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ROD WRAPPING DEVICE

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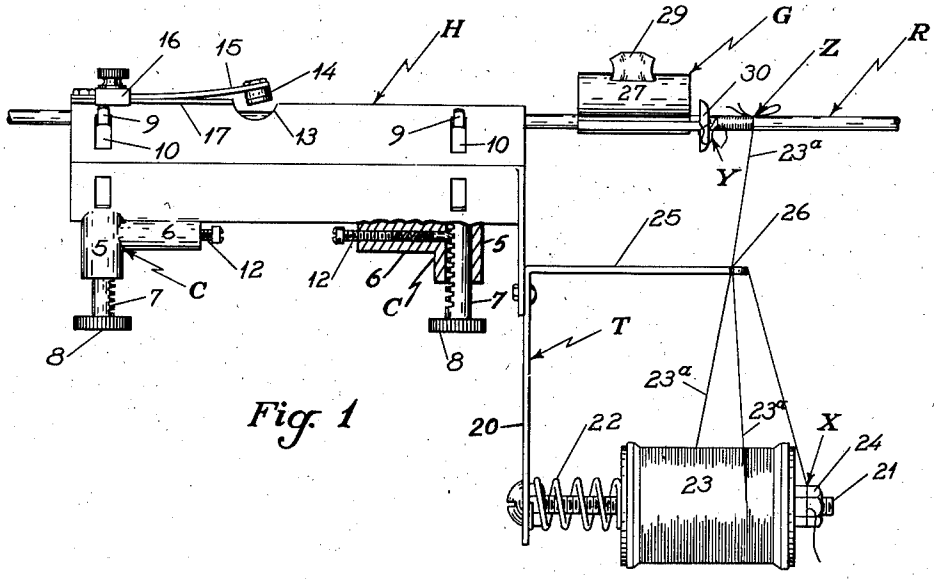


Fig. 1

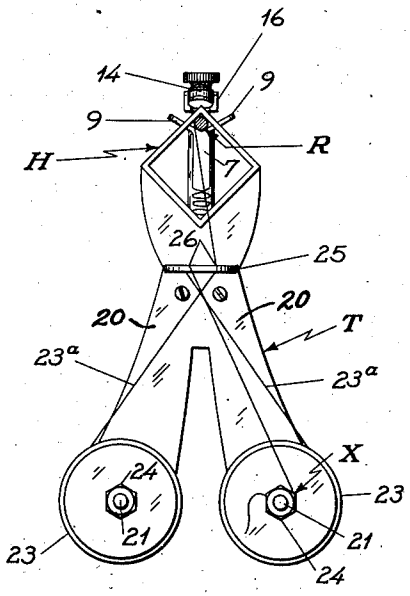


Fig. 2

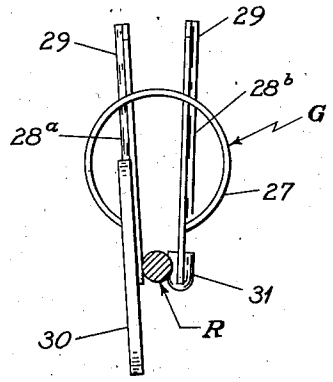


Fig. 3

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ROD WRAPPING DEVICE

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11 Claims. (Cl. 242—7)

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This invention relates to a device for wrapping fishing rods or similar objects formed of separable parts bound together by a continuous winding.

It has long been customary for fishermen and more particularly those using a fly-casting technique to rewrap their rods periodically, usually annually. Such rods usually consist of several sections which are joined into a continuous assembly for use, and which are stored or transported in a suitable case or container by disconnecting the several members or sections.

Each such section will comprise a plurality of strips of bamboo of equivalent size and shape which are joined together to form a hollow, flexible body. This joining is accomplished by fitting lateral edges of the sections together until a tubular body is formed, then binding these sections together with a spiral winding of thread at intervals along its length. When so assembled, the entire unit is fitted with the necessary appurtenances, such as ferrules, guides and the like and then the exposed bamboo surfaces and wrappings are waterproofed by the application of a suitable composition, such as shellac. In this way, moisture is kept out of the interior to prevent rotting or other damage.

