July 20, 1948. C. W. NEWTON 2,445,629

THREAD HOLDER AND CUTTER

Filed Jan. 28, 1946

Fig. 1.

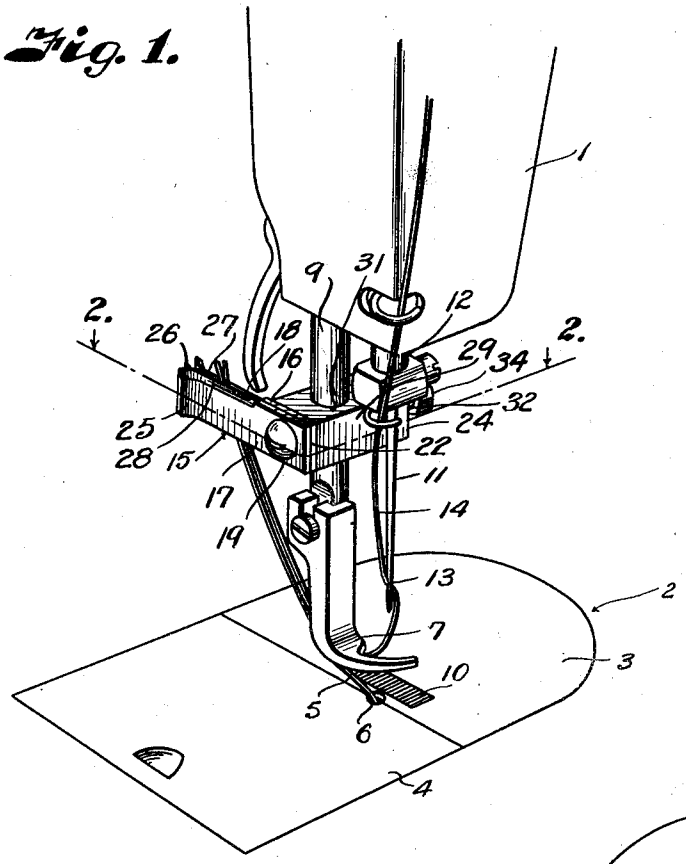


Fig. 2.

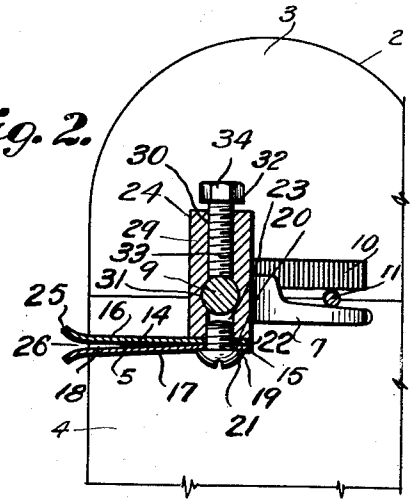
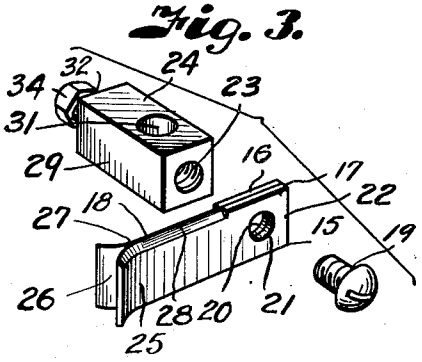


Fig. 3.



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THREAD HOLDER AND CUTTER

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2 Claims. (Cl. 112—252)

1

This invention relates to a thread holder and cutter particularly adapted for sewing machines and has for its principal object to provide an attachment that is readily attachable to the presser foot supporting bar for holding the loose ends of the bobbin and needle threads after they have been severed from a workpiece and to retain the threads in position preparatory to insertion of another workpiece.

Other objects of the invention are to provide a device of this character that is of simple and inexpensive construction and which includes means for severing the threads upon completion of a sewing operation.

In accomplishing these and other objects of the invention hereinafter pointed out, I have provided improved structure, the preferred form of which is illustrated in the accompanying drawings wherein:

Fig. 1 is a fragmentary perspective view of a sewing machine equipped with a thread holder constructed in accordance with the present invention.

Fig. 2 is a horizontal section on the line 2—2 of Fig. 1 particularly illustrating attachment of the thread holder.

Fig. 3 is a perspective view of the parts of the thread holder shown in disassembled spaced relation.

Referring more in detail to the drawing:

1 designates a portion of the head and 2 the sewing table of a conventional sewing machine. The table includes plates 3 and 4 which cover the bobbin and bobbin actuating mechanism (not shown). The bobbin thread 5 extends through an aperture 6 below the pressing foot 7. The presser foot is carried from the head 1 by a stem 9 which is suitably actuated to raise and lower the foot with respect to a feeder 10 which cooperates with the foot in advancing a workpiece under the needle 11. The needle 11 is carried by a reciprocatory stem 12 mounted in the head 1 and has an eye 13 through which a thread 14 is threaded to be projected through a workpiece when the machine is in operation. The thread is suitably tensioned so that it is relatively taut to effect the proper tightness of stitch as in operation of conventional sewing machines.

In sewing machines of this character, the ends of the bobbin and sewing threads are loose after severance of a workpiece. Consequently, the needle is apt to be unthreaded and the bobbin thread is apt to be lost into the bobbin compartment and much time is spent in re-threading the needle and arranging the bobbin thread between sewing operations.

