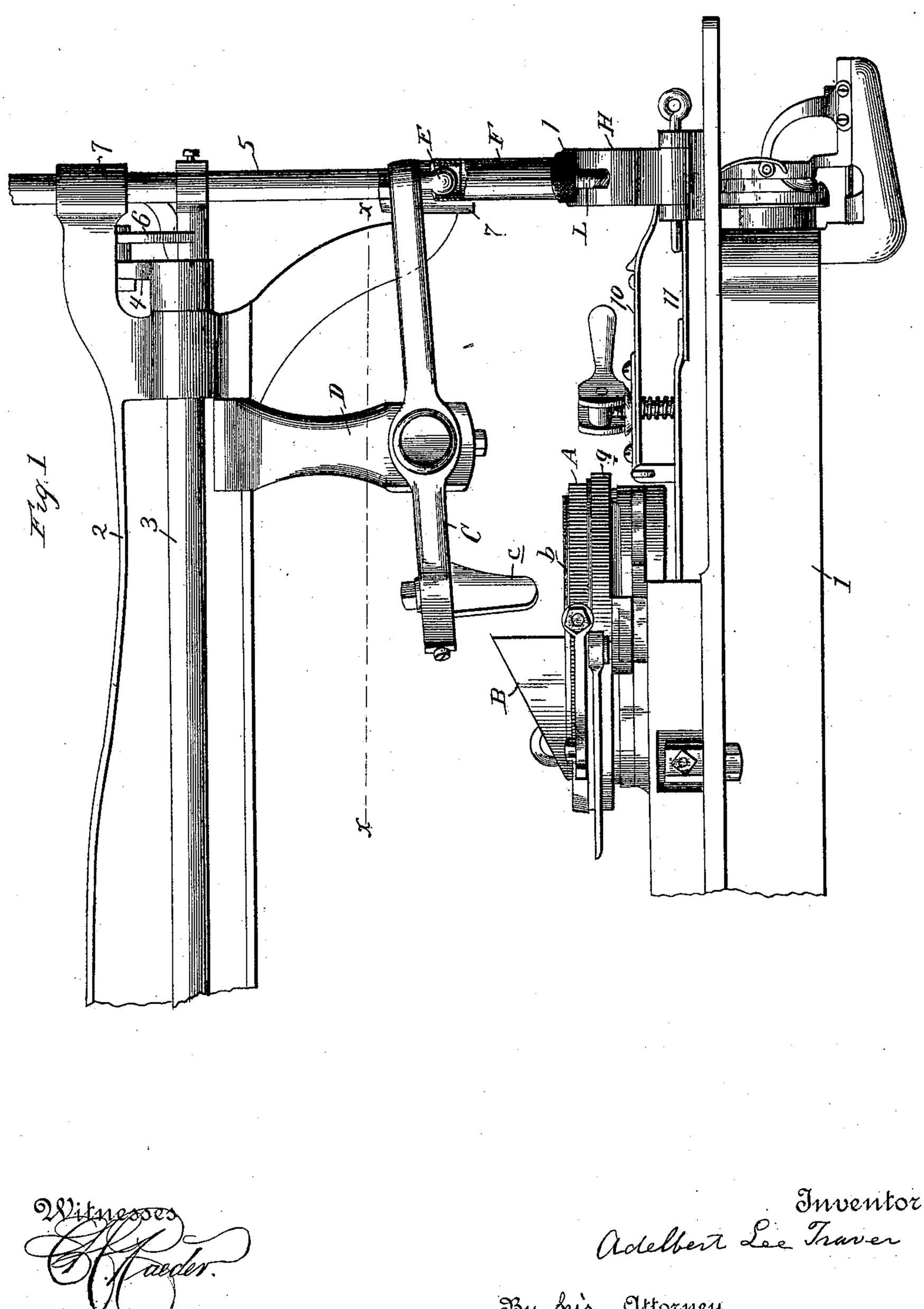
(No Model.) 3 Sheets—Sheet 1.

A. L. TRAVER.

BUTTON HOLE CUTTER FOR SEWING MACHINES

No. 400,975. Patented Apr. 9, 1889.



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T. J. W. Robertson

(No Model.) 3 Sheets—Sheet 2.