The winding or wrapping to be adequate requires continuous tensioning of the thread and a close wind, that is, one convolution must fit snugly against adjoining convolutions to give the desired effect.

It is an object of the present invention to provide a simple, durable and efficient device for use in rod wrapping and similar operations.

Another object of the invention is to provide a novel thread tensioning arrangement for rod wrapping and similar operations.

A further object of the invention is to provide a novel thread guiding arrangement for rod wrapping and similar operations.

Other objects reside in novel details of construction and novel combinations and arrangements of parts, all of which will be described in the course of the following description.

The accompanying drawings illustrate a construction well suited for attaining the objects of this invention. However, this construction is intended merely as a typical embodiment of the invention, but not to limit the invention, the scope of which is defined in the appended claims.

In the drawings, in the several views of which like parts have been designated similarly,

Fig. 1 is a side elevation of a device embodying features of the present invention with a section of rod shown at a stage in the winding operation;

Fig. 2 is an end elevation of the device shown in Fig. 1; and

Fig. 3 is a section through the thread guiding unit of the assembly shown in Fig. 1 and drawn to an enlarged scale.

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The device shown in the drawings comprises a holder H in the form of a hollow body which may be of any suitable shape, here shown as a square section. Rod supporting means comprising two clamping members C are mounted on or formed integrally with the holder adjacent its ends. Each of these members frictionally holds the rod for manual rotation in the holder and comprises a projecting tubular portion 5, a lateral hollow extension 6 on the tube, and a rack member 7 extending through tubular portion 5, having a knurled knob 8 at its exposed end to facilitate manipulation, and having divergent flanges 9 at its opposite end.

The holder H is slotted, as shown at 10 in Fig. 1, through which the flanges 9 extend, permitting movement of the rack lengthwise of the tubular portion 5. The rack is held in selective positions by spring-urged detents 12 having adjustable set screws, and the divergent flanges 9 provide a saddle or seat on which the rod R is supported.

Through this arrangement, a rod section or similar object may be inserted in the hollow interior of holder H to seat upon the divergent flanges 9, after which the racks 7 are pushed in to move the rod into frictional engagement with the inner surface of holder H. This will journal the rod in the holder so that it will be properly held for manual rotation in the holder.

The holder is apertured at 13 on its rod engaging surface and locking means comprising a friction member 14 carried on the end of a bow spring 15 is adapted for movement in and out of said aperture for engagement with and disengagement from the rod by a slide member 16 which forces the spring into contact with a flanged surface 17 along which the slide is moved. When the friction member 14 is forced into engagement with the rod the rod will be held from rotation with respect to the holder H.

At one end of holder H, a thread supporting and tensioning member T is mounted on or formed integrally with the holder. This member extends to a substantial distance from the lengthwise axis of holder H and terminates in one or more arms 20, here shown as two in number. Each said arm supports a bolt 21, on which a coil spring 22 is mounted to engage a spool of thread 23. The spool is held under tension by the spring and a lock nut or other suitable fastening member 24 permits adjustment to vary the degree of compression of the spring and thereby increase or decrease the tension on the thread as it is wound on the rod.

A laterally projecting plate 25 on member T overhangs the spool 23 and is provided with one or more slits 26 through which the thread 23a from spools 23 is reeved. When the device is not

in use the loose end of the thread may be drawn down and reeved between the lock nut members 24, as shown at X in Figs. 1 and 2.

When the device is in use, as illustrated, a guide member G is attached to rod R in the manner illustrated in Figs. 1 and 3. This member comprises a cylindrical spring section 27, suitably slotted to admit two bar members 28*a* and 28*b*, the upper ends 29 of which function as grips. One member 28*a* carries at one end a winged extension 30, and preferably the lower edge of the other member 28*b* is provided with a resilient cover 31 to facilitate its clamping action.

In the operation of the device, the loose end of the selected thread 23*a* is looped around the winged extension 30 of the guide member G as shown at Y in Fig. 1, and this winding places the thread under tension, due to the tensioning of the spool 23 from which the thread is withdrawn. The operator then grasps the opposite ends of rod section R between thumb and fingers and suspends same, whereupon he begins to rotate the rod by fingertip manipulation. This action may cause some tilting of the assembly but inasmuch as the rod is held in the same relative axial position in holder H by the flange members 9, the rod, in effect, is rotated about a substantially fixed axis.

