

W. I. STETSON.

Thread-Controllers for Sewing-Machines.

No. 148,773.

Patented March 17, 1874.

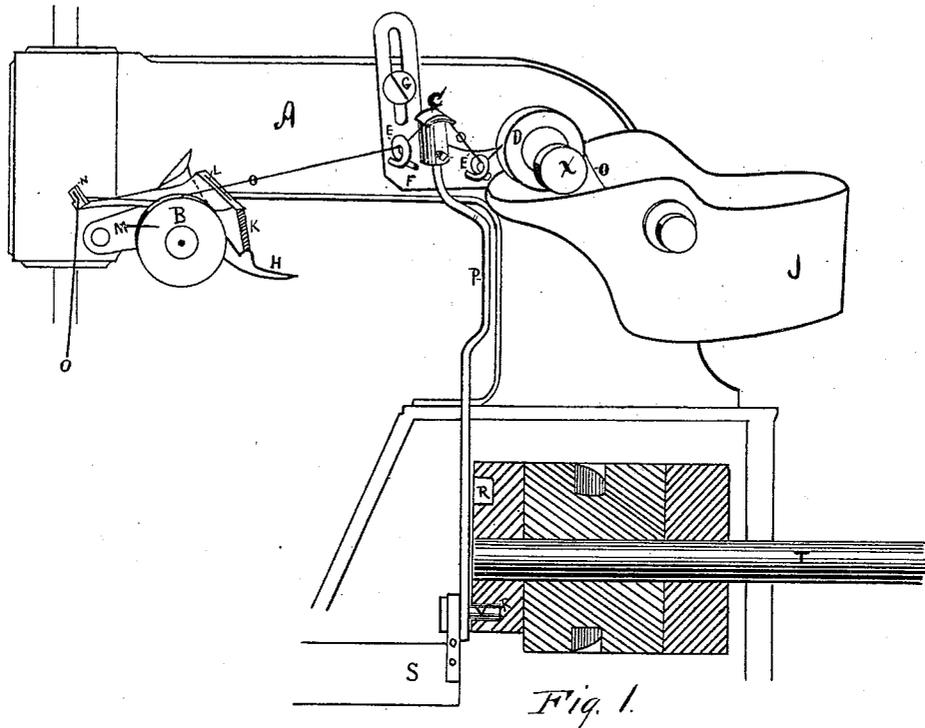


Fig. 1.

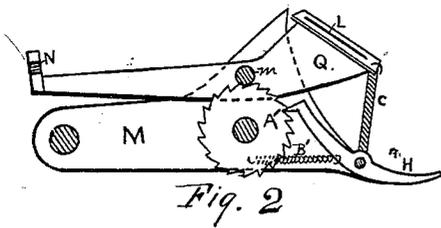


Fig. 2.

Witnesses
Cyrus Wilson,
H. E. Metcalf

INVENTOR
Warren I. Stetson.
By C. A. Shaw,
Att'y.

UNITED STATES PATENT OFFICE.

WARREN I. STETSON, OF BERLIN, MASSACHUSETTS.

IMPROVEMENT IN THREAD-CONTROLLERS FOR SEWING-MACHINES.

Specification forming part of Letters Patent No. 148,773, dated March 17, 1874; application filed February 10, 1874.

To all whom it may concern:

Be it known that I, WARREN I. STETSON, of Berlin, in the county of Worcester, State of Massachusetts, have invented a certain new and useful Improvement in Thread-Controlling Mechanism for Sewing-Machines, of which the following is a description sufficiently full, clear, and exact, to enable any person skilled in the art or science to which my invention appertains to make and use the same, reference being had to the accompanying drawing forming a part of this specification, in which—

Figure 1 is a sectional side elevation of a machine provided with my improvement. Fig. 2 is a view of the tension mechanism, with the tension-wheel removed.

Like letters refer to like figures in the different parts of the drawing.

My invention relates more especially to that class of sewing-machines in which the upper or needle-thread is saturated with tar or some similar liquid; and consists in a device by which the thread is drawn through the clearer independent of the needle, in combination with adjustable thread-guides and a ratchet-tension mechanism, as hereinafter more fully set forth; the object being to thoroughly and perfectly cleanse and prepare the thread for the work, without producing an undue strain upon the needle, or breaking the thread.

All practical operators on machines of this character are well aware that it is very difficult to cleanse the thread properly after it passes through the tar without subjecting it to more friction than the needle can overcome, and that when the thread is not properly cleansed the tension-wheel and thread-controllers will become clogged, causing the machine to operate imperfectly—difficulties which are obviated by my invention.

In Fig. 1, A is the arm or "goose-neck" of the machine; B, the tension-wheel; C, the lifter; P, the lifter-rod; D, the clearer; E E', thread eyes or guides; F, the adjustable guide-plate; and G, the screw for attaching the plate to the arm. The tension mechanism and thread-controller are disposed on the plate M, which is attached to the arm of the machine, and, except the wheel B, are better seen in Fig. 2, in which A' is the ratchet-wheel; H, the

ratchet click or pawl; B', the pawl-spring; Q, the thread-controller or "take up," which is pivoted at *m*, and provided with apertures L N, and the spring *c'*. The ratchet A' is so connected with the wheel B as to prevent said wheel from being turned to the right, or in the direction of the lifter *c*. The clearer D consists of two rubber disks, between which the thread passes on its way from the tar-fountain J to the wheel B, the requisite pressure on the thread being obtained by the screw *x*. The lifter-rod P is actuated by the rocking lever V, connected through proper mechanism to the lower or driving-shaft of the machine.

From the foregoing, the nature and operation of my invention will be readily understood by all conversant with such matters.

The thread to be used is taken from the spool or bobbin on which it is wound, and, after passing through the tar in the receptacle J, is carried between the disks D, through the eyes E and E' and guide L, around the tension-wheel B, through the guides L N, and thence to the needle.

The mechanism operating the lifter-rod P is so timed or arranged as to give the rod an upward movement prior to the descent of the needle, causing the lifter *c* to come into contact with the needle-thread O, and draw a sufficient quantity of the same through the clearer D to form a stitch.

It will be seen that the thread, by being carried around the wheel B, and said wheel prevented from turning toward the lifter *c* by means of the ratchet A', will be drawn, by the action of the lifter, through the clearer, but not from the wheel, so that when the lifter descends the thread between the clearer and the tension-wheel will be slack, thus greatly relieving the needle.

The upper section of the lifter *c* is formed with a smooth convex surface, as shown, to admit of the thread drawing readily across the same during the upward stroke of the rod P. The plate F, on which the eyes or guides E E' are disposed, is vertically adjustable on the arm A by means of the screw G, the quantity of thread drawn through the clearer D by the lifter *c* at a single stroke being determined by the position of said eyes in relation to the lifter—the lower the eyes are placed the larger

the quantity of thread which will be drawn through the clearer, and vice versa.

I have found an adjustable plate provided with eyes or guides, as described, more convenient and sure, as well as less expensive, than an adjusting mechanism connected to the rocking shaft V, which would accomplish similar results.

I am aware that a device has heretofore been used in sewing-machines for drawing the thread from the spool intermittingly, or one stitch at a time, in advance of its use by the needle, and therefore do not claim such a de-

vice broadly, or when in and of itself considered; neither do I claim the clearer D or tension B when in and of themselves considered; but

What I claim is—

The ratchet-tension mechanism B, lifter *c*, and adjustable plate F provided with the eyes E E', combined to operate substantially as and for the purpose specified.

WARREN I. STETSON.

Witnesses:

JOHN F. BENNETT,
P. B. SOUTHWICK.