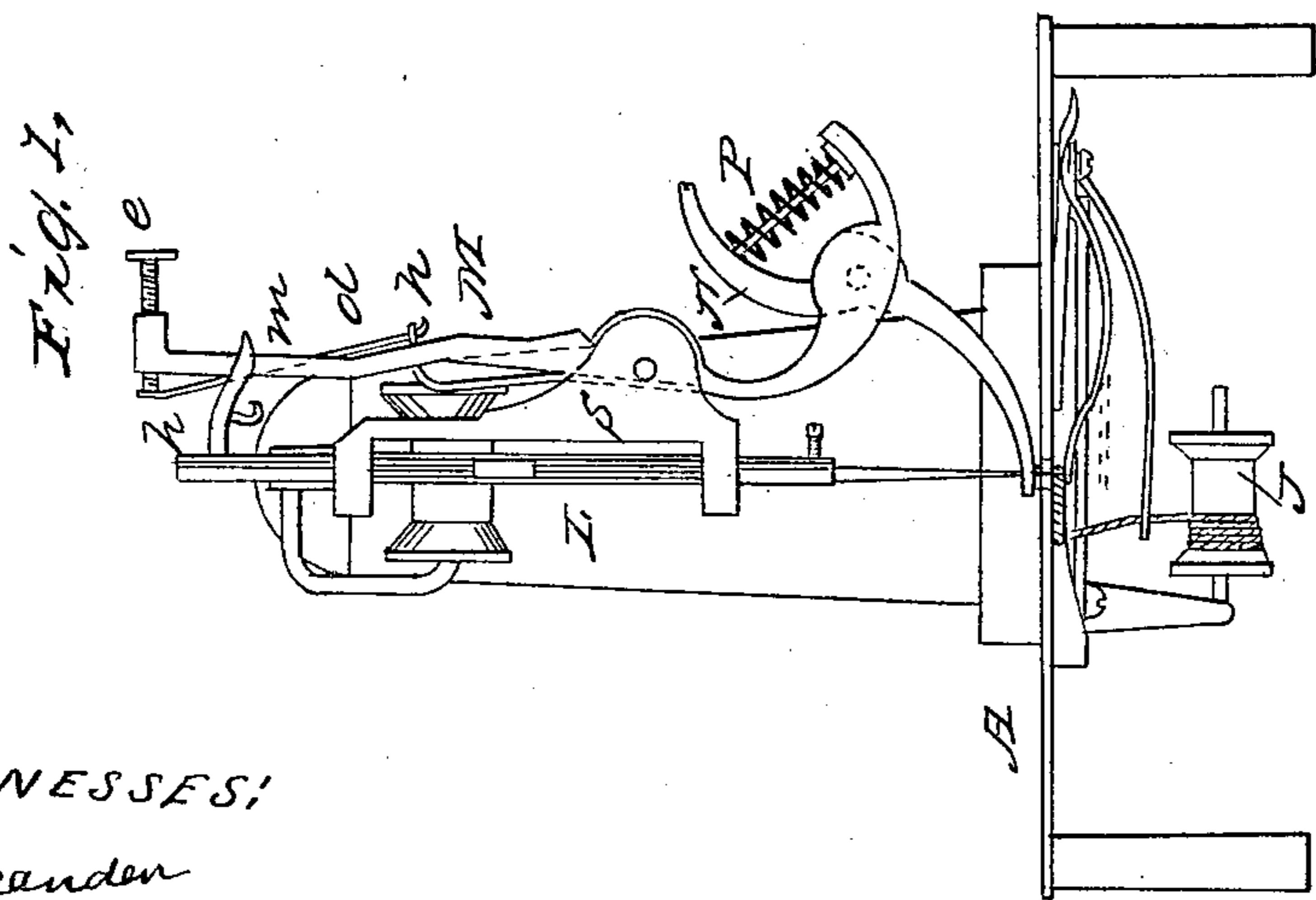
