

Dec. 11, 1951

J. S. CONRAD ET AL

2,578,045

FLY TYING DEVICE

Filed Jan. 6, 1950

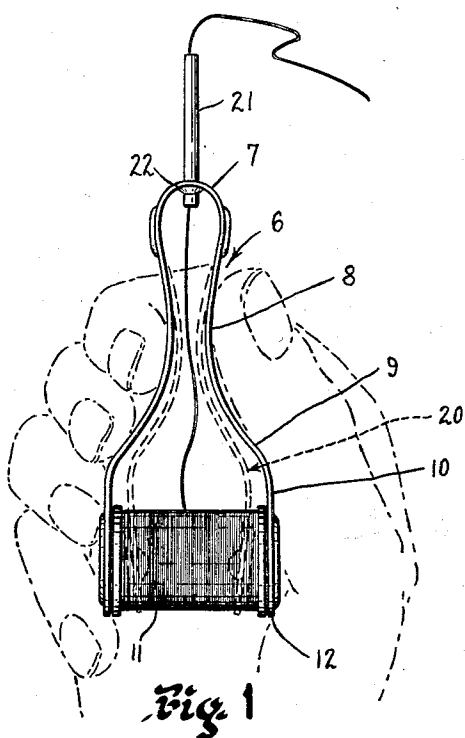


Fig. 1

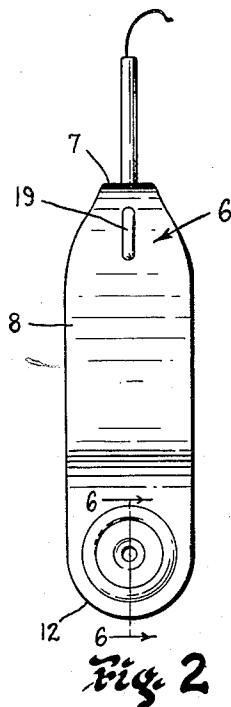


Fig. 2

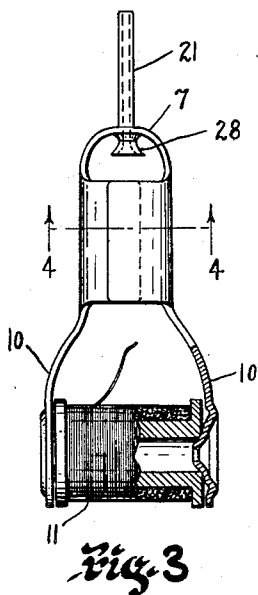


Fig. 3

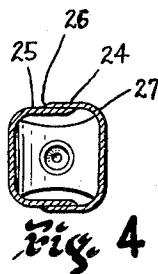


Fig. 4

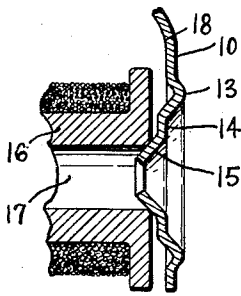


Fig. 6



Fig. 5

INVENTORS
JOHN S. CONRAD
OTHMAR C. FRANZ

BY

Louis H. Wagner
ATTORNEY

UNITED STATES PATENT OFFICE

2,578,045

FLY TYING DEVICE

John S. Conrad, Sturbridge, and Othmar C.
Franz, Southbridge, Mass.

Application January 6, 1950, Serial No. 137,257

4 Claims. (Cl. 242—136)

1

This invention relates to fly-tying tools and has particular reference to the provision of a simple and novel construction of fly-tying bobbin.

One of the principal objects of the invention is to provide an exceedingly simple and inexpensive tool of the above character with which standard sized spools of tying silk may be utilized whereby the tension on the tying silk may be manually varied if desired during the use of the tool.

Another object is to provide a tool of the above character which is so constructed as to permit spools of standard size and having different desired tying silks thereon to be quickly and easily inserted in and removed from the tool.

Another object is to provide a tool of the above character whereby the tension on the tying silk during the tying of a fly or other similar means may be manually controlled in a simple and efficient manner with the tool being such that it may be manipulated with ease during all required use thereof in tying flies.

Another object is to provide a tool of the above character wherein an initial tension is inherently retained on the spool during the manipulation of said tool.

Other objects and advantages of the invention will become apparent from the following description taken in connection with the accompanying drawings and it will be apparent that many changes may be made in the details of construction and arrangement of parts without departing from the spirit of the invention as expressed in the accompanying claims. I, therefore, do not wish to be limited to the exact details of construction and arrangement of parts shown and described as the preferred forms only have been given by way of illustration.