The extension 30 holds the thread in this rotation, and due to the tensioning action, the thread winds on the rod in closely joined spiral convolutions. The extension 30, because of the shape of its ends, insures the thread will be guided onto the rod so the spiral will progress in the right direction, that is, away from the end of the extension. The preliminary winding also is caused to overlap the end of the thread in a manner shown. After making several revolutions of the rod the friction member 14 is moved into contact with rod R by moving the slide 16 toward the work, and the rod is then held against movement relative to holder H.

This permits the operator to release his hold on one end of the rod to draw the loose end of the thread at Y into taut contact with the windings. During this operation the guide member G can be removed if desired. Next, the operator returns the slide to its normal position and resumes the winding action until substantially the desired number of convolutions have been formed. He then forms a loop of loose thread and positions it substantially parallel to the rod between said rod and the last convolution. A few more convolutions are then formed after which the thread 23*a* is cut at or near slit 26 and the loose end is drawn through the opening in the loop at Z, whereupon one end of the loop is pulled taut to complete the fastening. Next, the loose ends of the thread are cut away, with a safety razor blade or the like, and the rod section is removed from holder H.

It is customary with fishermen and rod makers to effect a color contrast with the thread of the windings, employing one color for a portion of a given wrapping and a second color for another portion of the same wrapping. The above described procedure is followed in applying each such wrapping with the present device, and upon completion of the entire operation, the thread and rod surfaces are waterproofed as hereinbefore described. For this reason, I have shown two spools of different colored thread mounted on the device, but it will be obvious that a single spool, or three or more spools, may be so arranged, as desired.

From the foregoing description, it will be apparent that the present invention comprises means for holding a rod or similar object for rotation about a substantially fixed axis, means for tensioning a spool of thread in proximity to said rod, and guide means for controlling the position of the tensioned thread as it is wound onto the rod by rotation of said rod. Preferably, although not necessarily, the device also includes manually-actuated means such as the parts 14, 15 and 16 for holding the rod against rotation.

The device is designed to be embodied in small sized, light-weight material so that the fisherman may carry it in a kit and make repairs when necessary at the stream or other fishing site. However, the device is equally well suited for factory or repair shop operations where it would be a part of the bench equipment.

Also, the provision of the clamping members C permits the holder H to accommodate a wide variation in the thickness of the rod material R, and if desired, a single device may be used for wrapping both stream and deep sea fishing equipment.

While the present device has been designed for use in rod tieing operations, it may be used in wrapping other objects of similar shape where a closely wound spiral wrapping is required. Various changes in the size, shape, composition and arrangement of parts with duplication of the afoesaid functioning, are within contemplation of the invention, the scope of which is defined in the hereunto appended claims.

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

1. A device of the character described, comprising means holding an object to be wrapped for rotation relatively to the holding means and about a substantially fixed axis, means for supporting and tensioning a spool of thread in proximity to said object, guide means arranged in association with said object for guiding the thread under tension of said tensioning means as it is wound on said object by rotation thereof, and means associated with said holding means and engageable with the object for locking the object against rotation therein.

2. A device of the character described, comprising means holding an object to be wrapped for rotation relative to the holding means and about a substantially fixed axis, means supporting a spool of thread in proximity to said object, tensioning means for the thread and guide means separate from the holding means and clampingly engaging said object for guiding the thread under tension of said tensioning means as it is wound on said object by rotation thereof.

3. A device of the character described, comprising means holding an object to be wrapped for rotation about a substantially fixed axis, means for supporting and tensioning a plurality of spools of thread of contrasting colors in proximity to said object, a single member positioned between the spool supporting means and provided with separate guide slots, each of which receives a thread from a spool for guiding it, means holding the thread of one said spool in an inactive position, and guide means arranged in association with said object for selectively guiding a thread from either of said spools under tension of said tensioning means as it is wound on said object by rotation thereof.