2

As above pointed out, it is the purpose of the present invention to cut and provide a holder for anchoring loose ends of the threads after completion of a sewing operation so that the threads will not be disarranged or become unthreaded from the needle or bobbin aperture. The holder is also designed so that the threads are automatically retained in position for starting a subsequent sewing operation and to facilitate entrance of the workpiece between the bobbin and sewing threads. Therefore, the sewing is started immediately and there is no unsewed portions at the start of a seam while the bobbin thread is being picked up by the needle thread.

In the illustrated instance, the holder includes a clamp 15 comprising juxtaposed resilient tongues 16 and 17 having adjacent faces arranged to form a gradually constricted passageway 18 therebetween when the threads 5 and 14 are drawn therebetween as best shown in Figs. 1 and 2. The tongues 16 and 17 are preferably formed of relatively thin, flat, spring-like material and are of sufficient length to provide a thread passageway 18 of desired length so as to assure positive engagement of the threads when the threads are drawn therebetween. The tongues are retained in juxtaposition by a fastening device such as a screw 19 extended through registering openings 20 and 21 in one end 22 of the tongues and into a threaded socket 23 formed in the end of a bracket 24 by which the clamp is attached to a part of the sewing machine such as the stem 9 that carries the pressing foot. The entrance ends 25 of the tongues are preferably flared outwardly to provide an entrance throat 26 for guiding the threads into position to be clamped between the tongues.

In order to sever the threads, for example when detaching a finished workpiece, the upper edges of the tongues are preferably sharpened to provide knife-like edges 27 and 28 across which the threads may be drawn after they have been engaged by the clamp as later described. The bracket 24 may be of suitable shape to facilitate attachment to the part of the sewing machine with which it is to be engaged. In the preferred construction, the bracket includes a rectangular block-like body 29 having a threaded bore 30 forming a continuation of the threaded socket 23. The bore 30 is intersected by a transverse bore 31 having a diameter to freely pass the stem 9 of the pressing foot so that the bracket may be mounted thereon with the tongues of the clamp

extending rearwardly and in substantial alignment with the path of the sewing when the machine is in operation.

The bracket is secured in position on the stem 9 by a set screw 32 having its shank 33 threaded into the end of the bore 30 opposite the screw 19 for clampingly engaging the stem 9 of the pressing foot as best shown in Fig. 2. The set screw has a head 34 with which it may be engaged by a wrench (not shown) to effect tightening thereof and firm anchorage of the bracket on the stem 9.

In applying the holder constructed and assembled as described, the pressing foot 7 is removed from the stem 9 and the bracket 24 is slid over the lower end of the stem by passing the end of the stem through the bore 31. The bracket is positioned at the desired elevation between the head 1 and pressing foot 7 after which the set screw 32 is tightened to support the clamp in substantial alignment with the sewing and with the tongues projecting rearwardly as shown in Fig. 1. The pressing foot 7 is then re-applied and the thread 14 is passed through the eye of the needle and the thread 5 is pulled through the opening 6 as in the usual manner. The ends of the threads 5 and 14 are then drawn together and moved through the throat into the constricted space between the tongues of the clamp as shown in Fig. 1 where the threads are frictionally retained preparatory to start of a sewing operation.

Since the ends of the threads are anchored by the clamp, they cannot become unthreaded and the threads are properly separated and arranged to facilitate entrance of a workpiece between the pressing foot and work feeding bar so as to begin the sewing operation.

Upon the initial starting of the sewing operation, sufficient pull is effected through movement of the workpiece to automatically withdraw the clamped ends of the threads so that the sewing operation may be continued. At the end of the sewing operation, the pressing foot is raised and sufficient slack is drawn into the needle thread 14 and bobbin thread 5 so that the threads may be carried between the tongues of the clamp and re-engaged therewith as shown in Fig. 1, after which the portions of the threads projecting from the upper edges of the tongue may be pulled across one or the other knife edge to effect severance thereof for releasing the workpiece. It is thus obvious that the threads are again supported for starting a subsequent sewing operation.

From the foregoing it is obvious that I have provided a simple and inexpensive thread holding attachment for sewing machines so as to support the threads and avoid loss of time ordinarily required in re-arranging the threads at the start of a seam and to avoid re-threading of the needle.

What I claim and desire to secure by Letters Patent is:

1. A thread holding device for sewing machines including a mounting bracket having an opening therethrough adapted to accommodate the presser foot stem of a sewing machine and having a substantially vertical seating face when mounted on the presser foot stem, a pair of substantially flat tongues arranged in juxtaposition with the flat face of one tongue in substantially face to face contact with the other tongue and having openings therethrough at one end and diverging terminals at the other to provide an entrance throat for thread between said flat faces, and fastening devices extending through said openings of the tongues for drawing the tongues into clamping contact with each other and the tongues against the seating face to support the tongues in substantially horizontal position and directed from said stem in the opposite direction to the presser foot on said stem when the device is in use, said tongues being of substantial length to materially space the entrance throat from said mounting bracket and to provide substantial resiliency in said tongues.

2. A thread holding device for sewing machines including a mounting bracket having an opening therethrough adapted to accommodate the presser foot stem of a sewing machine and having a substantially vertical seating face when mounted on the presser foot stem, a pair of substantially flat tongues arranged in juxtaposition with the flat face of the one tongue in substantially face to face contact with the other tongue and having openings therethrough at one end and diverging terminals at the other to provide an entrance throat for thread between said flat faces, at least one of said tongues having a sharpened upper edge to provide a thread cutter, and fastening devices extending through said openings of the tongues for drawing the tongues into clamping contact with each other and the tongues against the seating face to support the tongues in substantially horizontal position and directed from said stem in the opposite direction to the presser foot on said stem when the device is in use, said tongues being of substantial length to materially space the entrance throat from said mounting bracket and to provide substantial resiliency in said tongue.

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