Referring to the drawings:

Fig. 1 is a front elevational view of the device embodying the invention showing it in position of use in the hand of the operator;

Fig. 2 is a side elevational view of said device;

Fig. 3 is a view similar to Fig. 1 of a modified form of the invention;

Fig. 4 is a sectional view taken as on line 4—4 of Fig. 3 and looking in the direction indicated by the arrows;

Fig. 5 is a fragmentary enlarged sectional view of the end of the tool through which the tying silk is drawn; and

Fig. 6 is an enlarged fragmentary sectional view taken as on lines 6—6 of Fig. 2 and looking in the direction indicated by the arrows.

Tools of the above character are not new in the art. Several different types of bobbins of this nature have been formed in the past.

2

Such tools, however, have been quite complicated in structure, difficult to adjust and expensive to make. In most instances, in the past, such tools were formed of materials which were of a fragile nature with the result that if the tool was accidentally dropped there was a great danger of breakage.

Another difficulty was that of interchanging spools having different sizes of tying threads or silks thereon and in varying the tension on the thread as it was drawn from the spool during the use of the tool.

The present invention, therefore, is directed particularly to the provision of an exceedingly simple and efficient device of the above character, and method of making the same, whereby the spools may be quickly and easily interchanged and held with inherent tension thereon when in position of use and which enables varied manual control of the tension on the thread or silk as it is drawn from the spool during the use of the device.

Referring to the drawings wherein like characters of reference designate like parts throughout the several views, the device embodying the invention is formed by blanking from a sheet of material known as beryllium copper having the characteristic that it may be initially annealed to facilitate ease in blanking the major body portion of the tool from the sheet material and the said blanked out portion may then be formed to the shape desired. The various operations may be performed thereon while in said annealed condition and the material may thereafter be age hardened or tempered to introduce a desired degree of inherently resiliency.

The tool comprises a U-shaped member 6, as shown best in Figs. 1 and 2, blanked out to form a base portion 7 which is relatively narrow and side portions 8 which are cupped inwardly to a space relation less than the width of the loop or base portion 7. The said side portions extend outwardly in diverging relation with each other, as illustrated at 9, and thence terminate in relatively straight portions 10 which, when a spool of thread or silk 11 is assembled therewith, will assume a substantially parallel relation with each other, as shown best in Fig. 1. The ends 12 of said straight portions 10 are preferably formed with a semi-circular shaped contour and, during the initial fabrication of said device and prior to the bending of the blanked out member to the shape above described, as shown in Figs. 1 and 2, are struck with an embossing tool to form an outwardly arching annular stiffening ring 13. The embossing tool is such as to si-

multaneously inset an area 14 centrally of said annular portion 13, pierce said area and deflect it inwardly to form a frustro-conical portion 15. The portion 15, when assembled with a spool 16 is adapted to extend within the central bore 17 of said spool.

It is pointed out that the inner surface of the inset portion 14, surrounding the cone shaped portion, lies in a plane inwardly of the plane of the inner surface 18 of the side portion 10.

If desired, the side portions of the U-shaped member 6, prior to bending said member to said shape, may be struck with an embossing tool to produce stiffening ridges 19 on the opposed sides of the base 7, as shown in Figs. 1 and 2.

As shown by the dash lines 20 in Fig. 1, when initially bending the said blanked out portion to the U-shape, and prior to hardening and tempering the said member, the side portions are initially located in a set relation with each other considerably inwardly of the outermost position which they will assume when a spool is assembled therewith. They are such that after hardening and tempering, the said side portions will be required to be deflected outwardly with respect to each other in order to receive the spool. The tendency of said side portions to return to their innermost set relation with each other will inherently introduce a resilient gripping action on the spool to hold it in assembled relation with the device and permit ready manipulation thereof during use.

Prior to hardening, however, and subsequent to the bending of said blanked out portion to the shape as specified above, the base or curved portion 7 is pierced or otherwise provided with an opening therein.

After being shaped as specified above and after hardening and tempering, a tubular member 21 is fitted within said opening and is secured therein by soft solder or the like 22 at a temperature below that which will draw the temper of the device.

The tubular member 21 is provided with an end 23 which is rounded so as to permit the ready flow of thread therethrough without danger of injury to the thread, as shown in Fig. 5.