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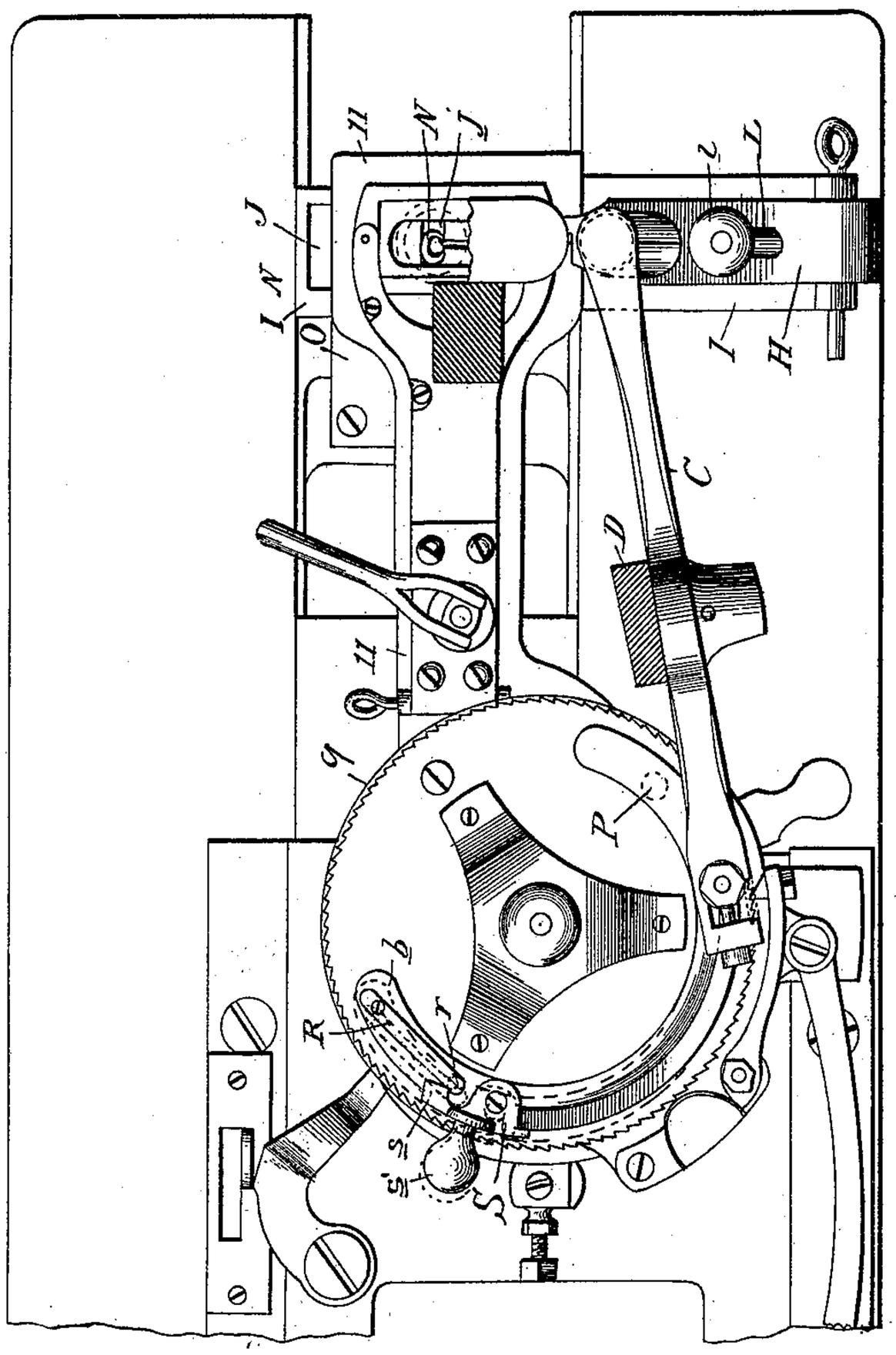
BUTTON HOLE CUTTER FOR SEWING MACHINES.

No. 400,975. Patented Apr. 9, 1889.

Fig. 2



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(No Model.) 3 Sheets—Sheet 3.

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BUTTON HOLE CUTTER FOR SEWING MACHINES.

