March 4, 1924. 1,486,070

H. BOEDKER

THREAD TIER

Filed Feb. 25, 1922 2 Sheets-Sheet 1

Fig. 1.

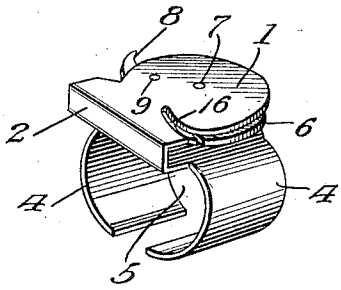


Fig. 2.

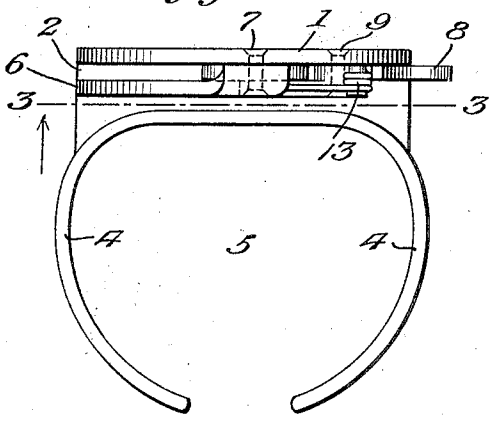


Fig. 3.

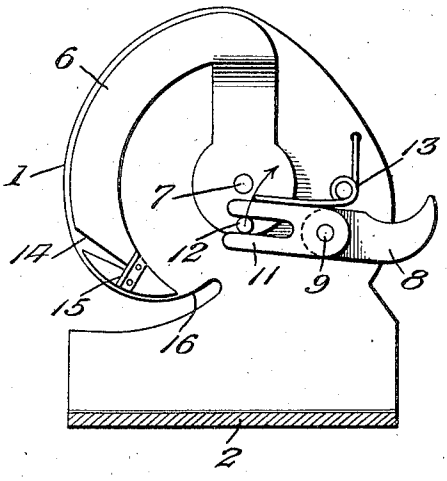
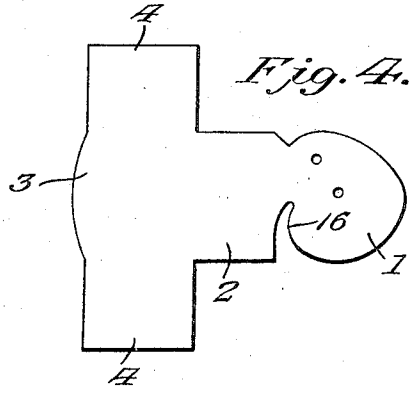


Fig. 4.



INVENTOR.
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Fig. 5.

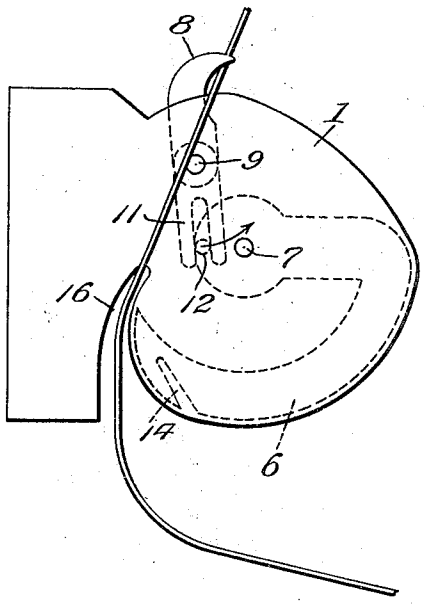


Fig. 6.

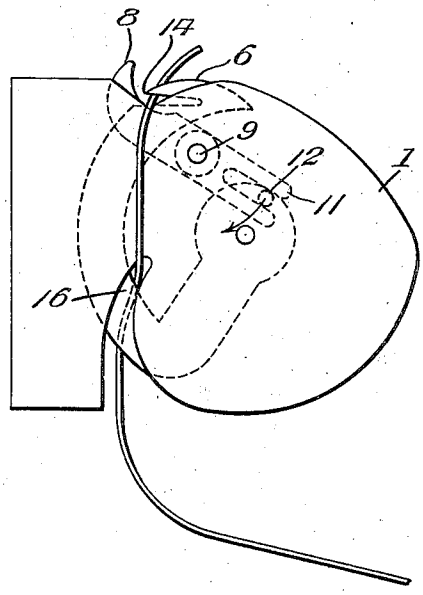


Fig. 7.

