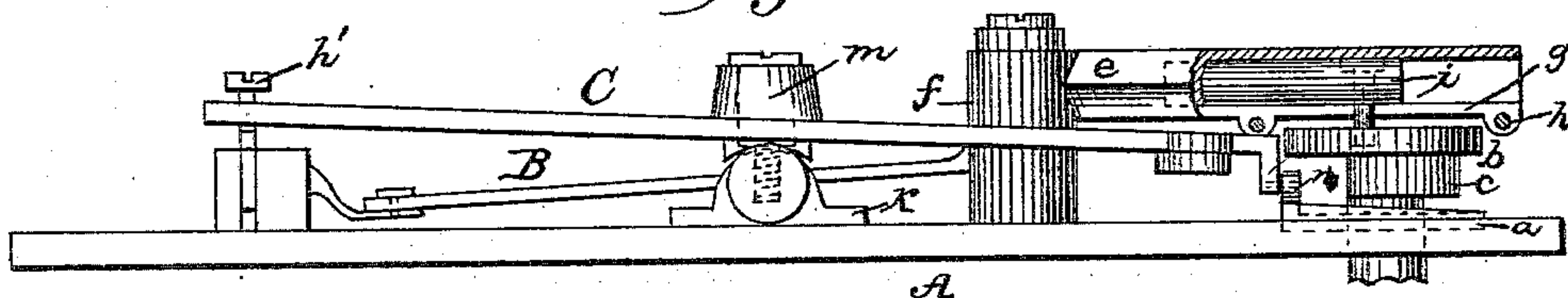


Fig. 3.

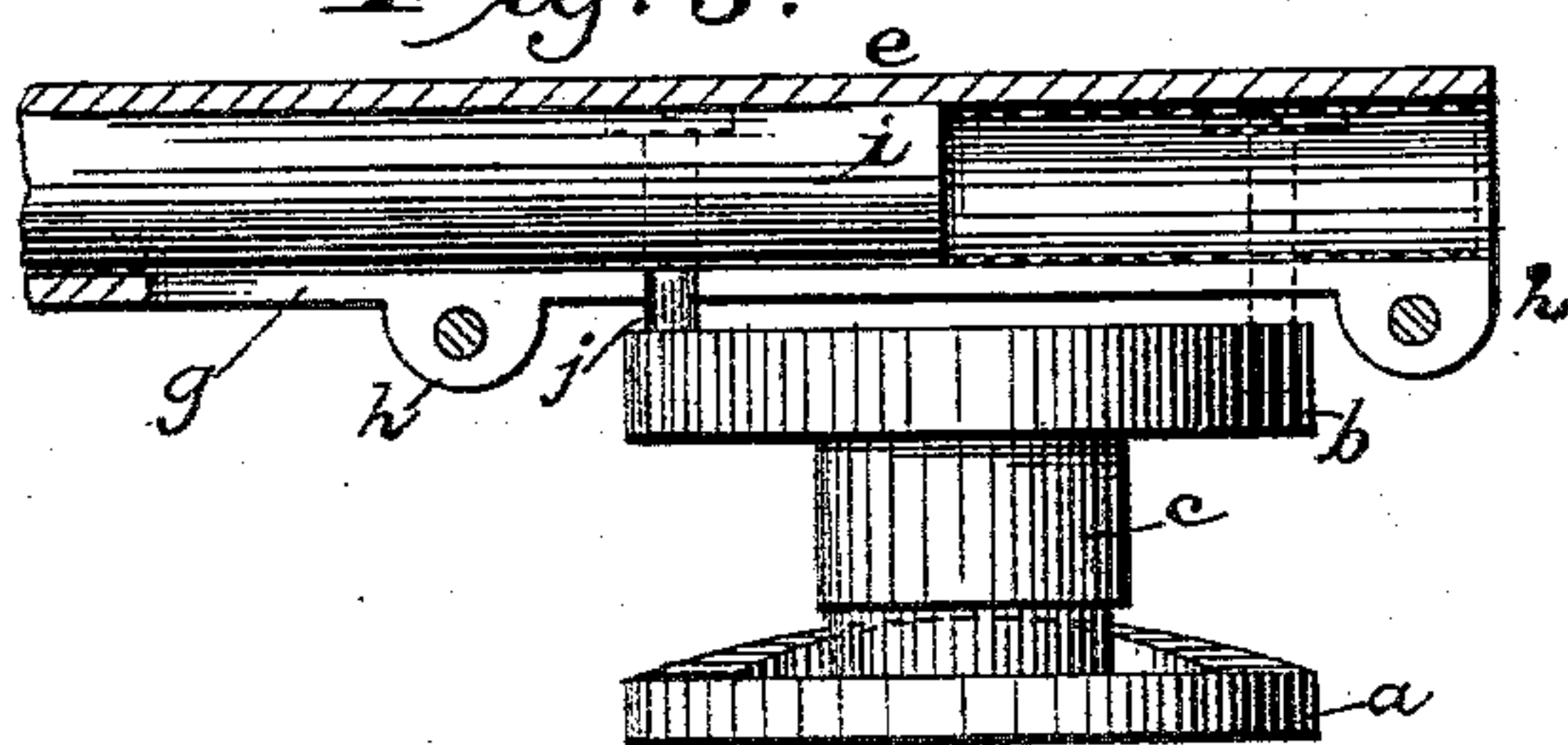


Fig. 5.