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Fig. 4

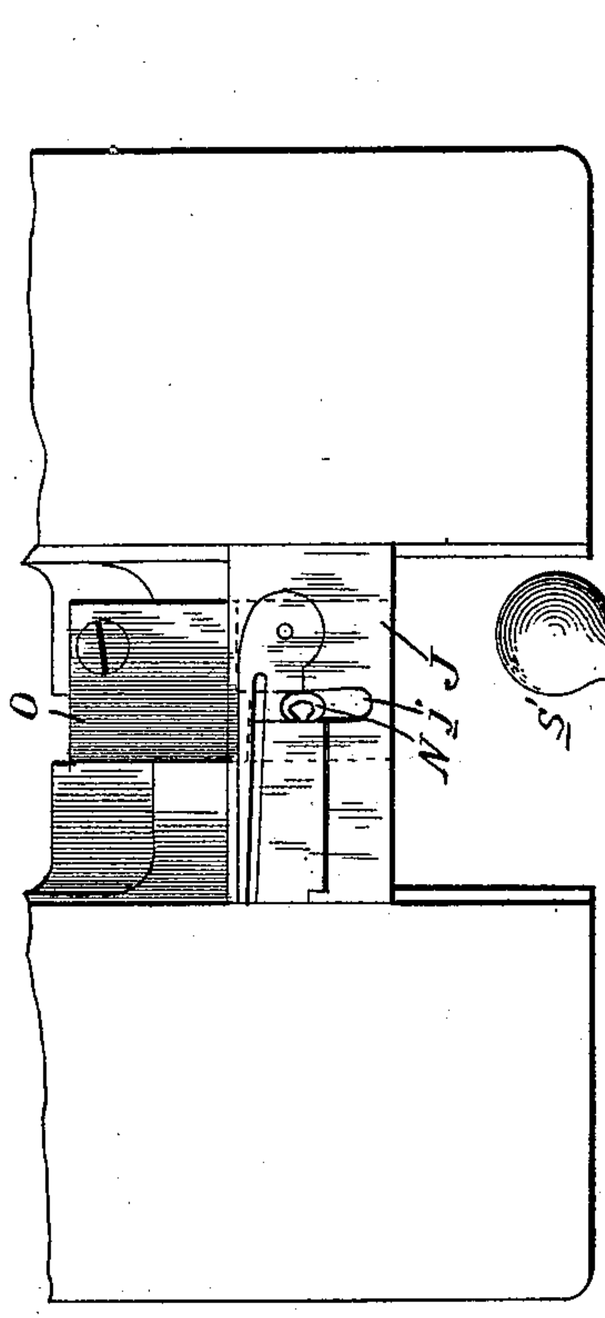


Fig. 5.

