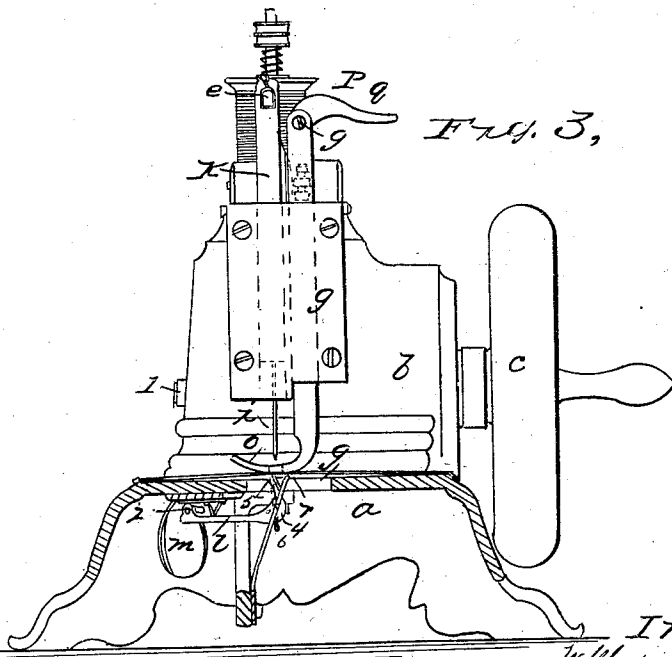
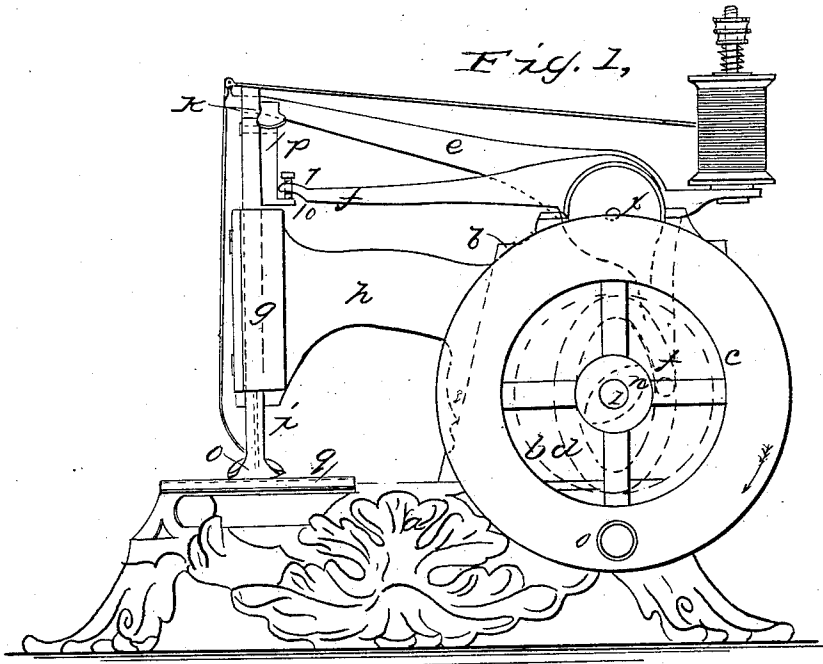


NETTLETON & RAYMOND.

Sewing Machine.

No. 18,350.

Patented Oct. 6, 1857.



Witnesses:
Charles Churchill
Caleb N. Sanington

Inventors
Willford H. Nettleton
Charles Raymond

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Fig. 2,

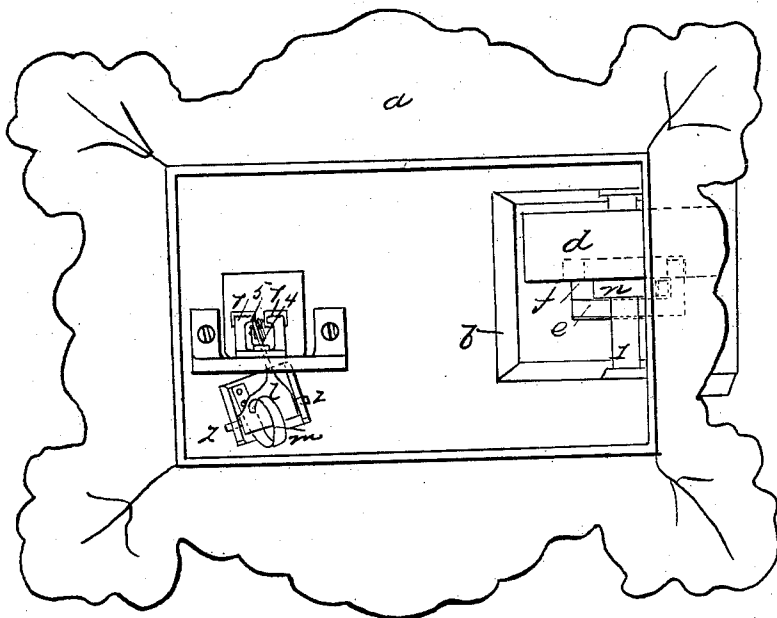


Fig. 4,



Fig. 5,



Witnesses:
 Charles Churchill
 Gile N Langston

Inventors
 Willford H Nettleton
 Charles Raymond.

