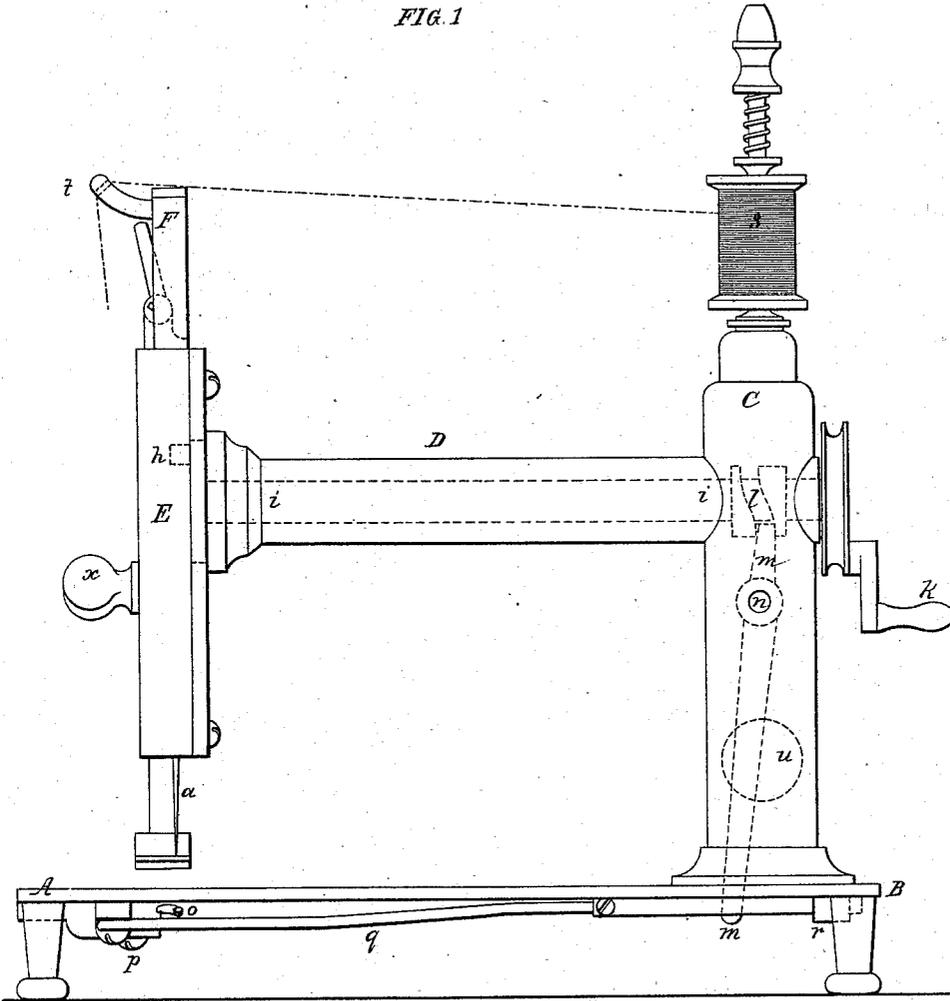


W. M. FULLER.
SEWING MACHINE.

No. 32,496.

Patented June 4, 1861.

FIG. 1



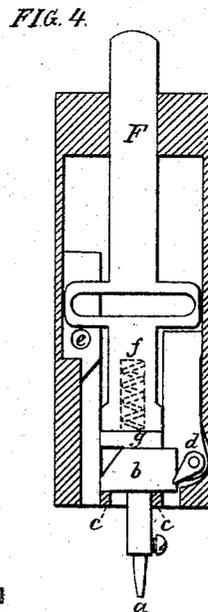
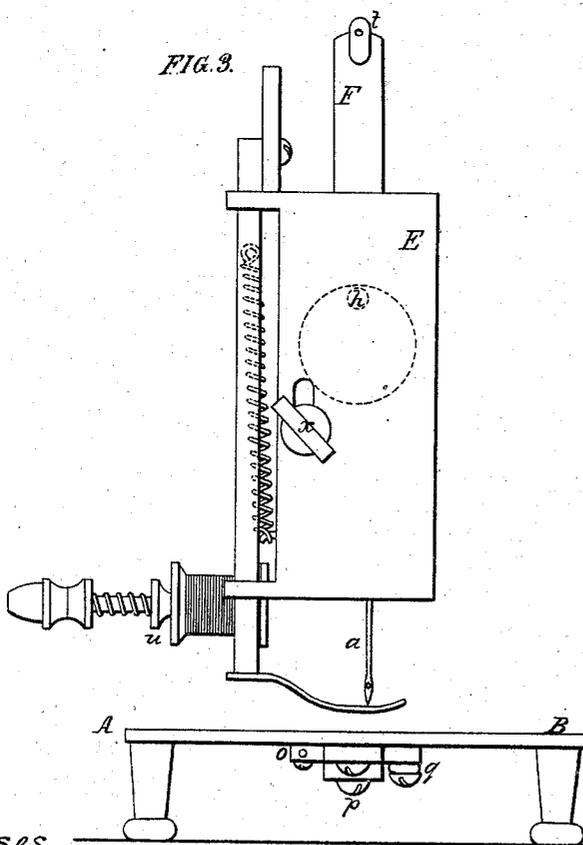
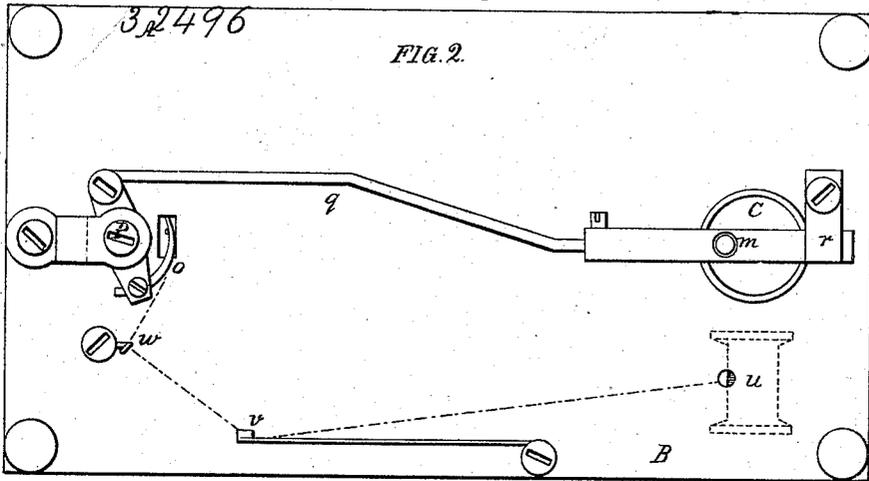
Witnesses.
Melrose Hall -
William Jacobus

