

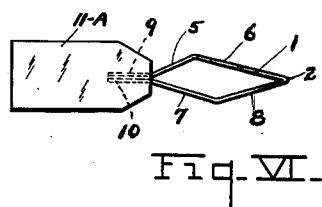
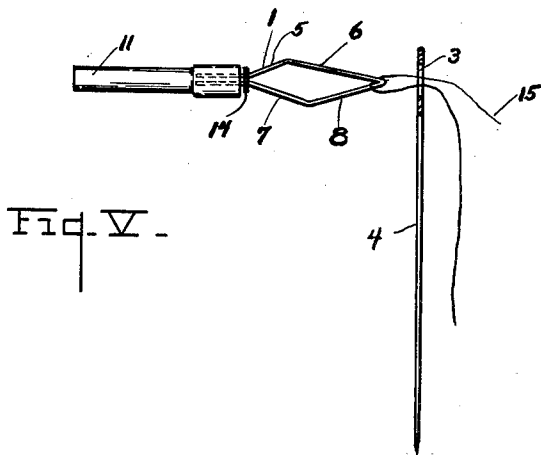
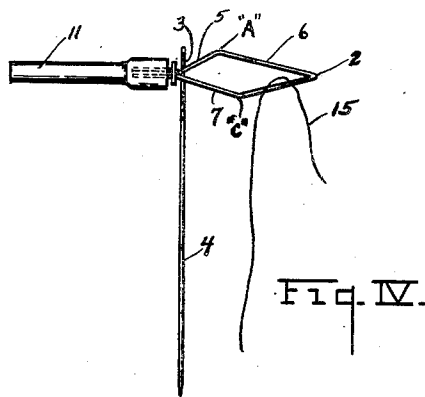
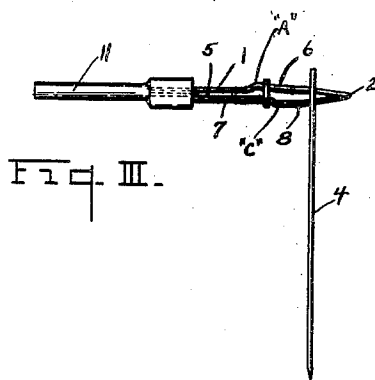
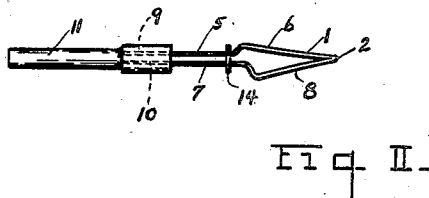
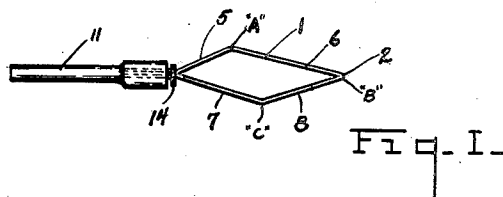
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2,411,118

NEEDLE THREADING DEVICE

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NEEDLE THREADING DEVICE

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2 Claims. (Cl. 223-99)

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This invention relates to improvements in needle threaders and more particularly to threading devices in which the thread is drawn through the eye of a needle by means of a resilient wire loop having a reduced end portion which may be inserted in the eye of a needle. These needle threaders are especially intended for threading small needles where the common wire loop type threaders usually bend sharply and break at the reduced end portion.

Another object of my invention is the provision of light weight threaders having suitable handles and closed wire loops as an integral part thereof, the threader consisting solely in the use of very fine wire which is resilient and will not break, the loop provided with a polygonal central disposed area, said loop being substantially a polygon bounded by four sides, one side being of different length than the others making the two interior obtuse angles unequal, and causing said interior obtuse angles to be in vertical misalignment when the threader is held in a horizontal position for needle threading.

This invention further relates in especially difficult threading cases, to the use of a small annular constricted ring member or sleeve which will slip over the entire wire loop portion and act as a lock to hold said wire loop in contracted position prior to the loop being pushed through the eye of the needle that is being threaded, thus allowing the wire-loop of the threader to enter the eye of the needle more easily. Employment of this small ring is however not compulsory.

Another object is to provide a threading device which shall thread any ordinary needle from the smallest to the largest sizes commonly used.

A still further object of the invention is to provide a threading device of the class described which shall be rugged in construction even when the finest wire is used and more efficient in operation than similar devices heretofore proposed.

Referring to the drawing, which is made a part of this application and in which similar reference characters indicate similar parts:

Fig. I is a side elevation of my invention showing the locking member close to the handle member.

Fig. II is a similar view showing the locking member pushed forward into a different position.

Fig. III is a similar view with the pointed end of the wire loop passed through the eye of a needle.

Fig. IV is a similar view with the needle posi-

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tioned close to the handle, with the loop entirely through the eye of the needle.

Fig. V is a similar view with the needle removed and threaded.

