W. D. BURNS.

NEEDLE THREADER.

APPLICATION FILED SEPT. 19, 1916.

1,230,378. Patented June 19, 1917.

FIG. 1.

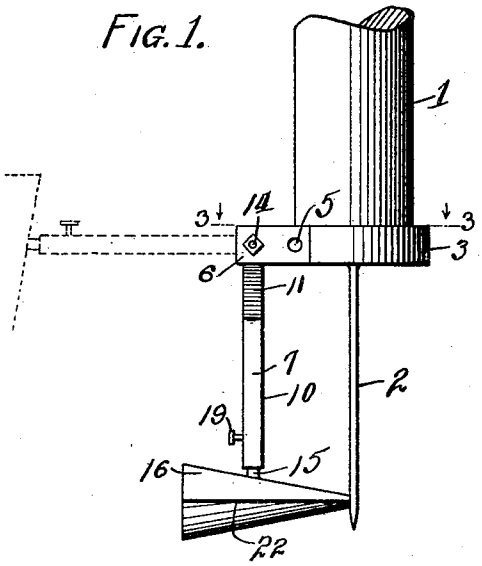


FIG. 2.

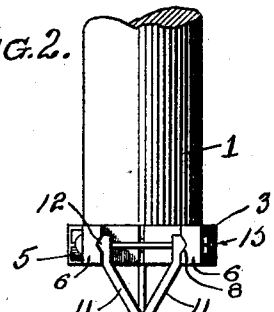


FIG. 4.

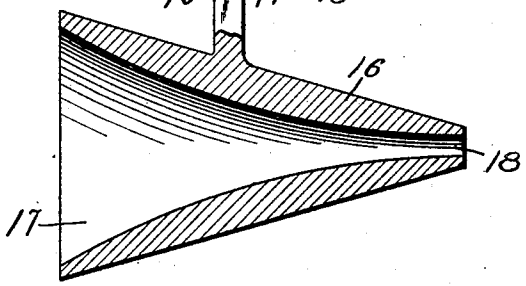


FIG. 3.

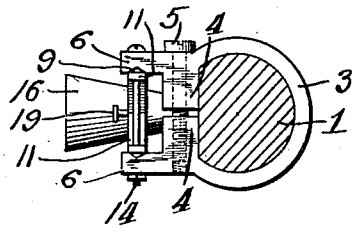


FIG. 5.

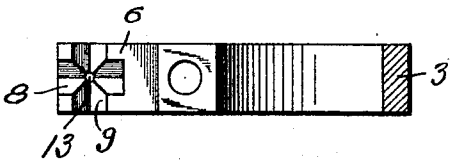
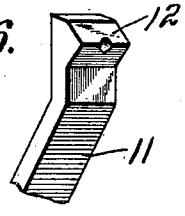


FIG. 6.



WITNESSES.

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NEEDLE-THREADER.

1,230,378. Specification of Letters Patent. **Patented June 19, 1917.**

Application filed September 19, 1916. Serial No. 121,047.

To all whom it may concern:

Be it known that I, WILLIAM D. BURNS, a citizen of the United States, residing at Bangor, in the county of Penobscot and State of Maine, have invented certain new and useful Improvements in a Needle-Threader, of which the following is a specification.

This invention relates to needle threaders, and more particularly to a device for facilitating the insertion of a thread through the eye of a sewing machine needle.

The particular object of the invention is to provide an attachment to be suspended from the needle threader support of a sewing machine, whereby the threader may be swung into or out of operative position and provided with means for extracting the thread after the same has been threaded through the eye of the needle.

A further object of the invention is the provision of a clamp adapted to embrace the lower extremity of a needle threader support and having lugs provided with grooves transversely and longitudinally extending for holding the needle threader in either raised or lowered position.

A still further object of this invention is the provision of a needle threader which consists of comparatively few parts and is simple in construction, but durable and well adapted to withstand the rough usage to which devices of this character are ordinarily subjected.

For a full description of the invention and the advantages and merits thereof, reference is to be had to the following description and the accompanying drawing, wherein is illustrated the preferred form of my invention, in which:

Figure 1 is a side elevation showing a device attached to a needle threader support,

Fig. 2 is an edge elevation thereof,

Fig. 3 is a horizontal section on the line 3—3 of Fig. 1,

Fig. 4 is an enlarged longitudinal section through the threader cone,

Fig. 5 is a detail section through the supporting clamp, and

Fig. 6 is a fragmentary detail perspective of one of the retaining arms of the hanger.