UNITED STATES PATENT OFFICE.

W. H. NETTLETON AND CHAS. RAYMOND, OF BRISTOL, CONNECTICUT.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 18,350, dated October 6, 1857.

To all whom it may concern:

Be it known that we, WILLFORD H. NETTLETON and CHARLES RAYMOND, of Bristol, in the county of Hartford and State of Connecticut, have invented, made, and applied to use a certain new and useful Improvement in Sewing-Machines; and we do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making part of this specification, wherein—

Figure 1 is a side elevation of our said sewing-machine. Fig. 2 is a plan of the base thereof as if inverted. Fig. 3 is an end view with part of the bed removed to show the parts, and Fig. 4 is a detached plan of the looper.

Similar marks of reference indicate the same parts.

The nature of our said invention consists in a peculiar construction of feed-motion to move the material that is being sewed.

In the drawings, *a* is the metallic bed; *b*, the box containing the cam *d*, which is set on the shaft 1, and revolved by means of a fly-wheel, *c*, and handle.

e is a bent lever set on the-fulcrum *x*, and given a vibrating motion by means of the cam *d*, acting on a stud on the short end of said lever, and for this purpose the cam *d* may be shaped as shown by dotted lines, Fig. 2.

g is the needle-slide on the end of the arm *h*, and *i* is the needle, with an eye near its point, secured in the carrier-bar *k*. A loop in the upper end of this bar *k* receives the end of the lever *e*, and from it the needle derives a vertical motion.

The looper which we use is constructed as follows: *l* is the looper set on a fulcrum, 2, on the under side of the bed *a*. *m* is a spring tending to keep the looping-points 5 against the under side of the bed *g*. 6 is a guide-wire, against which the looper moves. 4 is a double plate attached to the side of the looper *l*, and formed wedge shape between the plates, (see end view, Fig. 5,) and this is so placed that the needle-point passes in between these plates in its descent, and the point itself is not injured, but the needle presses the looper down against the operation of the spring *m*,

and the curvature described by the point 5 in the descent of the looper brings said point on the opposite side of the needle, and as the needle rises the said point 5 again crosses the needle by the curvature of its ascending path and takes off the loop and holds the same ready for the needle in its next downward motion to enter said loop, and said loop is dropped by the looper as it moves backward again as the needle descends, making a very simple and efficient looping apparatus.

n is a small cam on the shaft 1 moving the lever *f* to operate the feed-motion, and this cam *n* is so timed that the feed-motion acts at the time the needle is withdrawn from the cloth.

o is a pressure-clamp sliding vertically in the part *g*, and on the upper end of this pressure-clamp *o* is a bent lever, *p*, on a fulcrum, 8, having a thumb-piece at 9 and a step at 10, receiving the end of the regulating-screw 7 through the end of the lever *f*. This lever *p* serves the purpose of disconnecting the feed-motion and of raising the pressure-clamp *o* off the cloth, while the screw 7 causes the cam *n* and lever *f* to give more or less vertical motion to the clamp *o* and increase or decrease the length of stitch.

q is a metallic spring-bed set on the bed *a*, and attached by screws, rivets, or otherwise in such a manner as will allow said bed *q* to yield freely to pressure from the clamp *o*.

r r are inclined spring feeding-fingers made with serrated edges on their upper ends, which ends (as well as the needle) pass through openings in the spring-bed *q*. The operation of this is that as the clamp *o* is forced down the bed *q* yields, and as the cloth and bed descend the serrated edges of the fingers *r* take said cloth, and, standing in an inclined position, give more or less feeding motion to the cloth, according to the amount which the spring-bed *q* and clamp *o* are pressed down by the lever *f* and cam *n*. The cloth is thus fed along a regulated distance with great certainty, and the parts are to be so timed that the feed motion takes place when the needle is out of the cloth, although said needle might be allowed a sidewise motion while in the cloth, if desired.

Having thus described the construction and

operation of our sewing-machine, what we claim, and desire to secure by Letters Patent, is—

The spring bed-plate *g*, in combination with the pressure-clamp *o* and inclined spring-fingers *r*, to feed the cloth, substantially as specified.

In witness whereof we have hereunto set

our signatures this 10th day of September, 1857.

WILLFORD H. NETTLETON.
CHARLES RAYMOND.

Witnesses:

CHARLES CHURCHILL,
GILES N. LANGDON.