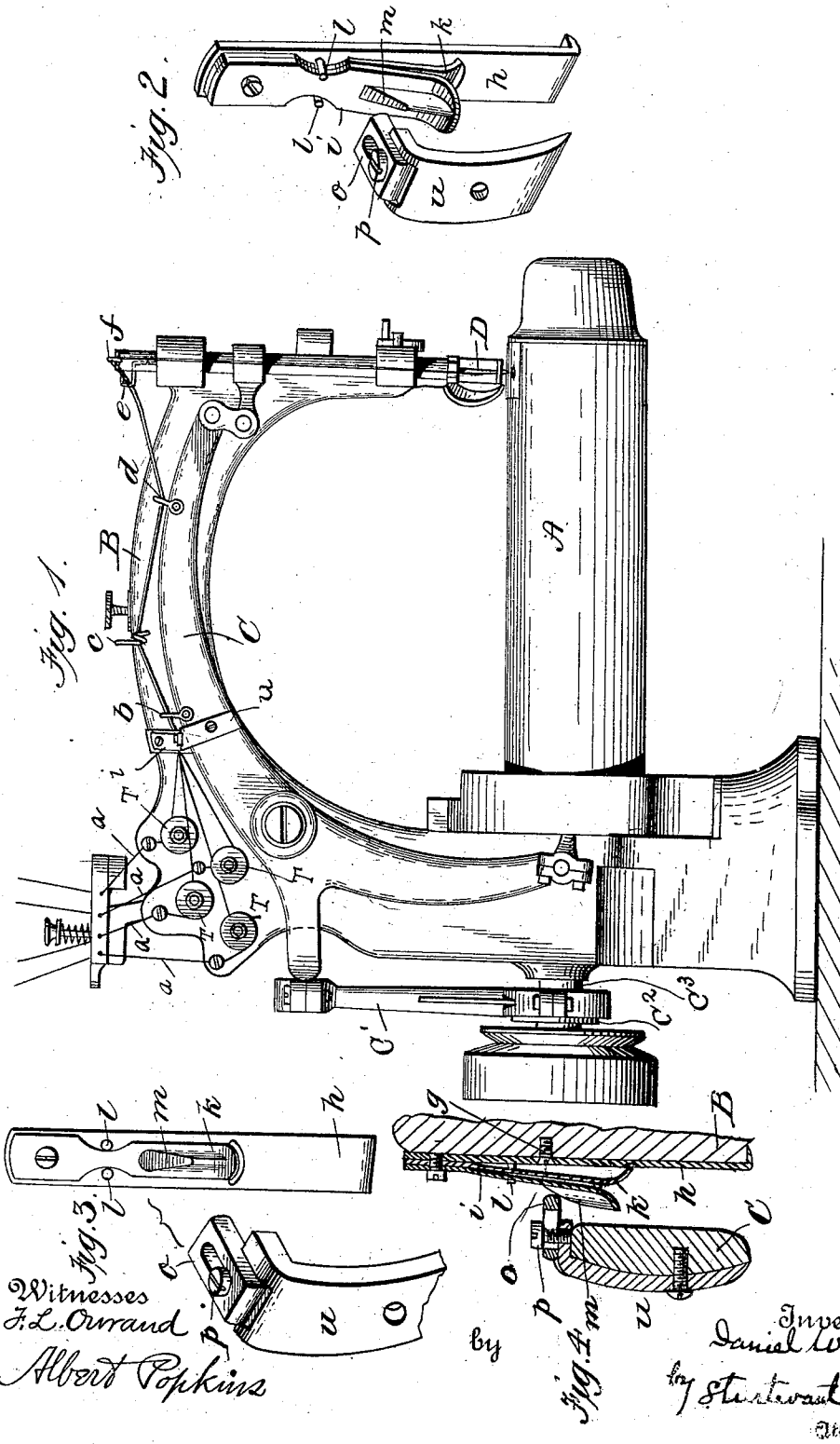


D. W. COREY.
 DEVICE FOR CONTROLLING THE UPPER THREADS OF SEWING MACHINES.
 APPLICATION FILED MAY 21, 1901.

1,041,597.

Patented Oct. 15, 1912.



UNITED STATES PATENT OFFICE.

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DEVICE FOR CONTROLLING THE UPPER THREADS OF SEWING-MACHINES.

1,041,597.

Specification of Letters Patent.

Patented Oct. 15, 1912.

Application filed May 21, 1901. Serial No. 61,291.

To all whom it may concern:

Be it known that I, DANIEL W. COREY, a citizen of the United States, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Devices for Controlling the Upper Threads of Sewing-Machines, of which the following is a description, reference being had to the accompanying drawing and to the letters and figures of reference marked thereon.

My invention relates to an improvement in sewing machines, and particularly to a device for controlling the upper threads.

The object of the invention is to provide an attachment for sewing machines for sewing leather, which will in the downward movement of the needles grasp the thread at the proper time and prevent the needles carrying down too much thread, which will leave too much of the needle threads showing on the under side of the seam; thus giving an unsightly appearance to the under side of the seam, and also preventing the proper drawing of the thread into the goods.