In Fig. 3, there is shown a slight modification wherein the side portions, intermediate the curved base 7 and the spool retaining end portions 10 are provided with inwardly deflected portions 24 and 25 adapted to fit in overlapping relation with each other whereby the said side portions may be freely compressed in response to the resilient action of the looped or curved base 7. This is to provide a smooth finger engaging portion with a view to affording ease in manipulating the device. It is pointed out that the portions which are in superimposed relation are provided with beveled edges 26 and 27 to remove any sharp edges with which the fingers might engage.

In this modification, the tubular member 21 is provided with an outwardly flared end 28 to afford ease in threading the silk or thread internally of said tube. This operation is generally performed by placing the end of the thread internally of the flared end 28 and thence drawing the same through the tube by placing the outer end thereof in the mouth and sucking the thread therethrough.

It is pointed out that the side portions 10 of the device illustrated in Fig. 3 are initially located in adjacent relation with each other in a manner simulating that illustrated by the dash

lines 20 in Fig. 1, and will assume the substantially parallel position with each other when the spool 11 is positioned therein.

The material used in forming said devices is preferably 2% beryllium and the remainder copper, having the characteristic of age hardened, which age hardening is initially accelerated by baking the tool at a temperature of approximately 600° F. for about two hours to introduce the desired hardness and resiliency.

The ends of the portions 10 in Fig. 3 are formed to substantially the same shape as the ends of the side portions 10 of Figs. 1 and 2 and as illustrated in Fig. 6.

As shown diagrammatically in Fig. 1, although the side portions 10 of the device have an inherent gripping action on the spool during the use of the device, the tension on the thread may be varied by exerting an increased pressure on said side portions approximately at the area of curved portions 8 by the thumb and forefinger.

It is apparent that by varying the gripping pressure of the hand on the tool as specified above, the tension may be varied as desired. The frustro-conical portions 15 function cooperatively with said varied resilient actions to introduce a wedging gripping action on the spool, as desired.

It is quite obvious that if the operator should desire to prevent the thread from being drawn from the spool during the tying of a fly, all that is required is to exert a greater pressure on the outer side portions 10 of the U-shaped member. By exerting sufficient force, the spool may be entirely locked against rotation or may be allowed to rotate with the desired tension on the thread as required. The device is exceedingly simple in its construction, permits standard sized spools having different threads thereon to be quickly and easily assembled therewith or disassembled as desired and affords simple and efficient means whereby the tension on the thread may be varied as required during the use of the tool. All of said functions are under the constant control of the operator.

When a resilient friction action only is desired, the pressure is exerted substantially at the area 8 by the thumb and forefinger. If it is desired to lock the spool against rotation, pressure may be exerted directly on the sides opposite the ends of the spool.

From the foregoing description, it will be seen that simple, efficient and economical means have been provided for accomplishing all of the objects and advantages of the invention.

Having described our invention, we claim:

1. A hand-carried spool holder for aiding in winding fish lures comprising a strip of relatively thin resilient material formed to produce spaced portions with relatively smooth substantially parallel edges integrally joined adjacent one end thereof by a relatively narrow intermediate portion having an opening therein and curved along a relatively short radius to form a U-shaped member with a curved base portion and relatively long spaced side portions, a tubular member secured in alignment with said opening of said curved base portion with its longitudinal axis disposed in a direction longitudinally of the side portions, said side portions, from adjacent the opposed sides of the curved base portion, being spaced apart a distance no greater than the width of the curved base portion and thence joining with outwardly extend-

5

ing portions which in turn blend into rearward bent portions terminating in spaced substantially straight portions having relatively smooth curved ends, said straight portions having their side walls struck inwardly to form inwardly disposed integral cone-shaped projections with the axes of the cones being substantially concentric with the curved ends and with said straight portions normally having an initial set relation which is such as to exert an inherent resilient gripping action on a spool when positioned between said portions and in pivotal relation with the cone-shaped projections, said cone-shaped projections being of a size so controlled that when positioned within the opposed ends of the opening in the spool the ends of said spool are spaced from said straight portions whereby the spool is normally free to rotate on the cones and said portions spaced apart a distance no greater than the width of the curved base portion being so shaped as to provide a gripping area whereby varying pressure exerted by the hand of the operator at said area, during the use of the device, will provide a manually variable control for regulating the tension on the thread as it is drawn from the spool through the tubular member.