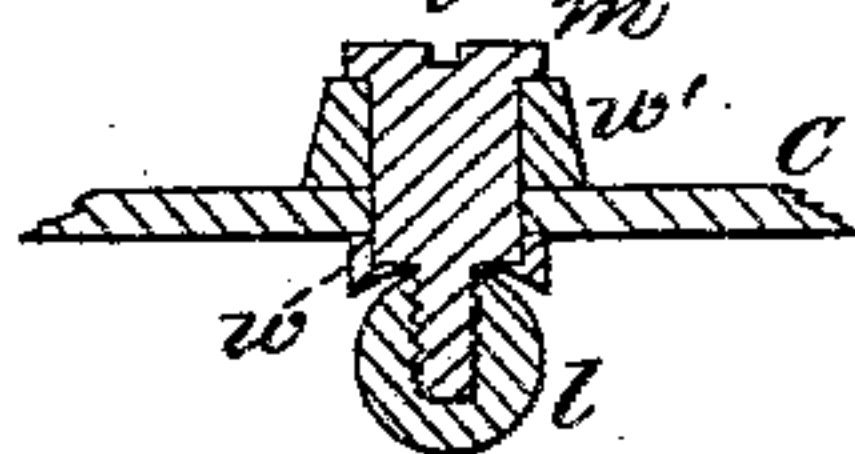
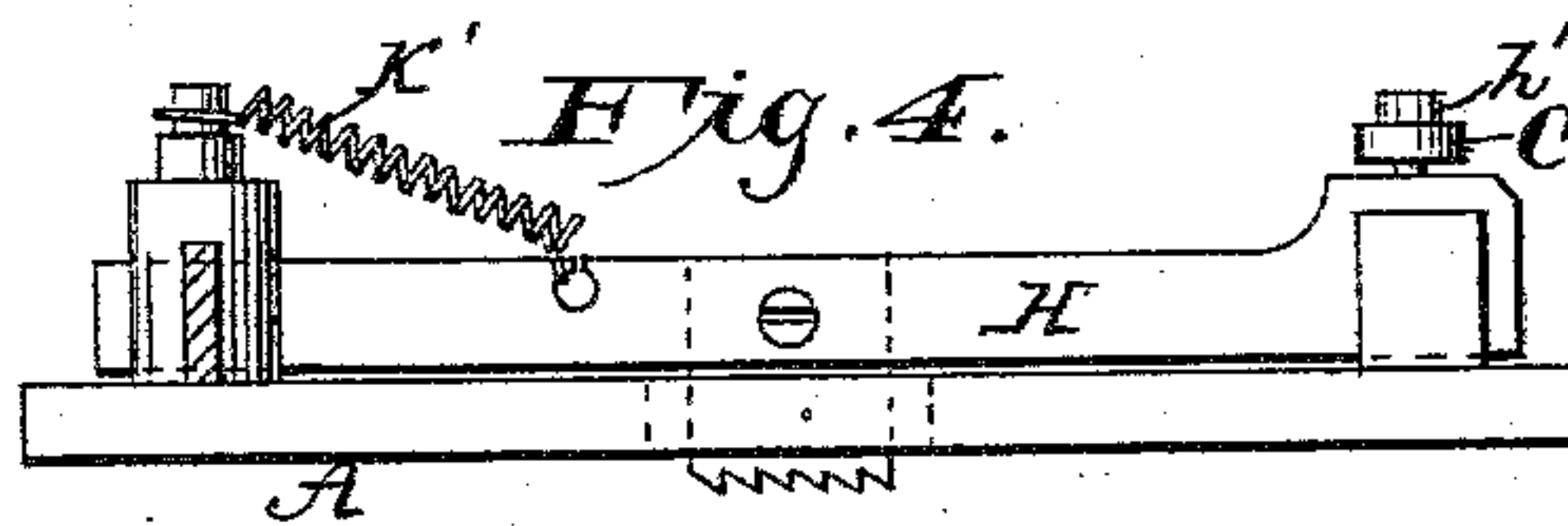


Fig. 4.



Witnesses:

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CHARLES A. WOOD, OF PHILADELPHIA, PENNSYLVANIA.

SEWING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 283,449, dated August 21, 1883.

Application filed December 8, 1882. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WOOD, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Sewing-Machines; and I do 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 and figures of reference marked thereon, which form a part of this specification.

The object of my invention is to provide a superior construction and operation of the feed and shuttle lever mechanism; also to provide a simple and effective method of lengthening and shortening the stitch.

