(No Model.)

C. S. GOLDMAN.

NEEDLE THREADER.

No. 524,896. Patented Aug. 21, 1894.

Fig 1.

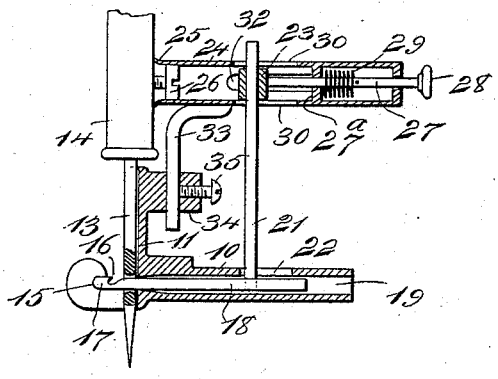


Fig 2.

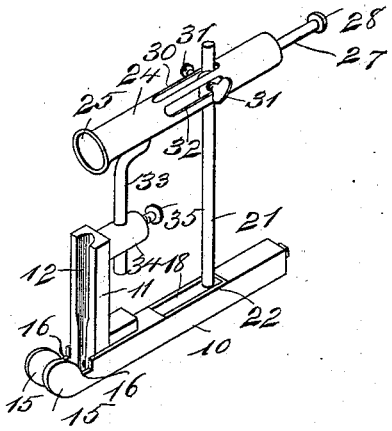


Fig 4.

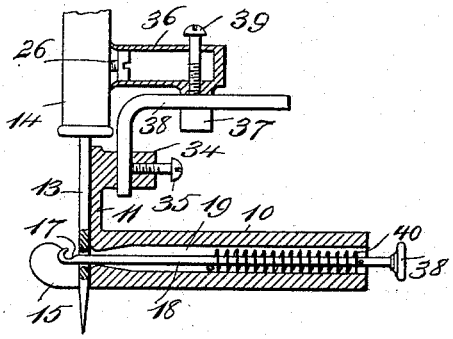
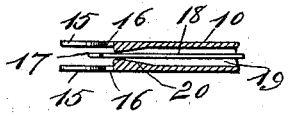


Fig 3.



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CIMON S. GOLDMAN, OF NEW YORK, N. Y.

NEEDLE-THREADER.

SPECIFICATION forming part of Letters Patent No. 524,896, dated August 21, 1894.

Application filed April 30, 1894. Serial No. 509,542. (No model.)

To all whom it may concern:

Be it known that I, CIMON S. GOLDMAN, of New York city, in the county and State of New York, have invented a new and Improved Needle-Threader, of which the following is a full, clear, and exact description.

My invention relates to improvements in that class of devices which are used for threading needles and which are especially adapted for threading needles of sewing machines.

The object of my invention is to produce a simple device of this character, which may be easily applied to the needle bar and needle of a sewing machine, which may be adjusted vertically and laterally so as to perfectly fit the needle, and which is provided with a threading hook adapted to find the needle eye in a positive way and penetrate the needle eye, engage a thread and automatically pull the thread through the eye, leaving it ready for use, and thus rendering the threading process quick and easy.

To these ends my invention consists of certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in all the views.

Figure 1 is a central vertical section of my improved device, as applied to the needle bar and needle of a sewing machine. Fig. 2 is a detail perspective view of the needle threader. Fig. 3 is a broken detail sectional plan of the body of the device, showing the shape of the bore in which the threading hook is held and guided; and Fig. 4 is a detail vertical section of a modified form of the device as applied to a sewing machine and needle.

The needle threader has an elongated body 10 which, at one end is provided with an upwardly-extending offset 11 which is grooved longitudinally, as at 12, to enable it to fit snugly any needle 13 carried in the customary way by the needle bar 14. The body has at its front end and on opposite sides forwardly-projecting lips 15, which are adapted to extend on opposite sides of the needle so as to protect the threading hook when it is thrust forward through the needle eye, as hereinafter described, and these lips are also notched at their inner ends, as shown at 16, to enable the thread to lie therein and be held directly opposite the eye of the needle, so that the hook 17, when it is thrust through the needle eye may readily engage the thread. The hook 17 has a rearwardly extending shank 18 which slides in the longitudinal bore 19 of the body, and this bore is, at its front end, reduced gradually and tapered, as shown clearly in Fig. 3, so as to guide the hook 17 in a positive and accurate way to enable it to enter the eye of the needle.