4. A device of the character described, comprising a hollow body member, a rod in said hollow body member having a portion thereof extending outside the member, means within the

body arranged to hold said rod for rotation about a substantially fixed axis therein so that thread can be wound on a portion of the rod outside and adjacent the body member, spool supporting means on said body for mounting the spool with its lengthwise axis substantially parallel to and spaced from the axis of rotation of said rod, means for maintaining thread under tension as it is unwound from the spool, and means disposed between the spool and the rod for guiding the windings of the tensioned thread during rotation of said rod.

5. A device of the character described, comprising a hollow body member, a section of rod fitted in the hollow body member with a portion projecting therefrom, adjustable means within the body arranged to hold said rod for rotation about a substantially fixed axis therein so that thread can be wound on the projecting portion at a point adjacent the body member, spool supporting means on said body for mounting the spool with its lengthwise axis substantially spaced from the axis of rotation of said rod, means for maintaining thread under tension as it is unwound from the spool, and means disposed between the spool and the rod for guiding the windings of the tensioned thread during rotation of said rod.

6. A device of the character described, comprising a hollow body member, a section of rod disposed within the hollow body member with a portion projecting from its interior, means within the body arranged to hold said rod for rotation about a substantially fixed axis therein so that thread can be wound on the projecting rod portion adjacent the body member, spool supporting means on said body for mounting the spool with its lengthwise axis substantially spaced from the axis of rotation of said rod, a coil spring acting on an end of said spool for maintaining thread under tension as it is unwound from the spool, adjustable means for varying the compression of said spring, and means disposed between the spool and the rod for guiding the windings of the tensioned thread during rotation of said rod.

7. In a device for wrapping a thread on an elongated member, a hollow body member through which the elongated member extends, frictional holding means engaging a portion of the elongated member within the hollow body member permitting said elongated member to be rotated therein about its longitudinal axis by manipulating another portion of the said elongated member located outside the hollow body member by hand, a spool support carried by the holding means for mounting a spool of thread on an axis parallel with the elongated member and laterally of that portion of said elongated member outside said hollow body member, and means between the spool and elongated member for guiding the thread.

8. In a device for wrapping a thread on a rod, a hollow body member through which the rod extends, frictional holding means for a portion of the rod permitting the rod to be rotated therein about its longitudinal axis by manipulating a portion thereof by hand, a member extending from the holding means in a direction laterally from the axis about which the rod is rotated, and two members extending from the laterally extending member in a direction parallel with each other and the axis of the rod, one

of said last two members being positioned intermediate the other member and a portion of the rod, means for mounting a spool of thread on the said other member of the two members so that its thread will be maintained under tension when unwound, and means carried by the intermediate member for guiding the thread.

9. In a device for wrapping a thread on an elongated member, a holder, means for mounting a portion of the member in the holder for rotation relatively thereto so that an extending part of the member may be wrapped with thread, a spool support carried by the holder for mounting a spool of thread on an axis parallel with the axis of the member and laterally of its extending part, means between the spool and member for guiding the thread, and adjustable means acting on the spool for maintaining the thread under tension as it is wrapped on the member by a rotation thereof.

10. In a device for wrapping a thread on an elongated member, a holder, means for mounting a portion of the member in the holder for rotation relatively thereto so that an extending part may be wrapped with thread, spool supports carried by the holder for mounting two spools of different colored thread on axes parellel with each other and also parallel with the axis of the elongated member and laterally of its extending part, and means also carried by the holder and interposed between the spool supports and the elongated member for independently guiding the threads from the spools and permitting either thread to remain in its guide while the other is being wrapped on the extended part of the elongated member.

11. A device of the character described, comprising a hollow body member having alined slots adjacent each of its ends, a rod in said member having a section projecting therefrom and being disposed for rotation therein to permit thread to be wound on a section of the rod adjacent the body member, a rack mounted for movement transversely to the lengthwise axis of said rod at each end of said body and having a flanged, seat-forming portion at its rod-contacting end with the flanges thereof movable in the slots of the body member, a thread-tensioning assembly depending from said body and including a spring-urged spool of thread and an apertured arm overhanging said spool with the loose end of the thread extending through said aperture, and a guide member detachably mounted on the rod about which the loose end of the thread is wound and having means for guiding the tensioned thread when the rod is rotated to wind the thread thereon.

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