

L. SCHULTZ.

Rufflers for Sewing-Machines.

No. 157,228.

Patented Nov. 24, 1874.

Fig: 1.

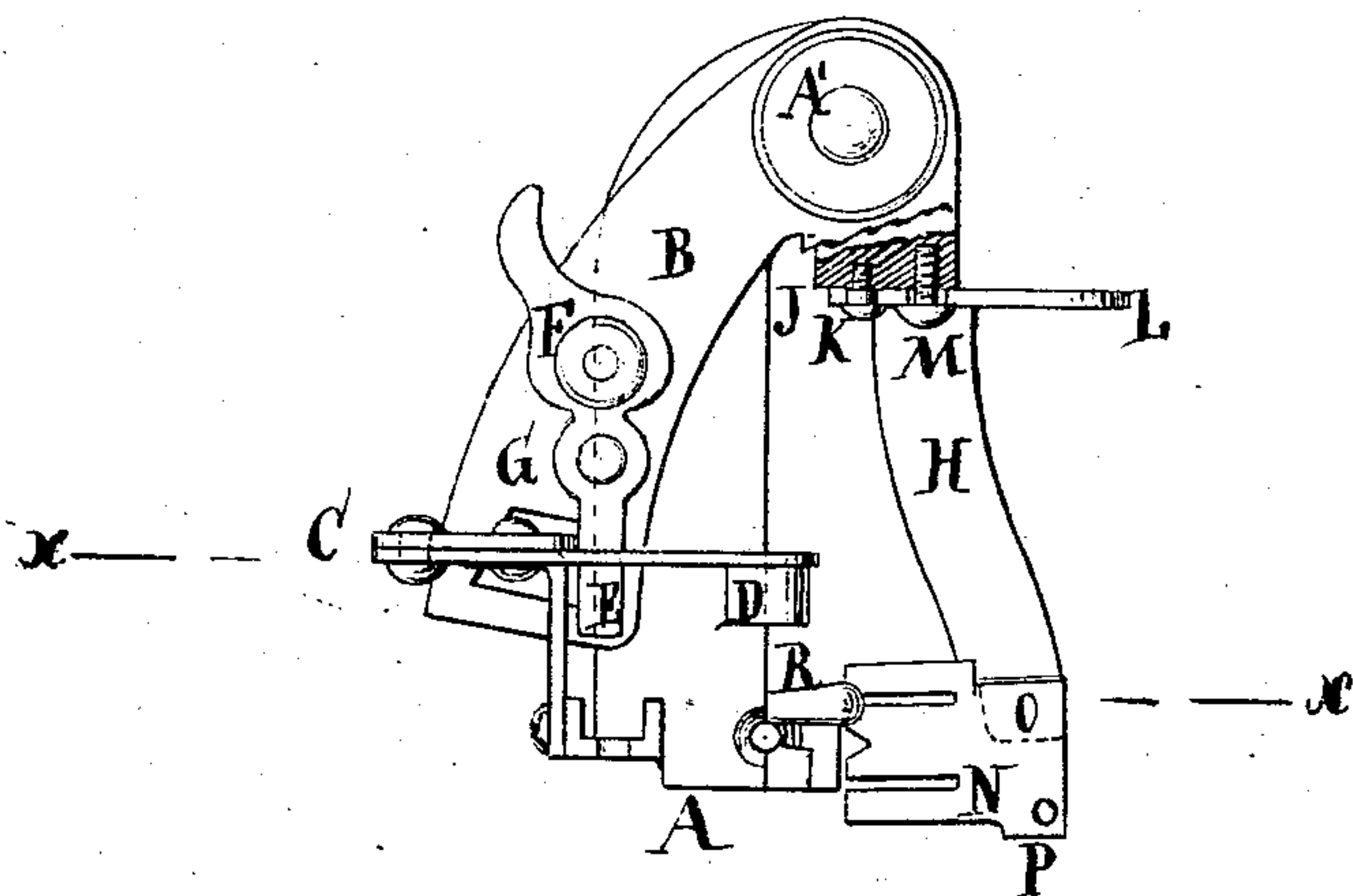
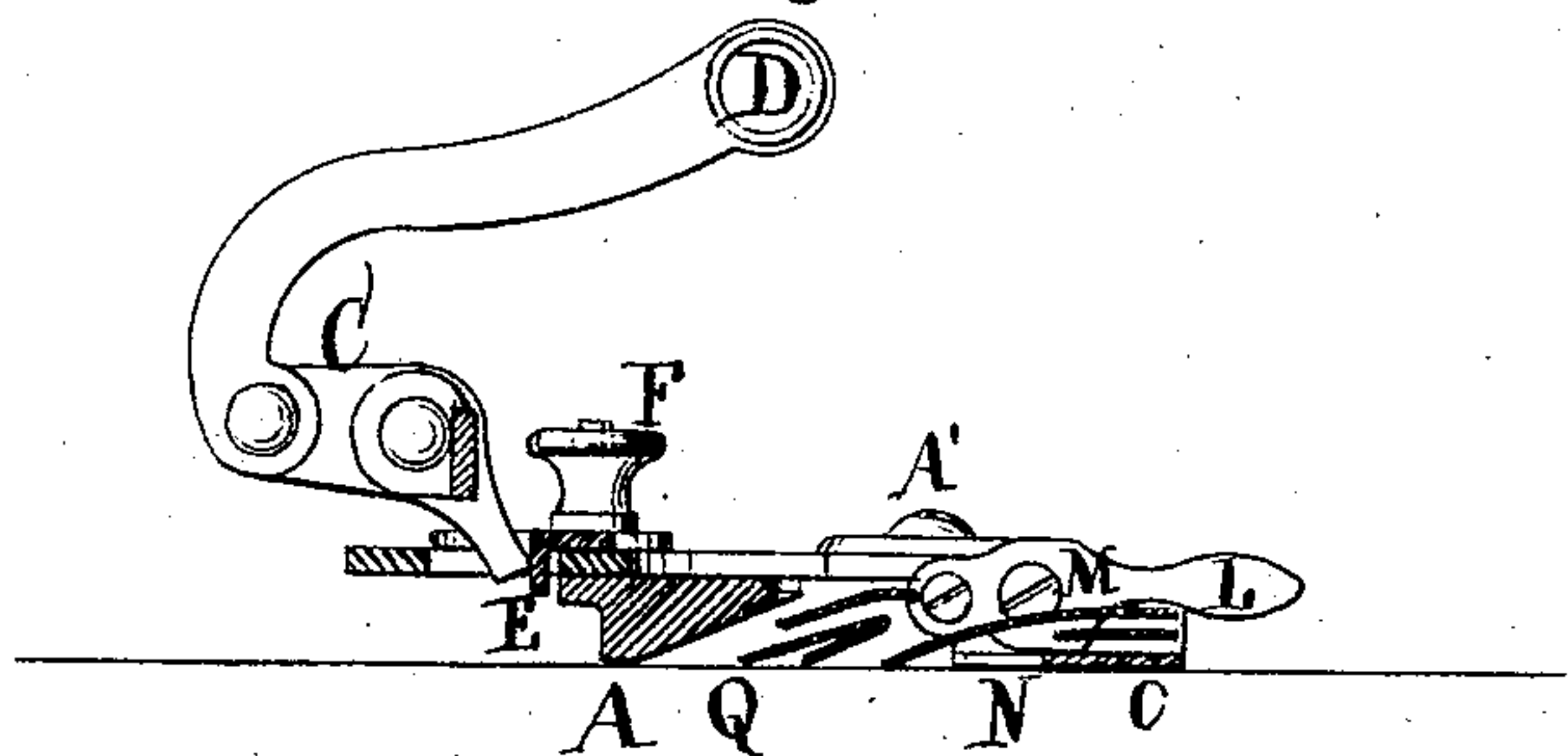