Secured to the shank of the hook is an upwardly-extending rod 21 which moves in a slot 22 in the top of the body 10, and the top of the rod is held in a slide block or plunger 23 which moves in the hanger tube 24, this tube being closed at one end and having the other end open and slightly enlarged, as shown at 25, to enable it to be readily applied to a set screw 26 on the needle bar 14, but it will of course be understood that the threader may be used without attaching the tube to the set screw, although this is desirable.

The plunger or slide block 23 has a shank 27 which extends back through a guide 27^a in the tube and outward through the back end of the tube, where it terminates in a finger piece 28 and it is normally pushed back by a spring 29 which encircles the shank 27 and, by pushing the shank back draws back the plunger, the rod 21 and the hook 17. The slide block or plunger 23 may be held in any suitable way, but as illustrated, it has set screws 31 on opposite sides which move in slots 32 in the tube and which serve to fasten the rod 21 to the slide block. The tube at the top and bottom, is longitudinally slotted, as shown at 30, to provide for the movement of the rod 21.

To the under side of the tube 24 is secured a hanger 33 which projects downward through a lug 34 on the back of the offset 11 and the lug is fastened to the hanger by a set screw 35; this arrangement enables the body 10 to be adjusted vertically so as to bring the hook 17 opposite the needle eye and thus the threader may be adapted to various kinds of machines and needles.

In threading the needle the threader is applied as described, the thread is laid in the notches 16 and the operator presses on the

finger piece 28 which forces the hook 17 through the needle eye and into engagement with the thread, after which the finger is removed and the spring carries the hook back and draws the thread through the eye so that when the needle threader is removed the needle is left threaded ready for use.

The threader is preferably constructed as described, with the finger piece 28 opposite the needle bar, as this removes all strain from the needle when the finger piece is pressed, but if desired the threader may be made as shown in Fig. 4, where a short tube 36 is used as a hanger tube, this having on its under side a lug 37 in which is held the angular hanger 38 which is fastened by a set screw 39 extending down through the tube 36. The vertical portion of the hanger 38 extends through the lug 34 on the offset 11 and is fastened by a set screw 35, as already described, and it will be seen that the construction shown in Fig. 4 enables the body 10 to be adjusted both vertically and longitudinally. In the body 10 is held the shank 18 of the hook 17, but the shank projects beyond the rear end of the body and is provided with a finger piece 38 and it is normally pulled back by a spring 40 which encircles the shank and is fastened to the shank and to the body 10. The threader shown in Fig. 4 is applied in the manner above specified, but is operated by pressing the finger piece 38, which forces the hook through the needle eye, after which the finger is removed and the spring draws back the hook with the result above specified.

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

1. A needle threader, comprising a hollow body having a guide groove at one end to receive a needle, a threading hook held in the body and adapted to penetrate a needle eye, a hanger tube held to engage the set screw of a needle bar, and an adjustable connection between the hanger tube and the body, substantially as described.

2. The combination, with the longitudinally bored body and the slotted hanger tube, of a connection between the tube and body, a sliding threading hook held in the body, a spring-repressed slide in the hanger tube, and a rod connecting the slide and hook, substantially as described.

3. A needle threader, comprising a hollow body, having a grooved offset at its front end to fit a needle with parallel guard lips on the lower end of the offset, a lug or keeper on the back of the offset, a hanger tube adapted to be suspended on the set screw of a needle bar, an arm on the hanger tube extending downward through the lug or keeper on the offset, a threading hook held in the hollow body, a spring-repressed slide in the hanger tube, and a rod connecting the slide and hook, substantially as described.

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