The nature of my invention will appear fully from the following description:

Figure 1 is a view of the under side of the bed-plate and its attachments. Fig. 2 is a side elevation of the same inverted, partly in broken section. Fig. 3 is a detail inverted view of the shuttle-lever, crank-plate, hub, and lift-cams. Fig. 4 is a detail inverted view of the feed-bar. Fig. 5 is an inverted view, in vertical section, showing the manner of pivoting the feed-lever, also the form and method of fastening the pivot.

Like letters refer to like parts.

A represents the bed-plate of the machine. The upright shaft, passing through said plate, terminates in a lift-cam, *a*, and a crank-plate, *b*. The hub of the crank-plate is provided with a cam, *c*, of the shape shown.

The shuttle-lever B is cast in one piece, and is composed of the long arm *d*, carrying the shuttle-holder *s*, and the short arm *e*. The whole oscillates around a stud affixed to the bed-plate by means of the cylindrical portion *f* of the shuttle-lever. (See Figs. 1 and 2.) The driven end *e* of said lever is truncated or cut off, and is made hollow. On the side next to the crank-plate is made a long slot, *g*, having ears *h h*, as shown, on each side, and through these ears pass screws. The object of this construction is to make the end *e* close equally around the sliding piston *i*, in order to take up lost wear when necessary. The piston *i* slides in the driven end of the shuttle-lever, and is connect-

ed with the crank-plate by a pin, *j*, screwed therein, or otherwise fastened. This pin may have its end conical, or in any suitable shape. It will be seen that the pin *j* plays in the slot *g*, and carries the piston as the crank-plate revolves. (See Figs. 2 and 3.)

The feed-lever C is made in one piece, one end connecting with the feed-bar, the other with the lift-cam of the upright shaft. From the lower side of the bed-plate A depends a bracket, *k*, hollowed out to receive a rock-shaft, *l*. Into this rock-shaft is inserted a screw-pivot, *m*, having above the feed-lever a concave bearing, *w*, to match with the rock-shaft. Between the feed-lever and the screw-head of the pivot is a washer or collar, *w'*. (See Figs. 2 and 5.) By this construction the feed-lever is not only fastened, but may also have a rising, falling, and lateral motion to properly actuate the feed-bar. The feed-lever, at its outer end, terminates in a right-angled arm, and to this arm is joined a projecting rider, *n*, which slides upon the lower surface of the periphery of the lift-cam as said cam raises and lowers the feed-lever. The forward or lateral motion of the feed-lever is obtained by means of the supplementary lever D, operated by the cam *c* on the hub of the crank-plate. Said supplementary lever has the head *o* at one end, for engaging with the cam *c*. The other end is hinged to a stud in the bed-plate, as shown, Fig. 1. The motion of the supplementary lever is communicated to the feed-lever by the laterally-swinging strap E, hinged upon the feed-lever, at one end, and engaging with the sliding bar F, at the other, by means of a stud, *p*. This stud projects from the swinging strap, near the end *p'* thereof, and from the other side of said end extends a pin, *r*, which plays in a slot, *r'*, cut in the curved end of the bar F. (See Fig. 1.) The sliding bar F, with curved arm, is for the purpose of regulating the length of the stitch. It is constructed at the bent end to engage with the swinging strap E, as above described. The long straight end is fastened, through a long slot, *t*, in the bed-plate by a burred nut, *n'*, and screw *t'*, the latter extending through said plate. By moving the bar F laterally and fastening it in the desired place by the burred nut the stitch may be regulated, as the position of said bar will affect the play of the feed-

lever through the supplementary lever D and the swinging strap E. In other words, the sliding bar F moves the engaging point *p* of the swinging strap E nearer to or farther from the fulcrum of the lever D, as said bar carries the strap with it when moved. The feed-lever is joined to the feed-bar H by the screw-headed hanger *h'*. The spring *k'* assists to give the feed-lever a downward lateral motion. Its construction need not be further described here.

The operation of my device need not be described, as it will be easily understood by those skilled in the art from the drawings and the above description.

Having thus fully described my invention, what I claim, and desire to secure by Letters Patent, is—

1. The combination of the supplementary lever operated by the cam on the hub of the crank-plate, with the swinging strap and feed-lever, the latter operated by the lift-cam, substantially as set forth.

2. The combination of the supplementary lever and the swinging strap, the latter being pivoted to the feed-lever, near its end, as shown, with the feed-lever and the feed-bar, substantially as set forth.

3. The combination of the adjustable sliding bar with the supplementary lever, swinging strap, and feed-lever, substantially as set forth.

4. The combination of the cam on the hub of the crank-plate with the supplementary lever, sliding bar, swinging strap, and feed-lever, whereby a lateral motion is given to the latter, as set forth.

5. The combination of the bracket and rock-shaft with the concave bearing, feed-lever, washer, and screw-pivot, substantially as set forth.

6. The combination of the sliding piston with the driven end of the shuttle-lever, said driven end being provided with a cylindrical box directly under the crank-plate for the play of the piston, the box being slotted to receive the crank-pin, and provided with ears to take up wear, substantially as set forth.

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

CHARLES A. WOOD.

Witnesses:

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