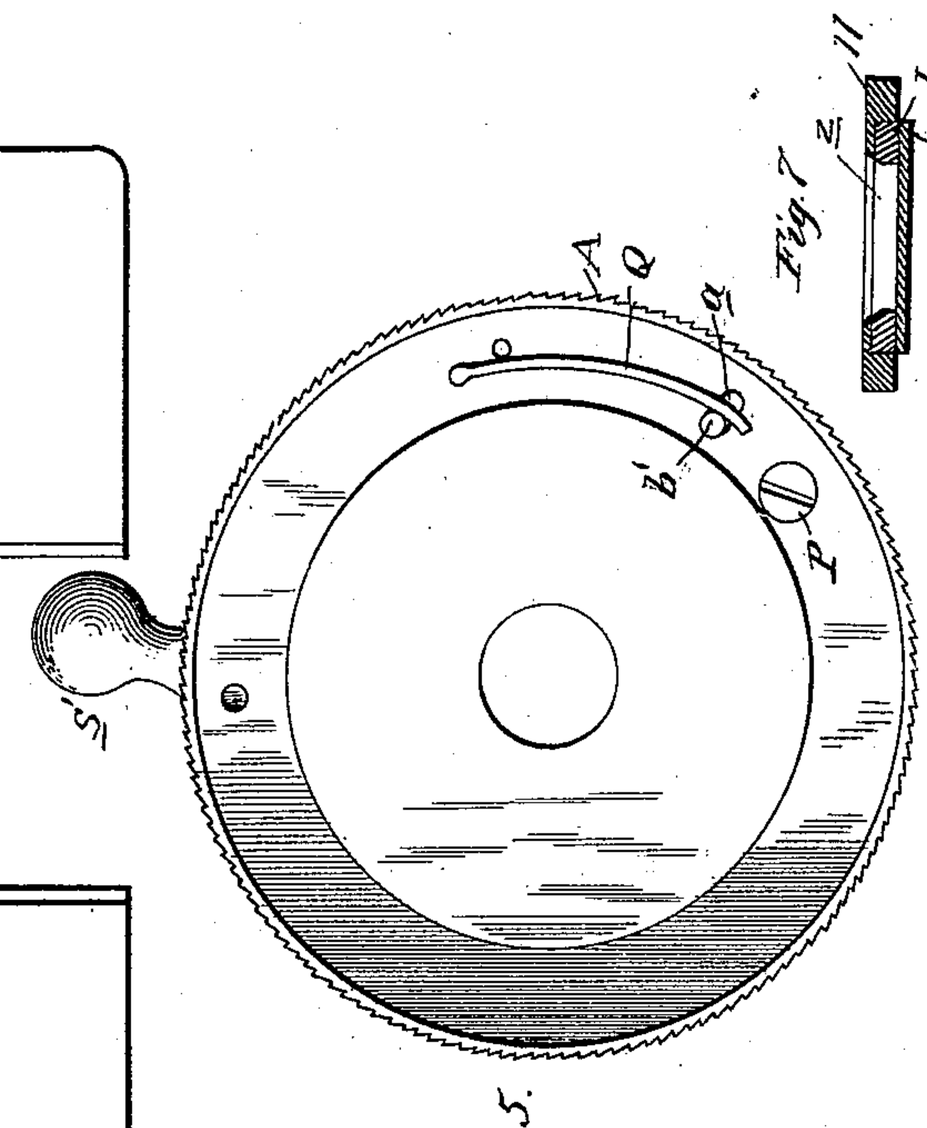


Fig. 6

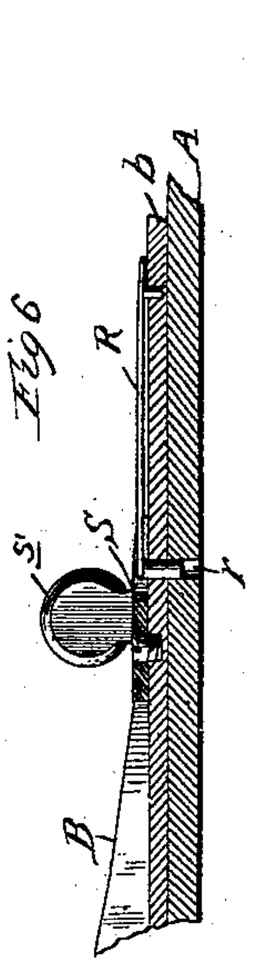


Fig. 3

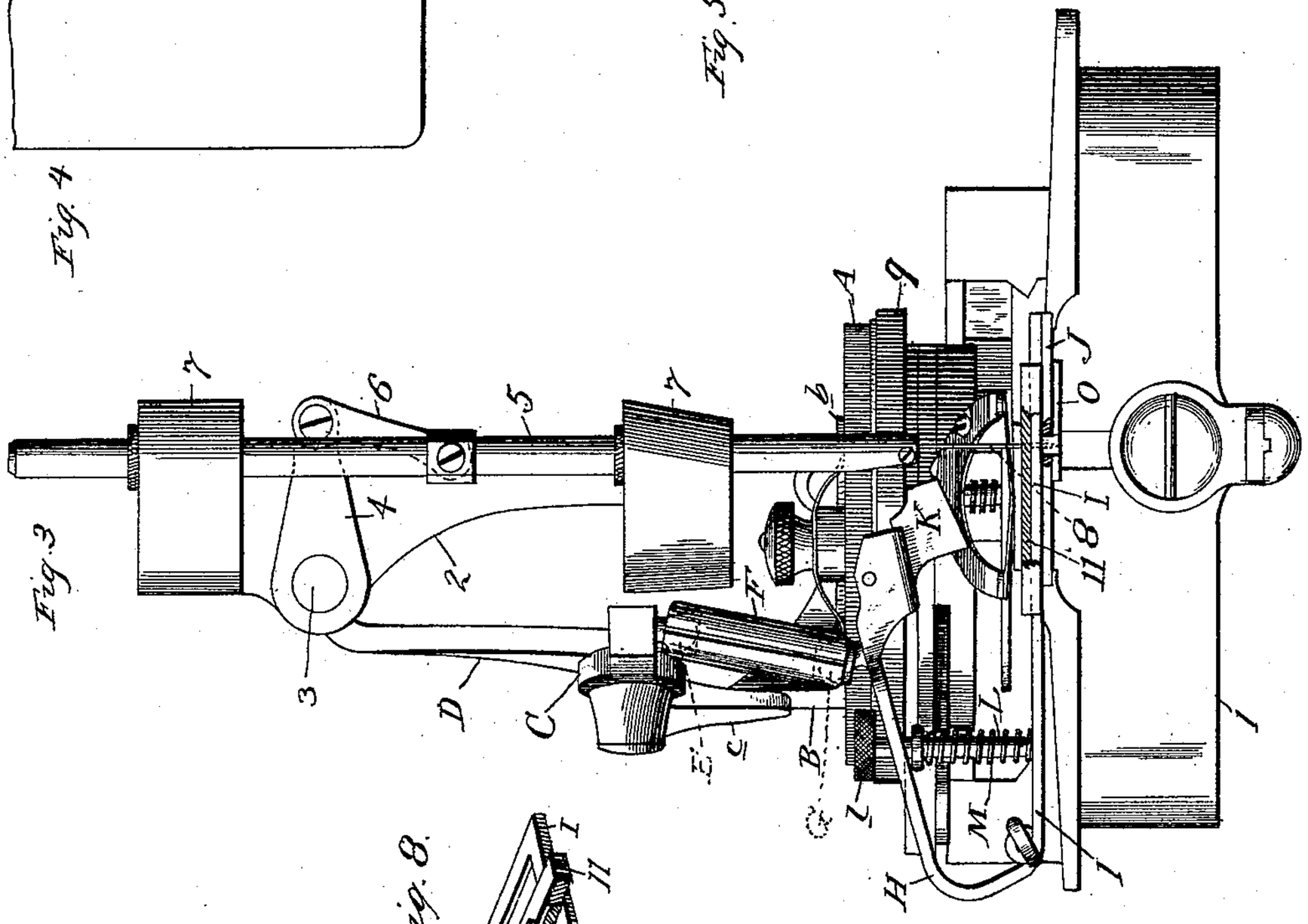
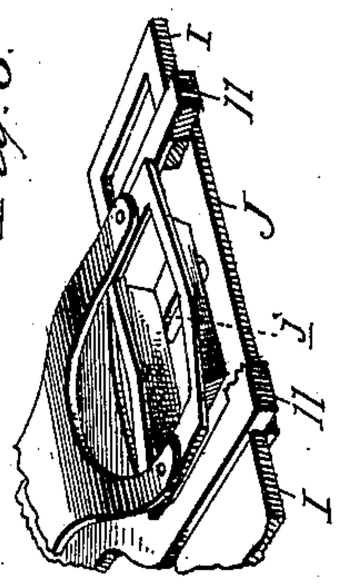


Fig. 8.



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By his Attorney
T. J. W. Robertson

UNITED STATES PATENT OFFICE.

ADELBERT LEE TRAVER, OF PHILMONT, NEW YORK, ASSIGNOR OF ONE-HALF TO JAMES AKEN, OF SAME PLACE.

BUTTON-HOLE CUTTER FOR SEWING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 400,975, dated April 9, 1889.

Application filed July 6, 1887. Serial No. 243,564. (No model.)

To all whom it may concern:

Be it known that I, ADELBERT LEE TRAVER, a citizen of the United States, residing at Philmont, in the county of Columbia and State of New York, have invented certain new and useful Improvements in Button-Hole Machines, of which the following is a specification, reference being had therein to the accompanying drawings, in which—

Figure 1 is a side elevation of part of a Wheeler & Wilson button-hole machine provided with my improvement; Fig. 2, a section of the same through the line *x x* on Fig. 1; Fig. 3, an end elevation of the same. Figs. 4, 5, 6, 7, and 8 are details, which will be more fully described hereinafter.

This improvement relates more particularly to that class of button-hole machines in which the button-hole is cut during the progress of the making of the button-hole; and the invention consists in the peculiar combinations and the construction and arrangement of parts, hereinafter more particularly described, and then definitely pointed out in the claims.

Referring now to the details of the construction, 1 represents the base of the ordinary Wheeler & Wilson button-hole machine; 2, the arm thereof, in which works the rock-shaft 3, carrying the crank 4, which operates the needle-bar 5 by means of the connecting-rod 6, and which needle-bar runs in the guides 7 and carries the needle 8, in the usual manner. Attached to the table are the usual button-hole-feeding cam, 9, clamp 10, and slide 11, for giving motion to the cloth, all of which parts so far mentioned are of the usual or any ordinary construction, except as hereinafter noted, and therefore need no further description here.