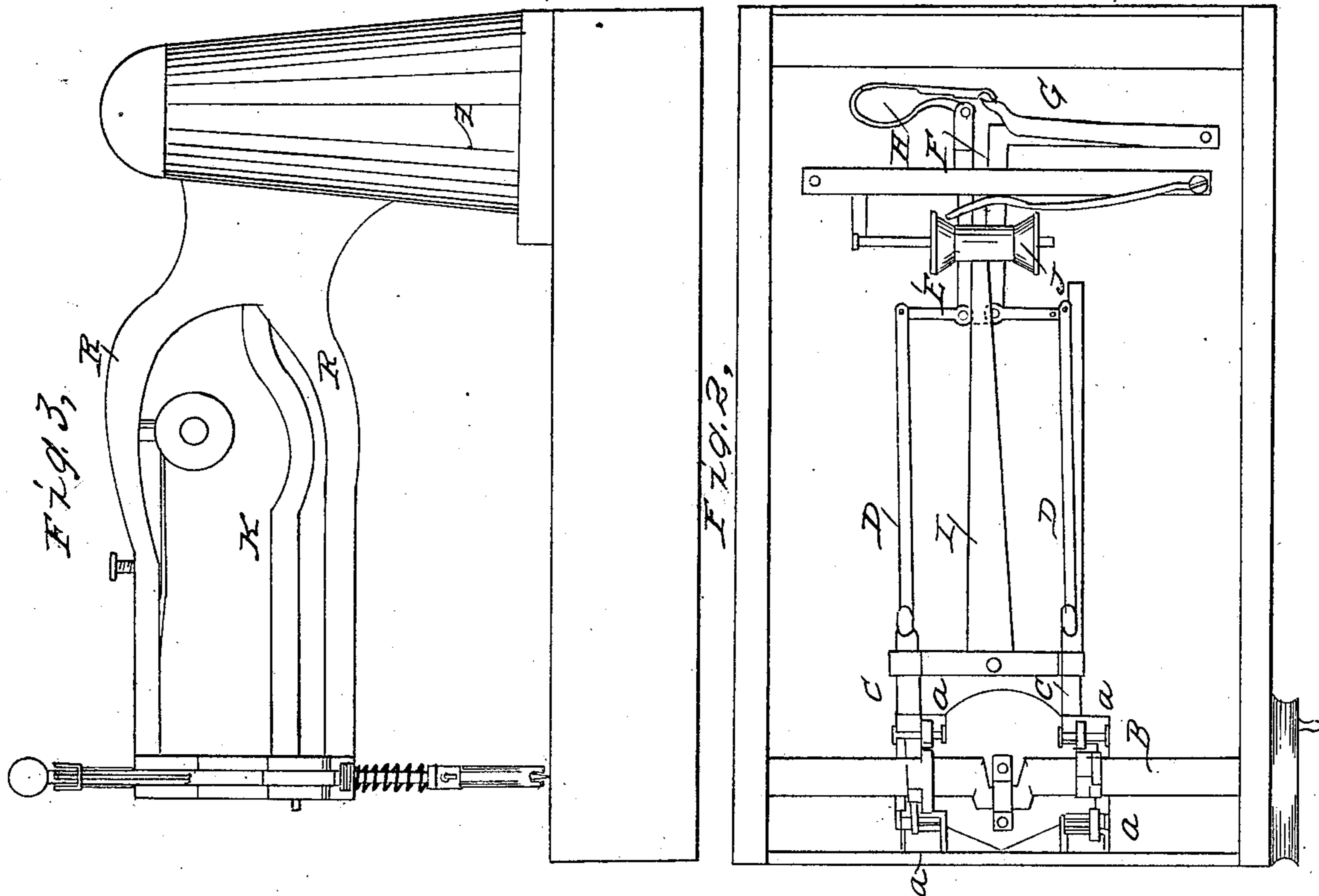