Fig. VI is a view similar to Fig. I with the locking ring removed and having a flat handle.

Referring to Figures I through VI of the drawing, there is shown in enlarged proportions a preferred embodiment of a needle threading device constructed and arranged in accordance with the present invention in which is shown a very fine spring metal wire 1, which is doubled upon itself forming a pointed end portion 2, and adapted to be readily inserted through the eye 3 of needle 4. Back of the pointed end portion 2, the loop is formed as a polygon with four sides, 5, 6, 7, and 8, with the ends 9 and 10 preferably confined or secured in a suitable manner to handle 11, the one shown in Figures I through V of the drawing being a tubular metal handle, between the pressed portions of which the ends 9 and 10 of the wire 1 are confined; however, any suitable type handle member 11 may be used, as for example a flat metal or fibrous material 11-A as shown in Fig. VI may be used. The four sides 5, 6, 7 and 8 form a closed loop spring wire threading member having a hollow open center and generally protruding from the handle in the shape of an extended geometric figure having a plurality of cylindrical surfaces and straight wire members. The wire members 5 and 7 are of different length to cause the large interior angles, or the obtuse angles thereof, to be positioned at an angle of approximately 60 degrees with the horizontal from each other, and not vertically above each other, when the handle of the threader is placed in a horizontal position with side 5 and 6 above 7 and 8. This arrangement forms angles A, B and C as designated on the drawing. By having member 5 shorter than member 7, it places the angular bent portion C at a greater distance from the handle than the angular bent portion A. Therefore, when the pointed end portion 2 is inserted and passed through the eye of a needle 16, the bent portion C will be compressed and caused to pass through the eye prior to the passing of bent portion A. By allowing portions C and A to pass through said needle eye at different time intervals it prevents undue crowding of wire and thread in the eye and also prevents undue crowding of wire and thread in the eye and also prevents the bending strain which frequently causes end portion 2 to break and render the device useless; thus it effects a smooth sliding action in the threader. This ar-

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arrangement of parts and angles permits the use of very fine wire, for example .003 inch diameter wire instead of the usual .006 inch diameter wire, which again permits the threader to be used with smaller needles with smaller eye portions.

The wire loop adjacent the handle may have positioned thereon a small thin annular ring member or sleeve 14 which can be readily moved forward over members 5 and 7 to hold the loop in contracted position as shown in Figures II and III.

Best performance of the little ring member when used is obtained by sliding same into position just between angles A and C as there it will be securely held and prevented from inadvertently sliding forward or backward during entry of the pointed end 2 of the loop 1 through the eye 3 of needle 4.

In threading the needle 4 the operator holds it in one hand, and by taking the threader in the other hand, after pushing ring member 14 forward to contract the loop, introduces its pointed end 2 through the eye of the needle and pushes the threader far enough through the said needle eye, to cause the loop 1 to extend completely through and outside of the needle, as shown in Fig. IV, causing the wire loop to expand. The needle is then allowed to hang on the threader while the operator introduces the thread 15 through said loop 1, after which the operator takes hold of the needle and draws the loop with its thread through the eye of the needle as shown in Figure V until the loose end of the thread is disengaged from the threader. It is but rarely that the small ring 14 need be used. The small ring member after once it has been mounted on the threader may remain thereon resting against the handle where it will not interfere whatsoever in case this special aid is not required to cause the threader to enter an eye more easily.

By the arrangement of parts, making members 5 and 7 of different lengths, permitting smaller gauge wire to be used since the obtuse angles of said loop are not exactly opposite each

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other a small metallic geometric figure is formed for readily inserting the loop through the eye of the needle, providing an expansion loop, through which the thread can be quickly inserted for the purpose of threading a needle.

It is apparent that within the scope of the invention, modifications and different arrangement may be made other than is herein disclosed, and the present disclosure is illustrative merely, the invention comprehending all variations thereof.

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

1. A needle threader as described and of the type known as wire loop threaders, comprising a suitable handle having affixed to same a fine spring metal flexible wire loop said loop consisting of a single piece of wire and formed as a polygon providing when permanently attached to the handle a closed loop with a centrally disposed open area, various length members forming laterally two obtuse angles of unequal size but whose apices are not situated directly opposite each other so that upon entering and again leaving a needle eye the apices will smoothly follow one another and not attempt to pass through the eyes simultaneously, thusly producing a device which will be more efficient in use, being stronger and allowing the use of finer threads in the finer needle eyes.

2. A needle threader as described in Claim 1 and having slideably mounted upon the wire portion thereof and in close apposition to the forward portion of the handle thereof a tiny ring or sleeve of metal or plastic which may be used to render the threader still more efficient in that it will upon moving same forwardly on the wire portion bring the lengths of wire more closely together and reduce the apex or acute eye-entering angle to a still more acute angle; the result of which being a more rigid and more pointed and more readily manipulated device.

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