2. A hand-carried spool holder for aiding in winding fish lures comprising a strip of relatively thin resilient material formed to produce spaced portions with relatively smooth substantially parallel edges integrally joined adjacent one end thereof by a relatively narrow intermediate portion having an opening therein and curved along a relatively short radius to form a U-shaped member with a curved base portion and relatively long spaced side portions, a tubular member secured in alignment with said opening of said curved base portion with its longitudinal axis disposed in a direction longitudinally of the side portions, said side portions, from adjacent the opposed sides of the curved base portion, being arched slightly inwardly and thence turning outwardly to reversed bent portions terminating in spaced substantially straight portions having relatively smooth curved ends, said straight portions having their side walls struck inwardly to form inwardly disposed integral cone-shaped projections with the axes of the cones being substantially concentric with the curved ends and with said straight portions normally having an initial set relation which is such as to exert an inherent resilient gripping action on a spool when positioned between said portions and in pivotal relation with the cone-shaped projections, said cone-shaped projections being of a size so controlled that when positioned within the opposed ends of the opening in the spool the ends of said spool are spaced from said straight portions whereby the spool is normally free to rotate on the cones and said inwardly curved side portions intermediate said spool and the curved base being so shaped as to provide a gripping area whereby varying pressure exerted by the hand of the operator at said area, during the use of the device, will provide a manually variable control for regulating the tension on the thread as it is drawn from the spool through the tubular member.

3. A hand-carried spool holder for aiding in winding fish lures comprising a strip of relatively thin resilient metal formed to produce spaced portions with relatively smooth substantially parallel edges integrally joined adjacent one end

6

thereof by a relatively narrow intermediate portion having an opening therein and curved along a relatively short radius to form a U-shaped member with a curved base portion and relatively long spaced side portions, a tubular member secured inwardly of said opening of said curved base portion with its longitudinal axis disposed in a direction longitudinally of the side portions and having a flared inner end, said side portions, from adjacent the opposed sides of the curved base portion, being arched slightly inwardly and thence turning outwardly to reversed bent portions terminating in spaced substantially straight portions having relatively smooth curved ends, said straight portions having their side walls struck inwardly to form inwardly disposed integral cone-shaped projections with the axes of the cones being substantially concentric with the curved ends and with said straight portions normally having an initial set relation which is such as to exert an inherent resilient gripping action on a spool when positioned between said portions and in pivotal relation with the cone-shaped projections, said cone-shaped projections being of a size so controlled that when positioned within the opposed ends of the opening in the spool the ends of said spool are spaced from said straight portions whereby the spool is normally free to rotate on the cones and said inwardly curved side portions intermediate said spool and the curved base being so shaped as to provide a gripping area whereby varying pressure exerted by the hand of the operator at said area, during the use of the device, will provide a manually variable control for regulating the tension on the thread as it is drawn from the spool through the tubular member.

4. A hand-carried spool holder for aiding in winding fish lures comprising a strip of relatively thin resilient beryllium copper formed to produce spaced portions with relatively smooth substantially parallel edges integrally joined adjacent one end thereof by a relatively narrow intermediate portion having an opening therein and curved along a relatively short radius to form a U-shaped member with a curved base portion and relatively long spaced side portions, a tubular member secured in alignment with said opening of said curved base portion with its longitudinal axis disposed in a direction longitudinally of the side portions, said side portions, from adjacent the opposed sides of the curved base portion, having portions spaced apart a distance no greater than the width of said curved base portion and in turn extending outwardly to reversed bent portions terminating in spaced substantially straight portions having relatively smooth curved ends, said portions spaced apart a distance no greater than the width of said curved base portion having wall portions extending inwardly in overlapping relation with each other, said straight portions having their side walls struck inwardly to form inwardly disposed integral cone-shaped projections with the axes of the cones being substantially concentric with the curved ends and with said straight portions normally having an initial set relation which is such as to exert an inherent resilient gripping action on a spool when positioned between said portions and in pivotal relation with the cone-shaped projections, said cone-shaped projections being of a size so controlled that when positioned within the opposed ends of the opening in the spool the ends

7

of said spool are spaced from said straight portions whereby the spool is normally free to rotate on the cones and said portions spaced apart a distance no greater than the width of the curved base portion being so shaped as to provide a gripping area whereby varying pressure exerted by the hand of the operator at said area, during the use of the device, will provide a manually variable control for regulating the tension on the thread as it is drawn from the spool through the tubular member.

JOHN S. CONRAD.
OTHMAR C. FRANZ.

8

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,047,601	Woodworth -----	Dec. 17, 1912
1,277,553	Crandall -----	Sept. 3, 1918
1,293,383	Eaton -----	Feb. 4, 1919
1,524,935	Johnson -----	Feb. 3, 1925
1,683,803	Rathjen -----	Sept. 11, 1928
1,814,703	Johnson -----	July 14, 1931
2,487,625	Witkovic -----	Nov. 8, 1949