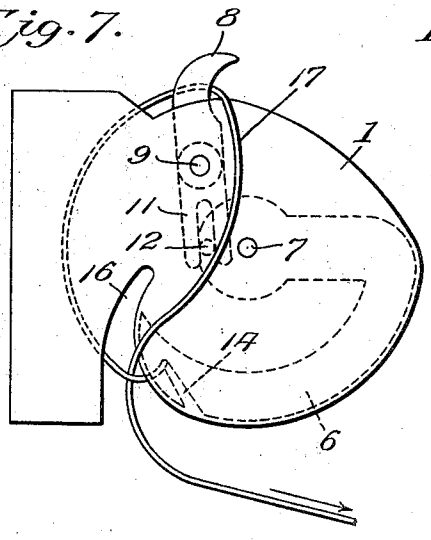
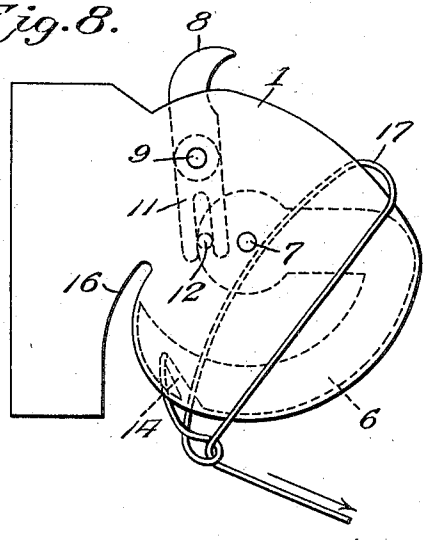


Fig. 8.



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Patented Mar. 4, 1924. 1,486,070

UNITED STATES PATENT OFFICE.

HARRY BOEDKER, OF PLYMOUTH, NORTH CAROLINA.

THREAD TIER.

Application filed February 25, 1922. Serial No. 539,254.

To all whom it may concern:

Be it known that I, HARRY BOEDKER, a citizen of the United States, residing at Plymouth, in the county of Washington and State of North Carolina, have invented certain new and useful Improvements in Thread Tiers, of which the following is a specification.

My invention relates to an improvement in thread tiers.

The object of this invention is to provide a device of the character named which can be conveniently worn upon the operator's forefinger as a suitable way of holding it in correct position for use while the other hand is free to manipulate the threads to be tied together.

Another object is to provide a device of few and simple parts capable of being easily formed and assembled and so articulated as to facilitate the tying operation.

Another object is to provide a tier capable of being manufactured and sold at a comparatively small cost.

In the accompanying drawings,

Fig. 1, is a view in perspective,

Fig. 2, is an enlarged end view,

Fig. 3, is a section on the line 3—3 of Fig. 2.

Fig. 4, is a view of the blank from which my device is made, and

Figs. 5, 6, 7 and 8 are views showing successively different stages in the tying operation.

My entire device consists preferably of three main parts and a spring and I have so illustrated it in the form presented but this form after all is selected as typical and not necessarily the only form the invention may take. This illustrative form will now be described in detail.

A blank approximately as shown in Figure 4, is stamped from sheet metal and this is adapted to be put into a die press and struck into form somewhat as shown in Figure 1, that is to form the head 1, the neck 2, and the body 3, and the latter terminates in a pair of spring jaws 4, thereby forming a ring, in which space 5, the forefinger of the operator is received, the jaws being sufficiently resilient to have a binding effect upon the finger, so as to give rigidity to the device which is necessarily required to its successful operation.

