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J. N. JAMO

2,476,872

NEEDLE THREADER

Filed June 25, 1945

Fig. 1

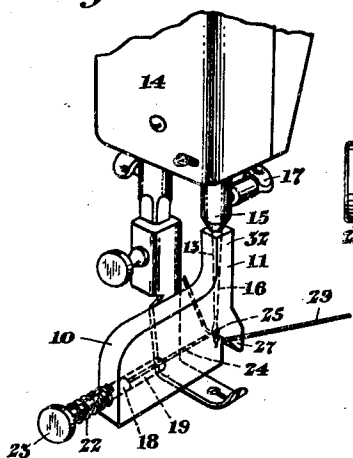


Fig. 4

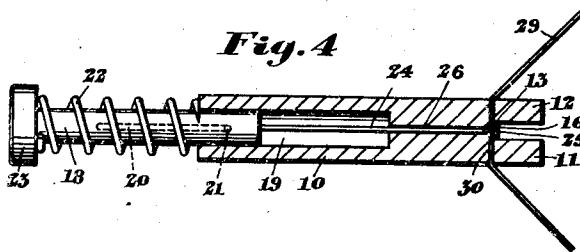


Fig. 5

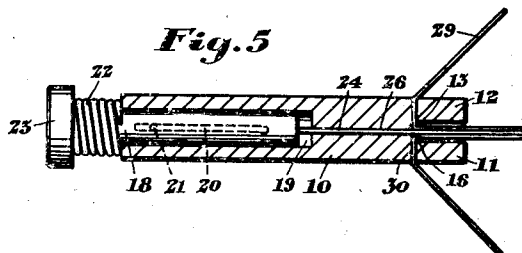


Fig. 7

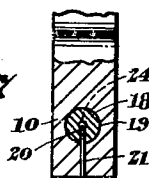


Fig. 6

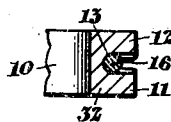


Fig. 2

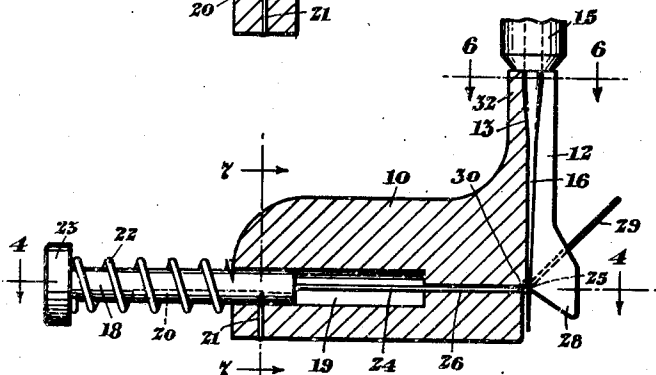


Fig. 3

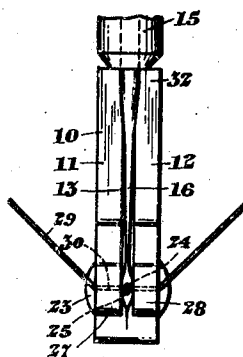
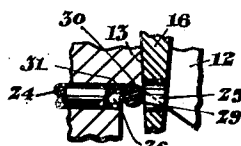


Fig. 8



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NEEDLE THREADER

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1 Claim. (Cl. 112—225)

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The present invention relates to needle threaders and more particularly to a device for threading the needles of sewing machines.

Formerly, needle threaders have been made with tiny hooks which, when inserted through the eye of a needle, were adapted to engage a thread and draw the same back through the needle's eye. In practice, the delicate, tiny hooks were frequently broken off thus rendering the devices useless. These former devices were further objectionable in that the hooks were necessarily positioned opposite the eye of the needle by sight, and the use of such a device was therefore only slightly better than threading the needle by hand.

The primary objects of the present invention are to provide a needle threader having a plunger which pushes the thread through the eye of a needle thus dispensing with the frangible hooks used in former devices of this type; to provide such a device having mechanical means for positioning the plunger opposite the eye of the needle thus reducing eyestrain and time lost in positioning the device by eye; and to provide such a device which is simple in construction, economical in manufacture, and attractive in appearance.