Fig: 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN RUFFLERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. **157,228**, dated November 24, 1874; application filed April 22, 1874.

To all whom it may concern:

Be it known that I, LOUIS SCHULTZ, of College Point, in the county of Queens and State of New York, have invented a new and useful Improvement in Rufflers for Attachment to Sewing-Machines; and I do hereby declare the following to be a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which drawing—

Figure 1 is a plan view of my improved ruffler. Fig. 2 is a vertical section taken in the bent line *xx* of Fig. 1.

Similar letters indicate corresponding parts.

This invention consists of an improvement on my previous invention, for which Letters Patent (Reissue No. 5,793) were issued to me.

In the present invention I have combined with the vertical and horizontal bell-crank levers a ruffling device, which is an extension of one of the arms of the horizontal bell-crank lever, and have added to the apparatus two hemmers—one connected to the presser-foot of the machine, or to that part of the apparatus which is fastened to the presser-foot, and the other connected to the ruffling-toe, the hemmer and toe being combined so as to form substantially one piece, which is pivoted at its outer rear corner to the outer arm of the horizontal bell-crank lever, so that it can be adjusted, or can adjust itself, to the direction in which the goods are advancing, that arm of the lever to which it is pivoted being itself made adjustable, so that it can be turned out of parallelism with the plane of the table of the machine, and thereby tilt the ruffling-toe to any desired angle with the table.

The letter A designates a stationary plate, which constitutes the presser-foot of a sewing-machine, or which is rigidly fastened to the presser-foot. The plate A extends toward the right from the place of the presser-foot, and at its right-hand end there is pivoted to it, at A', a bell-crank lever arranged to move in the plane of the table of the sewing-machine to which the apparatus is to be attached, one arm B of said lever extending toward the place of the presser-foot, where it is engaged by one of the arms of a vertical bell-crank le-

ver, C, whose other arm is connected by its end D to the needle-slide of the sewing-machine, so that the lever C is vibrated to and fro as the needle is reciprocated. That arm of the lever C which engages the arm B of the horizontal lever enters a slot in the arm B, wherein it has the necessary amount of play, so as to move the horizontal lever by striking against the sides of the slot at the proper times to cause the ruffler to act on the goods, the slot being adjusted by a stop, E, which projects into the slot, and is adjusted at a more or less advanced position therein by means of a thumb-screw, F, which enters an elongated slot made in the plate of the stop E, said plate being pivoted on the top of the lever-arm B, as shown at G. The other arm, H, of the horizontal bell-crank lever, is made capable of being turned out of parallelism with its sister arm B, in order to tilt the ruffler to any desired angle while the machine is in operation. This is accomplished by dividing the arm H at J, and connecting its parts there by means of a pivot, K, in such a manner that the left-hand part of the arm H can be turned on its pivot. The arm is turned by means of a handle, L, and it is held at the desired adjustment by means of a set-screw, M, which enters a slot in the said handle, as shown in both figures of the drawing. The left-hand end of the lever-arm H carries a combined ruffler and hemmer, N O, the ruffler serving to "gather" the stuff, and the hemmer to double the binding or band over the gathered edge of the stuff preparatory to the operation of the needle, which stitches the binding or band and the stuff together, and at the same time secures the gathers. The combined ruffler and hemmer is pivoted, at P, to the end of the lever-arm H, in such a manner that it can automatically adjust itself to the direction in which the feed is carrying the goods, notwithstanding the reciprocations of the lever-arm H, on which the combined ruffler and hemmer N O is mounted. The operating end of the ruffler is divided into several toes, which are bent downward, and extend a little ways under the presser-foot at Q, where an additional but stationary hemmer, R, is arranged to operate upon any fabric which is to be attached to the surface of the ruffled fabric.

What I claim as new, and desire to secure by Letters Patent, is—

1. The ruffler N, pivoted loosely on the lever-arm, so that it can, during the oscillations of the lever-arm, adjust itself automatically to the direction in which the cloth is carried, substantially as described.

2. The combination, with the plate carrying the stationary hemmer R, of the horizontal

bell-crank lever B and H, the latter carrying at its outer end the pivoted ruffler and hemmer N O formed in one piece, the whole constructed to operate in the manner and for the object specified.

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Witnesses:

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