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FAST-THREADING NEEDLE WITH TRAILING FLEXIBLE LINK

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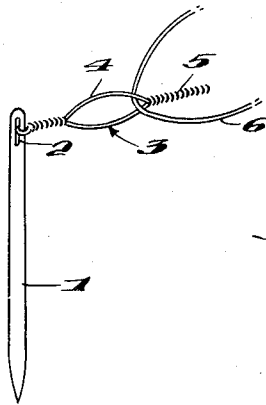


*Fig. 1.*

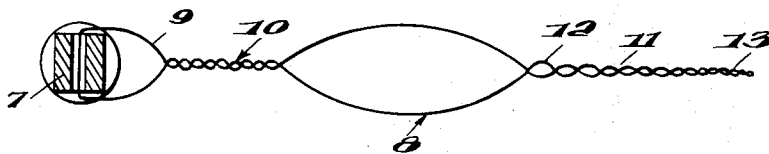
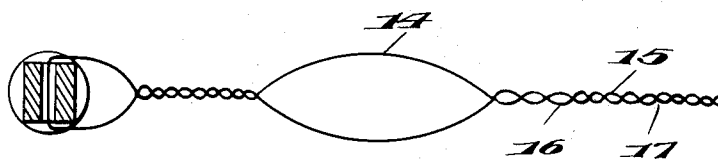


*Fig. 3.*



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## FAST-THREADING NEEDLE WITH TRAILING FLEXIBLE LINK

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2 Claims. (Cl. 223—102)

This invention relates to sewing implements and more particularly to a needle which is provided with means to adapt the needle for easy threading and for clampingly engaging the thread to prevent it from becoming disaligned during the sewing operation. This application is a continuation-in-part of co-pending U. S. application Serial No. 469,696, filed November 18, 1954, and relates to an improvement over the invention disclosed in that application in that the present invention provides means for adapting the needle for use with threads of various gauges.

Heretofore, there have been provided various devices designed for the quick and easy threading of a needle. Such devices included the provision of a resilient wire which is passed through the eyelet of a needle and which forms an enlarged loop for the reception of thread. Such devices permitted the ready threading of the needle through this enlarged loop and this resilient loop contracted when it was passed through the material during the sewing operation. However, certain disadvantages have been attendant with devices of this nature. It has been found that the resilient wire does not maintain proper alignment with the needle and, in fact, this wire slips to a position wherein the eyelet is positioned along the length of the enlarged loop so that the device is rendered useless. Furthermore, it has been found that such prior art devices did not possess satisfactory clamping means for the thread, particularly nylon thread. It can be seen, therefore, that the difficulties encountered in connection with the use of the prior art devices made such devices unsatisfactory for all practical purposes.

The present invention overcomes all of the difficulties mentioned above by providing a device which is easily constructed of resilient wire and provides for the quick and easy threading of needles. According to the present invention there is provided a resilient wire having twisted end portions and an intermediate loop. One end is passed through the eyelet of a needle and forms, in effect, a pivotal connection between the needle and the resilient wire so that the wire may swing freely with respect to the needle. To thread the needle thread is passed through the resilient loop and the thread is then grasped and pulled slightly so that that portion of the thread within the loop engages the twisted end portion of the loop. The thread is thus clamped in position and will not become dislodged during the sewing operation. The twisted end portion adjacent the needle serves to retain the device in proper alignment with the needle and yet permits the free swinging movement of the link which is necessary for ease in sewing.

According to the present invention, the twisted end portion of the resilient wire is provided with twists of varying sizes. In one form of the present invention a tapered twist is provided wherein each succeeding twist is of a slightly smaller diameter than the preceding twist. In another form of the present invention, groups of twists of different sizes are provided, each group having a plurality of twists of the same size. In this manner it is

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possible to use the same needle and attached trailing link with threads of varying sizes, and in fact the link can be used to clampingly engage yarns or string as well as threads. The only limiting factor is the size of the needle with which the link is used.

A primary object of the present invention is to provide an attachment for a needle which permits the quick and easy threading of the needle, serves to clampingly engage the thread and provides means for utilizing threads of a wide range of sizes.

Another object of the present invention is to provide a resilient wire to be used in connection with needles which provides an intermediate enlarged loop and a twisted end portion in which the twists are of various sizes to clamp threads of varying sizes.

Other objects and many of the attendant advantages of the present invention will become apparent upon consideration of the following detailed specification when considered in connection with the accompanying drawing wherein:

Fig. 1 is a perspective view of a needle schematically showing the present invention attached to the eyelet thereof with a thread passed through the intermediate loop;

Fig. 2 is a plan view partly in section showing one form of the present invention, and

Fig. 3 is a plan view partly in section of another embodiment of the present invention.

Referring now more particularly to the drawing wherein like numerals indicate like parts throughout the several views, there is shown at 1 in Fig. 1 a needle of the usual variety having an eyelet 2. Attached to this eyelet is link 3 having an intermediate loop 4 and a twisted end portion 5. A thread 6 is passed through the intermediate loop 4 as shown in Fig. 1 and the thread is grasped and pulled so that it is clampingly engaged by the twists 5. Since the attachment is made of a resilient material as the needle 1 is passed through the material to be sewn the loop 4 will collapse and the entire device will easily pass through the material.

In Fig. 2 there is shown in section a needle 7 to which the link 8 is attached. Link 8 is provided with an eyelet or loop 9 to engage the eyelet of the needle 7 and twists 10 immediately adjacent this eyelet to prevent misalignment of the needle and the attached link. The twisted end portion 11 of the link is provided with a tapered twist with the larger threads becoming engaged by the twists 12 and the smaller threads becoming clampingly engaged by the twists 13. As shown, the twists are of a constantly-diminishing diameter so that, in effect, a taper twisted tail is obtained.

In Fig. 3 another embodiment is shown wherein a link 14 is provided with a twisted end portion 15. This twisted end portion is provided with two groups of twists of different sizes as for example twists 16 which are of a large size and twists 17 which are of a smaller size. It is readily apparent that any number of groups of twists of different sizes may be employed. It is frequently found desirable, for example, to provide three groups of twists. The number of groups of twists will be determined by the range of cord or thread size to be used. It is obvious that in this manner provision is made for using threads of various sizes with the same link 14.

Obviously, many modifications and variations of the present invention are possible in the light of the above teachings. For certain particular purposes, such as, for example, in connection with surgical needles, it may be found desirable to permanently attach the threading loop and twisted end portion to the needle or it is possible that the needle, threading loop, and twisted end portion might be integrally formed. In any event, it is clear that the primary purpose of the invention is to provide a needle which may be easily threaded and which will

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clampingly grip the thread. The manner of attaching the link to the needle is not of significance nor are the materials of which the link is made significant. Instead of wire, it is possible that other materials, such as for example, plastic, could be used in the construction of the present invention. Furthermore, this invention is suitable for use with all types of needles including, for example, carpet, tapestry, upholstering or darning needles. What is claimed as new and desired to be secured by Letters Patent is:

1. In a device of the class described comprising a needle, a resilient threading loop comprising a pair of strands, one end of the pair of strands attached to said needle at the end of the needle remote from the point,

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the free end of the pair of strands of the loop being twisted together at that end of the threading loop remote from the attachment to said needle, said twists being larger adjacent the threading loop and being smaller remote from the threading loop providing means for engaging and clamping threads of varying sizes.

2. A device as recited in claim 1 wherein said twists are arranged in a gradual tapered form.

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