Attached to the feeding-ratchet A is an inclined plane or cam, B, which operates the lever C, adjustably pivoted upon the hanger D, depending from the arm 2 of the machine, one end of which lever is provided with an adjustable traveler, *c*, and the other with a ball, E, which forms part of a ball-and-socket joint, the other member of which is in the end of the link F, whose lower end is connected with a similar ball, G, attached to the cutting-lever H, hinged to an arm, I, connected to and moving with the plate J, that forms the under member of the clamp that holds and moves the cloth. The arm I has an opening through it, (shown at *z* in Fig. 7,) so that the plate J can be seen through said opening, which opening allows the upper part of the clamp to press the cloth down upon said plate J in the usual manner, as shown in Fig. 8. The arm I is so fitted to the plate J and slide 11 that the latter embraces it on both sides, as shown in said Fig. 7, and the slide 11, plate J, arm I, and lever H all move lengthwise of the machine simultaneously and correspondingly, so that no matter when the cutter K on the end of the lever H descends it will always be immediately over the slit in the plate J.

Attached to the arm I is a pin, L, around which is a spiral spring, M, pressing against the under side of the arm H, and tending to raise it, and thus keep said arm H, link F, and lever C in the position shown in full lines. At the top of the pin L is a nut, *l*, which prevents the lever H from rising too high under the power of the spring M.

The plate J has a transverse slot, *j*, through which slot projects a fixed throat-plate, N, for the needle, which is attached to a plate, O, screwed to the base of the machine, as shown in Fig. 4.

The cam B may be fixedly attached to the ratchet-wheel A; but for barring the button-hole, I prefer to make it movable, which I do in the following manner: I attach the cam B to a curved base, *b*, which is pivoted to the ratchet-wheel by a screw, P. (See Fig. 5 and dotted lines in Fig. 2.) Projecting from the bottom of the base *b* is a pin, *b'*, which works in a slot, *a*, in the wheel A, and is pressed by a spring, Q, attached to the under side of the wheel against the side of said slot. Attached to the top of the base *b* is a spring, R, having on its under side a pin, *r*, which passes through a hole in the base *b*, and through a corresponding hole in the wheel A, as shown in Fig. 6. Pivoted to the top of the base *b* is a lifter, S, having a tapering finger, *s*, which, when the handle *s'* is pushed inward, slides under the spring R and lifts the same, thus allowing the cam to be moved outward, as shown in dotted lines in Fig. 2.

The operation is as follows: The machine

being properly threaded in the usual manner and the material being clamped in place, motion is given to the machine, and when the button-hole is nearly finished the cam B, running under traveler *c*, operates the lever C, and thus depresses the lever H and cuts the button-hole.

Having thus shown what I consider the preferable form of carrying out my invention, but without limiting myself to the construction shown, what I claim as new is—

1. The combination, in a button-hole machine, and with the cloth-holder thereof, of the traveling plate J, having a slot for the cutter, the arm I, moving therewith, the cam 9, for moving said arm and plate, the cutting-lever H, attached to said arm, the cutter-blade connected with the said lever, with the wedge-cam R, mounted on said cam 9, and intermediate connections for depressing said lever by said wedge-cam, substantially as described.

2. The combination, in a button-hole machine, and with the cloth-holder thereof, of the traveling cloth-plate J, having a slot for the cutter, the arm I, attached thereto, the cam 9, for moving said arm and plate, the cutting-lever H, pivoted to the arm I, the cutter-blade connected with the said lever, the link F, the lever C, and the cam R, moving with said cam 9 and operating the cutting-lever H, substantially as described.

3. The combination, in a button-hole machine, and with the cloth-holder thereof, of the cam 9, the traveling cloth-plate J, having a slot for the cutter, the arm I, attached thereto, the slide 11, connected with the cam 9, the cutting-lever H, pivotally connected to said arm I, the cutter-blade connected with the said lever, the link F, the lever C, supported by the arm 2, and the wedge-shaped cam B, mounted on the cam 9 and operating the cutting-lever H, substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses, this 23d day of June, 1887.

ADELBERT LEE TRAVER.

Witnesses:
HIRAM F. WILKINSON,
MILLARD G. THOMAS.