The invention has been designed particularly for use in connection with chain-stitch sewing machines, of the Union Special type, adapted for vamping shoes, such as illustrated in Patent 547,675, granted October 8, 1895, to Lansing Onderdonk.

The invention consists in the matters hereinafter described and referred to in the appended claims.

The invention is illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a Union Special left hand cylinder vamping machine, showing my invention applied thereto; Fig. 2 is a perspective view showing the position of the parts; and Figs. 3 and 4 are detail views respectively, of the clamping jaws and member operating thereon.

In these drawings, A represents the cylindrical bed plate or casing of a Union Special cylinder vamping machine, B is the goose-neck, C the needle lever, D the needles. The needle lever C is pivoted to the overhanging arm as usual and receives its oscillation from a link C', operated from an eccentric C², carried by the main shaft C³.

The upper thread or threads *a* are led from the tension or tensions T through the eyelet *b* on the needle lever, the eyelet *e* on the goose-

neck, the eyelet *d* on the needle lever, the eyelet *e* on the head of the machine, and the eyelet *f* on the top of the needle bar. As the needle bar moves up, the thread is drawn taut against the stationary eyelet *e*, and pulls off from the spools. As the needle bar descends, there is danger of the needle carrying too much thread into the goods, and to avoid this, I have devised the mechanism forming the subject matter of this invention.

Attached to the goose-neck or stationary part of the machine frame, by a set screw *g* is a metallic plate *h*, to the upper end of which are secured two spring plates *i*, *k*, held from lateral displacement by stop pins *l*, and normally separated at their lower ends to allow the thread *a* to slip between them. The upper spring plate *i* is formed adjacent its lower end with a raised portion *m*.

Upon the needle lever C is secured a metallic plate *u*, having at its upper end a lug or projection *o*, adjustably secured by set screw *p*, said plate *u* being attached to the needle lever adjacent the plate *h*, on the goose-neck, so that in the downward movement of the needle bar, the projection *o* will engage the spring plate *i*, and force it into contact with the plate *k*, thus nipping the thread *a*, and preventing the needle in its descent from "stealing" thread.

The supply of thread from the spools is drawn through the tension during the upward movement of the needle bar. The thread passes through a thread eyelet *e* at the left of the needle bar upon the machine shown in the drawings. As it passes up it necessarily draws the thread around this thread eyelet and thus pulls it through the tensions or from the spools. The thread, after being drawn off, is of course given up as the needle bar goes down, and in the operation of the needle lever, the thread eyelet *d* moving through the arc of the circle with the needle lever takes up partly the thread or straightens it out.

The clamping device can be clamped at any time during the downward motion of the needle bar, but it is released from the thread in time for the feed dog to move the fabric forward and thus not try to move the fabric with the resistance of the clamping device upon the thread. The clamping de-

vice prevents the feeding of fresh thread from the spools and through the tensions when the needles begin to start on their upward stroke. The friction of the material against the threads while in the material and carried by the needle, is sufficient, in heavy work like crossing seams in vamping shoes, to overcome the friction exerted on the thread by the tension device, thus causing an extra amount of thread to be drawn off from the spools when the nipper spring is not used, which leaves loose loops of needle thread on the under surface of the fabric. In other words, the friction of the material against the thread when the needles are in the goods is greater than the tension upon the thread, consequently it would pull from the weak point. The nipper was put on to avoid this pulling of fresh thread.

The clamping of the thread takes place at just about the time the eye of the needle passes through the material and released again just before the feed dog engages the fabric to move it forward.

Various modifications in the construction of the parts, may be made without departing from the spirit of my invention.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A sewing machine comprising stitch forming mechanism, including a reciprocating needle, means for drawing thread from the supply, a tension device, clamping jaws for the needle thread located between the supply and the means for drawing off the thread, and a member movable with the needle and cooperating with the clamping jaws to cause said jaws to alternately clamp and release the thread, and means for imparting movement to the movable member, whereby the jaws of the clamp will be closed

during substantially the entire time the needle eye is beneath the material.

2. A sewing machine comprising stitch forming mechanism, including a reciprocating needle, a needle lever for reciprocating said needle, means for drawing thread from the supply, a tension device, thread clamping jaws attached to a stationary part of the machine frame, said jaws being located between the supply and the means for drawing thread from the supply, a member attached to said needle lever and engaging said jaws, to cause them to alternately clamp and release the thread, and means for operating the movable member to close the thread clamping jaws on the needle thread during substantially the entire time the needle eye is beneath the material.

3. In a sewing machine having a reciprocating needle, a needle lever, a plate secured to the goose-neck of the machine, a spring plate secured thereto and movable to grasp the needle thread, a plate attached to the needle lever, having an adjustable projection adapted to engage and release the spring plate; substantially as described.

4. In a sewing machine, having a reciprocating needle, a needle lever, a plate secured to the goose neck of the machine, a spring plate secured thereto, a plate attached to the needle lever, having on its upper end an angular projection, and a slotted plate adjustably secured thereto and adapted to engage and release the spring plate; substantially as described.

In testimony whereof I affix my signature, in presence of two witnesses.

DANIEL W. COREY.

Witnesses:

M. C. MOORE,
GUY G. SEAMAN.