

G. W. STEDMAN.
Sewing Machine.

No. 13,856.

Patented Nov. 27, 1855.

Fig. 1.

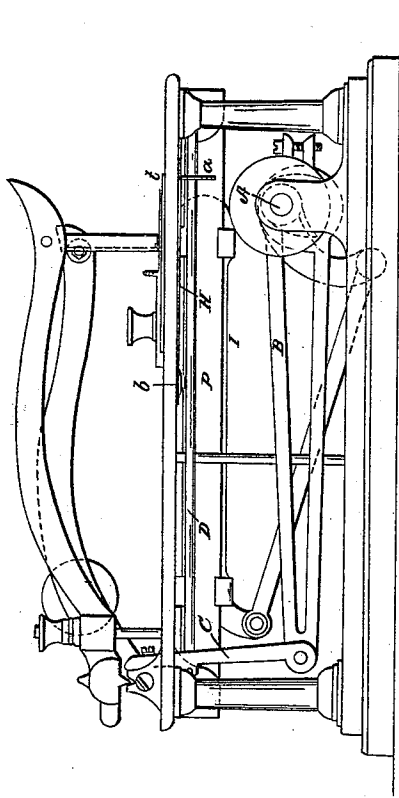


Fig. 3.

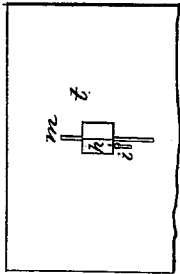


Fig. 2.

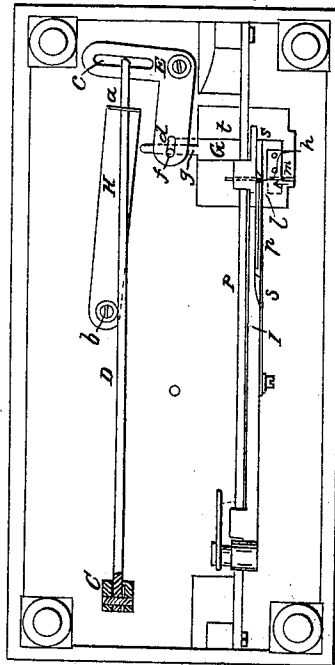


Fig. 4.

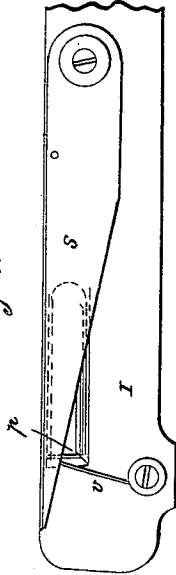


Fig. 5.



UNITED STATES PATENT OFFICE.

GEO. W. STEDMAN, OF VIENNA, NEW JERSEY.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 13,856, dated November 27, 1855.

To all whom it may concern:

Be it known that I, GEORGE W. STEDMAN, of Vienna, in the county of Warren and State of New Jersey, have invented a new and Improved Sewing-Machine; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a side elevation of the machine; Fig. 2, a horizontal section, looking upward toward the under side of the top plate; Fig. 3, a top view of a portion of the cloth-plate; Fig. 4, a side view of a portion of the spool or bobbin carrier; Fig. 5, a longitudinal section of the spool and its case.

Like letters designate corresponding parts in all the figures.

The principal feature of my invention consists in feeding the cloth or other material along by means of the needle-thread in the act of sewing.

In the accompanying drawings I have represented a method by which I am enabled thus to feed the material along. A connecting rod or beam, B, passing from a crank or eccentric on the driving-shaft A to an arm, C, causes said arm to vibrate on a rock-shaft by which the needle-arm is set in motion. From this vibratory arm C a rod, D, extends along under the cloth-plate to one arm of a lever, E, Fig. 2, the other arm of which is connected with a sliding plate, G. Thus as said rod B is given a reciprocating motion by the arm C the sliding plate G is given a similar motion in the required direction by the intervention of said vibrating lever E, which is bent or not, as may be required. Said sliding plate is bent, so as to extend up through a slot, *m*, in the cloth-plate *t*, and is spread out upon the upper side of said cloth-plate, as seen at *h*, Figs. 2 and 3, sufficiently to cause it to pass over the needle hole or slot *i* in the feeding-plate when moved forward. This portion *h* of the feeding-plate is situated immediately under and in contact with the cloth, and may be made quite thin. The relative motions of the several parts of the machine are so arranged as to cause said plate *h* to push against the thread when the needle is out of the cloth, and thereby move the cloth along. The length of the stitch is regulated by moving the rod D to different positions in a slot, *c*, of the lever E. For this

purpose an arm, H, may be arranged so as to vibrate on a pivot, *b*, and the rod D passed through its vibratory end *a*, as seen in Fig. 2, so that by varying its position said rod is moved to the required position in the slot *c*.

The feeding-plate might act on the thread beneath the cloth-plate; but I prefer placing it above, in order that it may strike the thread close to the cloth, and thus obviate the liability to break or stretch the thread, which might otherwise take place. Another advantage gained by this arrangement is that the friction of the feeding-plate against the cloth assists in moving it along, and the friction increases as the tension of the thread or the pressure of the holding-plate increases. The feeding-plate may be dispensed with by giving a suitable vibratory motion to the cloth-plate itself, or to that portion of it immediately around the needle-aperture. In this case the same advantages of friction against and of acting on the thread close to the cloth are gained as above mentioned. The feeding-plate may also entirely surround the needle; or, in other words, the needle may pass through instead of outside thereof, if desired. Another method of actuating the thread is to cause the looper or its equivalent to draw upon it at the proper moment by employing a shoulder or some other suitable device thereon to strike the thread. In this case of course the spool-carrier (or looper, if a single thread is used) has its motion in the same direction as the cloth is to be fed along. A peculiar advantage in this mode of feeding along the cloth is that if a stitch is missed in sewing no motion of the cloth takes place, and thus no imperfect work is done.

In order that the thread may unwind from the spool, M with equal facility from either end, I make the head *u* which is farthest from the eye of the spool-case *p* to turn on its shaft, as represented in Fig. 5. The diminished effect of the tension on the thread at that end is thus compensated by the increased facility of turning that end of the spool. The spool-case is kept steadily in its proper position behind the spool-carrier or looper *s* by a slight spring, *v*, pressing against its blunt end, as seen in Fig. 4.

In the specification of Letters Patent for improvements in sewing-machines granted to me on the 3d day of July, 1855, I described the looper as first carrying the bobbin or spool

outside of the thread-loop and then back through it. I will here state that the bobbin may first be carried through the loop and then back outside of it without changing the principle of the device there set forth and claimed. For the purpose of readily removing and inserting the spool or bobbin, the looper may turn on a pivot, *r*, as shown in the drawings.

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

Feeding the cloth or other material along

by means of the thread, which is suitably acted upon for the purpose in tightening each stitch.

The above specification of my new and improved sewing-machine signed by me this 8th day of October, 1855.

GEO. W. STEDMAN.

Witnesses:

DANIEL HULL,
SAMUEL HALL.