The numeral 6, indicates a lever, preferably curved throughout the major portion of its length, as shown in Figure 3, in full lines and in dotted lines in Figures 5 to 8, to conform approximately to the curvature of the edge of the head beneath which it normally lies, and one end of this lever extends radially inward to a point where it is pivoted to the head by a rivet 7, around which it swings as a center of oscillation.

Numeral 8 designates a trigger, pivoted to the head by means of rivet 9. The outer end protrudes beyond the head 1, and the other end 11, is forked or bifurcated and receives the stud 12, slidably and pivotally and this stud is secured upon the hub of lever 6.

A moderately stiff spring 13, secured to the under side of the head 1, bears upon this forked end of the trigger bringing the parts to normal position as shown in Figure 3, when released.

The free or operative end of the lever 6, has a V-shaped recess 14, constituting a hook to receive and hold the threads to be tied, they being wedged therein, and a knife 15, stationed across the inner end of this recess severs the threads at the proper time.

In operation the threads of which only one is shown for convenience, are first drawn across the head as shown in Figure 5, threading through the slot 16, across the top of the head and against the protruding end of the trigger. As tension is applied to the threads, it forces the trigger back, swinging the lever around as viewed in Figure 6, until the threads are caught and wedged into the recess 14, of the hook. At the same time the threads are cut by the knife 15, the strands being held securely in the recess 14, and upon relaxing the strain upon the threads, the parts resume the position shown in Figure 7, the threads being carried around the head by the lever 6, to form the loop 17, whereupon owing to the peculiar slope of the edge of the head the loop 17, slides or is slid off or over the head as shown in Figure 8, thereby completing the knot as the threads are drawn tight.

Thus in a very simple way and with equally simple mechanism the means is provided for tying two threads together.

I claim—

1. A thread tier including a head, a lever and trigger pivoted thereto and to each other, the lever having a recess to receive and hold the thread and one end of the trigger

protruding beyond the edge of the head in position to be moved by the tension of the thread drawn against it to actuate the lever to cause the formation of the knot.

2. A thread tier including a head, a curved lever pivoted thereto, and a spring actuated trigger pivoted to the head and having loose sliding pivotal connection with the hub of the lever, the lever having a V-shaped recess to receive and hold the threads and carrying a knife to sever them.

3. A thread tier including a blank struck into shape to form a head, a neck and a pair of spring jaws, a lever and a trigger pivoted in the space between the head and the inner ends of the jaws and having loose sliding connection with each other.

4. A thread tier including a head having a slot in one edge, a lever and a trigger pivoted to the head and having pivotal sliding connection with each other, the lever having a V-shaped recess and a knife for receiving, holding and severing the threads.

5. A thread tier including a head, a lever and a trigger pivoted thereto and slidably connected with each other, the trigger protruding at one end beyond the edge of the head in position to be engaged by the threads in tying the knot and the lever curved substantially in conformity with the adjacent edge of the head, the head having an open slot in one edge to receive the threads and the lever having a V-shaped notch or recess to receive and hold the threads and a knife adjacent thereto to cut the threads.

6. A thread tier including a more or less rounded head having a slot extending in from one edge, a lever curved approximately in the shape of a portion of the edge of the head and pivoted approximately concentric with the rounded portion of the head, the free end of the lever having a V-shaped notch in which the thread to be tied is wedged and a trigger pivoted at or near its center eccentrically to the head, having slotted pivotal connection at one end with the lever, one end of the trigger protruding beyond the edge of the head in position to receive the thread as it leaves the inner end of the slot in crossing over the head and to be pushed back when tension is applied to the thread whereby to cause the lever to swing to a position to grasp the thread in its V-shaped notch and to cooperate in the formation of a knot as the thread looped around the head is withdrawn therefrom.

7. A thread tier including an approximately round head having a slot extending in from the edge part way to the center, a curved lever pivoted to the head, a portion of which substantially corresponds to the curvature of the edge of the head, and a portion extending radially from the pivot to the curved portion, the free end of the curved portion having means for receiving and holding the thread in the formation of the knot.

In testimony whereof I affix my signature.

HARRY BOEDKER.