These objects are attained by the illustrative embodiment of the invention shown in the accompanying drawing, wherein:

Figure 1 is a fragmentary perspective view of parts of a sewing machine with my needle threading device applied thereto;

Figure 2 is an enlarged longitudinal central vertical sectional view thereof;

Figure 3 is a right hand end elevational view of the same;

Figure 4 is a sectional view of the same taken on line 4—4 of Figure 2;

Figure 5 is a sectional view similar to Figure 4 and showing the plunger of the device in an advanced position;

Figure 6 is a fragmentary sectional view taken on line 6—6 of Figure 2;

Figure 7 is a fragmentary sectional view taken on line 7—7 of Figure 2; and

Figure 8 is a greatly enlarged sectional view of certain parts shown in Figure 2.

Referring now in detail to these drawings wherein like parts are designated by the same numerals in the several views, the needle threader there shown comprises an elongated body member generally designated 10 having a pair of vertically extending, forwardly projecting spaced tongues 11, 12 which are so shaped as to form a

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central vertical needle seat 13 therebetween. As shown in Figure 1, the body member 10 is adapted to be applied to a sewing machine 14 here shown fragmentarily and provided with a reciprocating needle clamp 15 in which a needle 16 is secured by means of a set screw 17, and the needle 16 is thus seated in the needle seat 13 of the body member 10.

A cylindrical plunger 18 is slidably disposed in a slide bearing 19 extending forwardly-rearwardly in the horizontal portion of the body member 10 and centrally therein. The plunger 18 has a way 20 keyed to a pin 21 in the bottom of the body member 10 and the plunger is thus prevented from rotation in the slide bearing 19. A spring 22 interposed between the body member 10 and a head 23 on the rearward end of the plunger 18 normally urges the plunger rearwardly, and both this rearward movement and forward movement of the plunger are limited by engagement of the pin 21 with the respective rearward and forward ends of the way 20.

The forward end portion or stem 24 of the cylindrical plunger 18 is reduced to a diameter such that it will readily pass through the eye 25 of the needle 16, and the forward portion 26 of the slide bearing 19 is correspondingly reduced to serve as a guide for the reduced stem 24 of the plunger.

The lower end portions 27, 28 respectively of the tongues 11, 12 on the body member 10 project forwardly and downwardly and serve as guides for the insertion of a thread 29 in a transverse thread seat 30 in the body member, and the thread when thus positioned is in alignment with a transverse groove 31 (see Figure 8) in the forward end of the stem 24 of the plunger, which groove 31 is adapted to engage the thread 29 when the plunger is moved forwardly.

Means are provided for mechanically positioning the eye 25 of the needle 16 in alignment with the plunger stem 24 and the thread 29, which means comprise an upwardly extending horn 32 on the forward end of the body member 10. The horn 32 is of such length that the distance from the top thereof to the path of the plunger is exactly equal to the distance from the bottom of the needle clamp 15 to the eye 25 of the needle 16, and the top of the horn 32 thus serves as a stop for mechanically positioning the needle threader with the plunger stem 24 and thread 29 in alignment with the eye of the needle. The plunger may then be moved manually forwardly to its position shown in Figure 5, thus forcing the stem 24 and thread 29 through the eye 25 of

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the needle. The thread may then be grasped by the operator and pulled the desired distance through the needle's eye.

It is pointed out that the distance from the needle clamp 15 to the eye 25 of the needle 16 is the same in all machines of the same manufacture although the distance from the eye 25 to the point of the needle varies. The same needle threader may therefore be used with all machines of the same manufacture, and the threader may be made in different types for the different makes of sewing machine by simply varying the length of the horn 32.

The threader is here shown as a device separate from the sewing machine, but the invention contemplates modification of the body member 10 in such a manner that the device can be pivotally or otherwise mounted on the machine and thus incorporated in sewing machines at the time of their manufacture. While but one specific embodiment of the invention has been herein shown and described, it will be understood that numerous details of construction may be altered or omitted without departing from the spirit of the invention as the same is defined by the following claim.

I claim:

A needle threader for use with a needle having an eye near the point and a needle clamp for the other end of the needle, said threader comprising a body member having a horizontal

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body portion and a vertically extending horn at the forward end thereof, a plunger disposed in a horizontal bore in the horizontal body portion, a vertical needle seat in the horn and the body portion and extending from the upper end of the horn to the forward end of said bore, said body member having a thread seat at the forward end of the bore extending rearwardly of the needle seat and having downwardly flaring thread guides disposed at the lower end of the horn for directing a thread into the thread seat, the upper end of said horn being spaced from the path of the plunger a distance equal to the distance from the clamp to the needle's eye so that contact of the upper end of the horn with the needle clamp automatically positions the seated needle with the eye thereof in the path of said plunger.

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