Referring now to the drawing, wherein is illustrated the preferred form of my invention, and in which like characters of reference designate corresponding parts throughout the several views, the numeral 1 indicates the needle threader support of the usual type employed generally for supporting the needle threader of a sewing machine. Embracing the lower extremity of the needle threader support 1 is the supporting clamp 3 of substantially circular formation. By referring to Fig. 3 of the drawing, it will be observed that the needle threader support 1 is provided with a flat surface which receives the straight side arms 4 of the clamp 3. The ends of the side arms 4 terminate in close proximity to each other and each are provided with longitudinal openings, one being threaded for the reception of a clamp screw 5 whereby the clamp may be tightly secured to the end of the support 1. Retaining lugs 6 are integrally formed with the arms 4 and are adapted to support the hanger 7. The inner surface of each lug 6 is provided with a horizontal groove 8, triangular in cross section, and a vertical groove 9 also triangular in cross section extends across the horizontal groove, as clearly shown in Fig. 5 of the drawing.

The hanger 7 comprises the standard 10 carrying, at its upper end, the diverging retaining arms 11. The terminal of each retaining arm 11 is bent from the main portion of the arm and is disposed vertically. A tongue 12 is integrally formed with the terminal of each retaining arm 11 and is adapted to be received by either one of the grooves 8 and 9. At the center of each lug 6 and at the point at which the grooves 8 and 9 cross each other is an aperture 13 for receiving the end of a pivot pin 14 and the terminal of each retaining arm 11 together with the tongue 12, is also provided with an aperture for receiving the pin 14 thereby suspending the hanger from the lugs 6.

The hanger 10 receives the attaching arm 15 which is integrally formed with the threader cone 16. The interior of the cone is provided with a tapered opening 17 the walls of which are curved so that the restricted end of the cone is provided with a relatively small opening 18, while the opposite end thereof is comparatively large. A fastening screw 19 is extended through a slot 20 in the arm 10 of the hanger and has its end received by a screw-threaded opening 21 in the arm 15. This construction, by virtue of the slot 20, permits the threader cone to be slightly raised or lowered for alining the opening 18 with the eye of the

needle. The wall of the cone has a longitudinal slit 22 extending the full length and completely through the wall.

In use, the device will be mounted as shown by Fig. 1 of the drawing and the hanger swung on its pivot pin until the opening 17 in the threader cone is in horizontal alinement with the eye of the needle. A thread may then be thrust through the threader cone at the large end thereof and the curved wall will guide the end of the thread through the opening 18 and through the eye of the needle. The thread may then be passed through the slit 22 thereby freeing the same from the threader. By swinging the hanger 7 on its pivot pin 14 to the position shown by dotted lines in Fig. 1, the same will be held in inoperative position, the retaining arms 11 being resilient, permit the tongue 12 to be drawn out of the groove 8 and snapped into the groove 9.

From the foregoing it will be observed that a very simple and durable needle threader has been provided, the details of which embody the preferred form. I desire it to be understood however, that slight changes in the minor details of construction may be made without departing from the spirit of the invention or the scope of the claims hereunto appended.

I claim:

1. A needle threader comprising a needle threader support carrying a needle, a clamp embracing the said support and including straight side arms engaged with a flat surface formed on the said support, the said arms having openings formed therein, a fastening element received in the openings for moving the said arms to tighten and loosen the said clamp, lugs extending in spaced relation from the said arms, suspending means carried by the arms and disposed in parallel relation to the needle, and means carried by the suspending means for receiving a thread to guide the latter through the eye of the said needle.

2. A needle threader comprising a needle threader support carrying a needle, a clamp embracing the said support and including straight side arms engaged with a flat surface formed on the said support, the said arms having openings formed therein, a fastening element received in the openings for moving the said arms to tighten and loosen the said clamp, lugs extending in spaced relation from the said arms, suspending means carried by the arms and disposed in parallel relation to the needle, the said suspending means including retaining arms, each having a tongue formed on its outer face, the said lugs being provided with vertical and horizontal grooves for the reception of the said tongues when the said suspending means is rotated to either a vertical or a horizontal position, and a thread receiving cone mounted on the end of the said suspending means.

3. A needle threader comprising a clamp provided with side arms having terminals arranged in close proximity, an adjusting screw for directing the approximate ends of the said side arms toward each other, each of the side arms carrying a lug having a horizontal and a vertical groove, a hanger suspended from the said lugs and having its upper end provided with diverging arms, and tongues carried by the arms and adapted to be moved into either of said grooves on each lug.

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

WILLIAM D. BURNS.

Witnesses:
JOHN E. KENNEDY,
J. WILLIAM LIBBEY.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."