Inventor.
Wm Fuller -
by his Atty
Amos Brewster

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UNITED STATES PATENT OFFICE.

WILLARD M. FULLER, OF CHICAGO, ILLINOIS, ASSIGNOR TO HIMSELF AND
GEO. W. CHANDLER, OF SAME PLACE.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 32,496, dated June 4, 1861.

To all whom it may concern:

Be it known that I, WILLARD M. FULLER, of Chicago, in the county of Cook and State of Illinois, 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 construction and operation thereof, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

Figure 1 is a side elevation of my said improved sewing-machine. Fig. 2 is an inverted plan or bottom view of the same, showing the arrangement of the parts below the plate. Fig. 3 is an end elevation. Fig. 4 is a section of the head of the machine containing the parts immediately connected with the needle.

A B is the plate of the machine, standing on four legs. C is a hollow vertical pillar, supporting the hollow horizontal arm D. E is the head of the machine, screwed to the horizontal arm D, and represented in section by Fig. 4. The needle *a* is held by a set-screw in the slide *b*, which has a horizontal motion in the needle-bar F. The needle-slide *b* is held in its place by the forks *c* of the needle-bar F. When the needle-bar is raised the slide *b*, with its needle, is first shifted to the left by the radial action of the dog or pawl *d*, and is subsequently shifted to the right, on being further raised, by coming in contact with the inclined plane *e*. The thumb-screw *x* serves to adjust the inclined plane in the vertical slot of the head. The pressure of the spring *f* in the needle-bar upon the washer *g* and the slide *b* keeps the slide and needle steady. The needle-bar F and its slide and needle receive their vertical motion from the pin *h* on the crank-plate attached to the shaft *i i*, contained in the hollow arm D of the frame. The shaft *i i* is worked by a pulley or handle, *k*, and it has a cam, *l*, by which it also imparts motion to the inclosed lever *m m*, vibrating on the pin *n* in the vertical pillar. The slotted looper *o* is curved in conformity with its distance from the needle *a*, and has a groove in its outer side and a slot in its end

for the reception of the lower thread. The looper is secured by a set-screw in the end of a lever vibrating on the center *p*, and receiving its motion from the vibrating lever *m m*, through the connecting-rod *q*, which is held in position by the slide *r*.

When it is desired to operate my machine the thread from the spool *s* is passed through the leader *t* and through the eye of the needle *a*, and the thread from the lower spool, *u*, is first passed through the end of the tension-spring *v* and then over the guide-hook *w* to the slot of the looper *o*. When the needle has carried its thread through the cloth being sewed the looper passes through the loop of the upper thread and holds it until the needle returns and passes through the loop of the lower thread. The alternate operations of the needle and looper thus form the stitches. As the needle passes up the pawl *d* shifts the needle-slide *b* by its radial movement, and thus feeds the cloth by the needle for another stitch, and as the needle-bar ascends still farther the slide is brought into contact with the inclined plane *e* and is shifted back to its normal position in the needle-bar, in which it descends until the needle has passed through the cloth and the point of the pawl has again caught in the notch of the needle-slide made for its reception. The position in which the inclined *e* is secured by the screw *x* determines the length of the stitch.

I claim as my invention and desire to secure by Letters Patent—

1. The needle-slide *b*, the pawl *d*, and the inclined plane *e*, substantially as described, arranged for feeding the cloth for the stitches.
2. The slotted looper *o* and its guide-hook *w*, combined for the purpose specified.
3. A needle with a horizontal shifting motion, as described, combined with a slotted looper, as described, for the purpose of making a series of stitches.

WILLARD M. FULLER.

Witnesses:

C. E. GRAY,
WM. H. HURLBUT.