Sewing Machine.

No. 25,876.

Patented Oct. 25, 1859.



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INVENTOR:
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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 25,876, dated October 25, 1859.

To all whom it may concern:

Be it known that I, WM. T. BARNES, of Buffalo, in the county of Erie and State of New York, have invented certain new and useful Improvements in Sewing-Machines; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

The nature of my invention consists in the arrangement and employment of certain devices, the peculiarities of which will be hereinafter described.

In the drawings which form a part of this specification, Figure 1 represents a front view of the machine. Fig. 2 represents a bottom view. Fig. 3 represents a side elevation.

In the construction of my machine the frame in which the operating parts are placed may be made in any of the known ways, as my invention does not relate to its construction; but, having procured a suitable frame, I secure under said frame, at its rear, a shaft, B, which works in suitable bearings. This shaft B is provided with a crank near its center, as is shown in Fig. 2. On each side of the crank on shaft B are secured cam-wheels, which are intended to give motion to those parts which operate the looping apparatus.

C C represent two small frames, which play between the under side of the table and the shaft B. These frames are provided with small rollers *a a*, or wheels, which are secured on small axes which have their bearings in the said frame. Each of the frames C C have two rollers. Said rollers stand on different sides of the shaft B, and are operated upon by the cams on said shaft, as it revolves, in such a manner as to communicate a reciprocating movement to the frames C.

D D' are connecting-rods, which connect the frames C C to the levers E and F. These levers are bent at right angles, as is seen. A pivot passes through them at *x*, and on said pivot they are allowed to vibrate.

To the forward end of lever E is secured a spring-looper, H, which is somewhat near the form shown in the drawings, Fig. 2. This looper is provided with two small holes—one near its point and one about half an inch back

of it—through which holes a thread passes from the spool J, seen under the machine.

Secured to one end of lever F is a spring, G, which when in its natural position stands out at one end from the lever, as is seen in dotted line, Fig. 1. This spring G is provided with a point, which enters the loops when the needle descends, as will be described. The upright portion of the frame A is provided with two arms, R R, and the needle-bar L passes through and has its bearings in the ends of these arms. The arms R R are connected together at their front ends by means of a connecting-piece, S.

M is a bar, which is pivoted to the connecting-piece S, and to the lower end of which is secured the feed-shoe.

d is a lever, which passes through the bar M near its upper extremity, and is pivoted to it at *m*. A screw, *e*, which passes through the upper end of bar M, presses against the upper end of lever *d*, the lower end of said lever being made to catch in the loop of a spring, *h*. The bar M passes through a slot in a piece, *n*, which is secured to the upper part of the needle-bar, and the lever *d* pressing against the back of this slot, when the needle-bar is elevated the bar M is caused to move, which gives a forward motion to the feed-shoe and consequently to the cloth. When the needle-bar descends, the front of the slot in the piece *n* strikes against the lower portion of the lever *d* and causes a return movement of the feed-shoe. The needle being in the cloth at the time the shoe returns, the cloth does not return with it, but stands still until the needle ascends and the shoe is prepared to give it another forward movement.

In the operation of my machine it is set in motion and the needle descends. It passes through the cloth, and as it begins to return the spring G moves forward and its point enters the loop formed by the return movement of the needle, the loop being retained upon the point of the spring G. As the needle-point recedes, the looper H approaches it, and the point of the looper passes close to the needle, between the point of the needle and the point of the spring G, and passes into the loop which is extended on the spring G. As the needle continues to recede, the spring draws the thread

in the needle tight, and the thread when tight draws upon the spring and bends it toward the looper, and as its point reaches the looper it is made to draw back from the looper and leave the thread upon it.

It will be seen that the point of the looper is curved, and that just back of the curve it is slightly enlarged. The thread or loop from the spring G is placed and left on this enlargement back of the looper-point until the needle descends. As the needle descends, its point passes down in the curve of the looper-point, and passes between the thread (which comes from spool J, and is passed through the holes in the looper) and the curve of the looper, and after having passed by the loop, which is still held on the enlargement of the looper, the looper is made to draw back out of the loop, and as the needle continues descending the looper is drawing back until the thread is tightened. After the needle has reached its lowest point it begins to ascend again, and the spring again approaches, passes through the loop, and is drawn toward the looper, which again moves forward and enters the loop. When the needle descends, its point passes between the thread of the looper and the point of said looper, and passing the loop on the looper it (the looper) draws back, and thus a stitch is again made and the thread tightened, and so the operation continues. The loop is

always passed from the spring G to the enlargement of the looper, and is there retained until the needle passes down in front of it. Should the needle pass at the back of the loop, the stitch which the machine is intended to take would be missed, and it would only form the common loop-stitch; but there is never danger of the needle passing at the back of the loop, as the spring places the loop so far on the enlargement of the looper that it cannot possibly draw forward far enough to allow of the needle passing back of it.

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

The arrangement of the threaded elastic looper H, as constructed, with a receiving and transferring spring G, when the two are secured on opposite sides of the needle, and operated to and from the needle by means of levers E and F, connecting-rods D and D', and frames C C, the several parts being combined and connected substantially as and for the purpose herein specified.

WILLIAM T. BARNES.

Witnesses:

C. M. ALEXANDER,
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