

T. K. REED.
Sewing Machine.

No. 52,368.

Patented Jan'y 30, 1866.

Fig. 4.

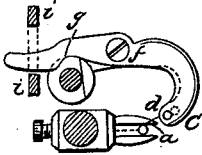


Fig. 5.

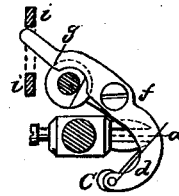


Fig. 1.

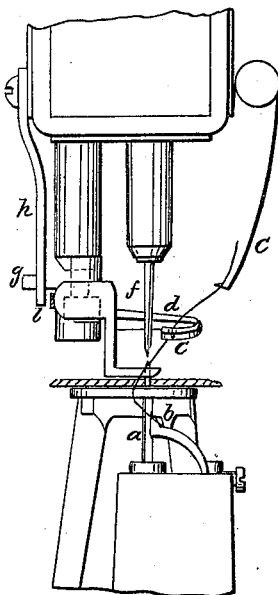


Fig. 2.

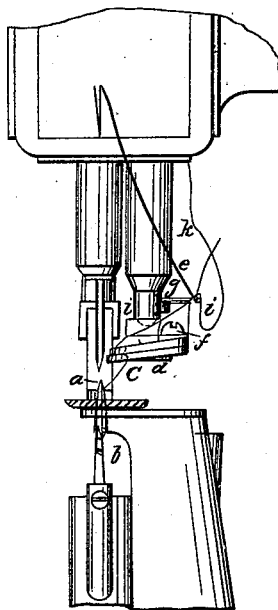
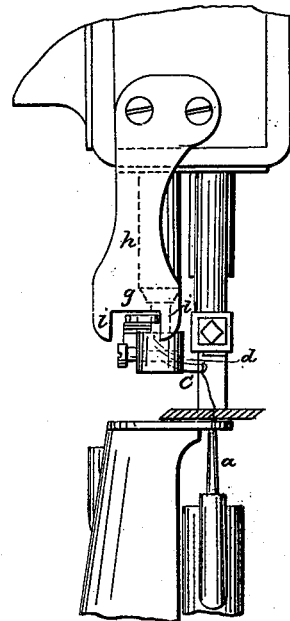


Fig. 3.



Witnesses
H. Gould
M. W. Frothingham.

T. K. Reed
by his Atty.
J. B. Crosby.

UNITED STATES PATENT OFFICE.

TIMOTHY K. REED, OF EAST BRIDGEWATER, ASSIGNOR TO ELMER TOWNSEND, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN SEWING-MACHINES.

Specification forming part of Letters Patent No. 52,368, dated January 30, 1866.

To all whom it may concern:

Be it known that I, TIMOTHY K. REED, of East Bridgewater, in the county of Plymouth and State of Massachusetts, have invented an Improvement in Sewing-Machines; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

In the construction of that class of sewing-machines known as the "Townsend" or "wax-thread" machines, in which, in combination with a crochet or hooked needle, a cast-off is employed to insure the proper passage of the hook and its thread through the previously-formed loop, the operation of the cast-off in preventing the entanglement of the loop in the needle-hook is not always certain, on account of too great stress upon the thread by the take-up spring at such times as the stitches are being formed in the softer or more yielding parts of the work, the result being that the thread is broken or the loops are improperly interlaced.

The object of my invention is to obviate this difficulty, and I accomplish this by combining with the thread-guide a device by which the thread shall be clamped between the take-up and the cast-off when the needle rises, so that the stress upon the thread between the cast-off and the thread-guide shall be taken off during such rise of the needle until the cast-off has entered the open loop. It is this construction that constitutes the invention.

The drawings represent so much of the mechanism of the sewing-machine as will serve to clearly illustrate the invention, Figure 1 showing a front view of the post, presser-foot, thread-guide, &c.; Figs. 2 and 3, elevations of the opposite sides thereof; Fig. 4, a plan of the thread-guide and clamp in position to bite upon the thread; Fig. 5, a plan of the same with the guide and clamp in position for the thread to run through them.

In the construction, arrangement, and operation of the needle, awl, feed, presser-foot, cast-off, thread-guide, and take-up the machine does not differ from the old machines, and these parts need not therefore be particularly described.

a denotes the needle; *b*, the cast-off; *c*, the thread-guide; *d*, the thread-clamp, or device between which and the guide the thread is

clamped at the proper time; *e*, the take-up spring.

The thread-guide has an eye, through which the thread runs in the usual manner, and the clamp has a similar eye, the clamp lying upon the upper surface of the guide, and being held thereupon by a screw, *f*, upon which it turns, and the two eyes being in line when the needle takes the thread.

The clamp *d* has a tail-piece, *g*, which extends back between two projections, *i* *i'*, from a stationary plate, *k*, fixed to the head of the machine.

The clamp moves with the thread-guide, and when the latter swings around and carries the thread into the path of and partially around or against the ascended needle, as seen in Fig. 5, the tail-piece strikes the projection *i*, which causes the clamp to turn on the guide and brings the two eyes of the guide and clamp into line. The needle as it next descends takes the thread into its hook and draws the same from the spool. As the needle descends, the thread-guide, with the clamp, swings back (the eyes remaining in line) until the needle has nearly reached its lowest point, when, in its swinging movement, the tail-piece *g* strikes the projection *i'*, which throws the two thread-eyes out of line and pinches the thread between the adjacent surfaces of the thread-guide and clamp. Now, as the needle next ascends, and with it the cast-off, it will be obvious that the loop of thread around the needle is left by the action of the clamp free from the strain of the take-up spring, and that it cannot be drawn against the needle-surface, but will be left bowing out therefrom for the entrance of the cast-off, which will hold it off from the hook when the needle next descends.

Other mechanism may be employed for producing the bite upon the thread, though I prefer the arrangement substantially as shown.

I claim—

A device or mechanism for relieving the loop of thread from the strain of the take-up spring when the needle is ascending, to insure the entrance of the cast-off into the loop, substantially as described.

In witness whereof I have hereunto set my hand this 11th day of November, A. D. 1865.

Witnesses:

J. B. CROSBY,
F. GOULD.

T. K. REED.