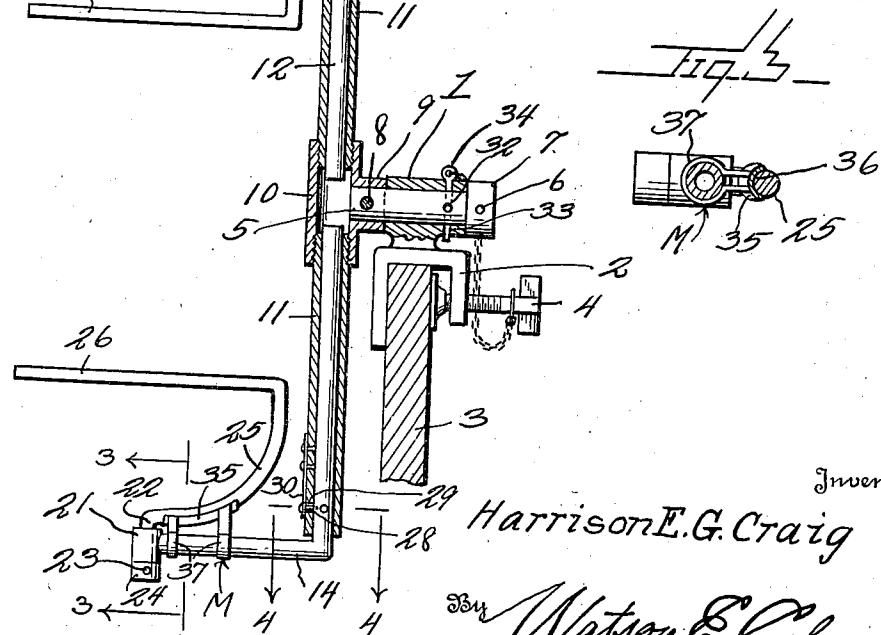
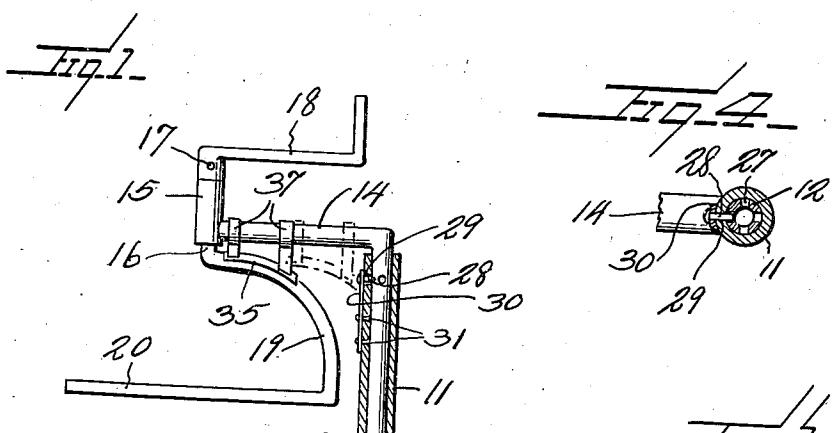
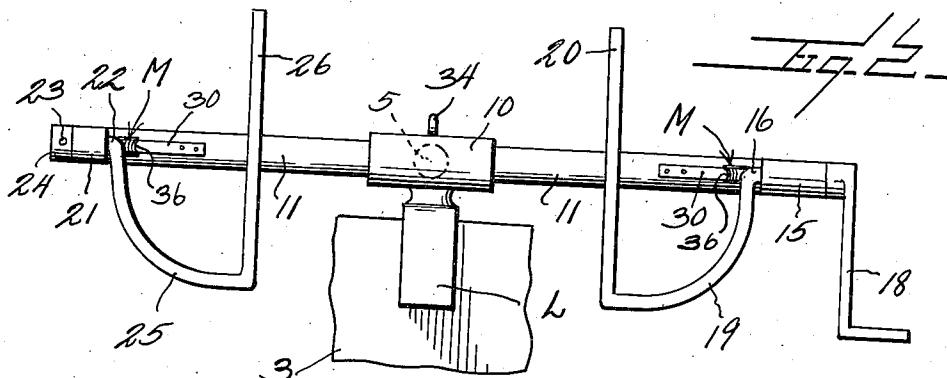


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H. E. G. CRAIG
ROPE COILER AND WRAPPER

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ROPE COILER AND WRAPPER

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6 Claims. (Cl. 242—77)

This invention relates to a device for coiling and wrapping rope and it is a particular object of the invention to provide a device of this kind especially adapted for use in the coiling and wrapping of a life or hand line such as is used by fire departments, telephone or telegraph companies, etc.

It is also an object of the invention to provide a device of this kind which is portable and which can be quickly mounted in working position when desired.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved device whereby certain important advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:

Figure 1 is a view, partly in elevation and partly in section, showing a device constructed in accordance with an embodiment of my invention in position for coiling a rope;

Figure 2 is a front elevational view of the device as illustrated in Figure 1 but in a position for wrapping a portion of the rope around the coils;

Figure 3 is a detailed sectional view taken substantially on the line 3—3 of Figure 1; and

Figure 4 is a detailed sectional view taken substantially on the line 4—4 of Figure 1.

As disclosed in the accompanying drawing, my improved device comprises a tubular member or sleeve 1, of desired dimensions, and which as herein disclosed has formed therewith a U-shaped bracket 2 to be engaged over the marginal portion of a suitable support 3 and securely held thereto by a clamping screw 4 threading through one of the arms of the bracket 2 and bearing against a face of the support 3. I do not, however, wish to be understood as limiting myself to any particular means for securing the member or sleeve 1 to a support, other than that such securing means is of a releasable type.

Rotatably extending through the member or sleeve 1 is a stub shaft 5. This shaft 5 is of a length greater than the length of the member or sleeve 1 and to the extended end portion of the shaft 5 is keyed, as at 6, a holding or thrust collar 7 co-acting with one end of the member or sleeve 1. Keyed, as at 8, to the opposite extended portion of the shaft 5 is a surrounding collar 9 which has contact with the adjacent end of the member or sleeve 1. The collars 7 and 9 provide means for effectively maintaining the shaft 5 in working position with respect to the member or sleeve 1.

The collar 9 is formed with and extends laterally from the central portion of a tubular head 60

10, into the opposite end portions of which thread or otherwise engage the inner extremities of the longitudinally aligned elongated sleeves 11.

Snugly and rotatably extending through these sleeves 11 are the elongated shafts 12, each provided at its outer end with a laterally disposed extension arm 14 preferably at right angles thereto. The outer extremity of one of the extension arms 14 carries a bearing sleeve 15 disposed in a direction parallel with the adjacent sleeve 11. Rotatably disposed from within through the bearing sleeve 15 is a stub shaft 16. This shaft 16 extends beyond the opposite ends of the bearing sleeve 15 and to the outer extended portion of the shaft 16 is keyed, as at 17, or otherwise secured, a winding crank 18 or its equivalent. The inner extended portion of the shaft 16 is continued by a laterally disposed arcuate arm 19 and the outer or free end of this arm 19 is continued by an elongated straight arm 20 at right angles to the shaft 16. The arm 19 is so formed and the arm 20 is of such length, in the present embodiment of the invention, to have the shaft 16 midway of the ends of the arm 20 and the adjacent arm 14 is of such length as to readily allow for the desired rotation of the shaft 16 without the arm 19 or the arm 20 coming into contact with the adjacent sleeve 11.

The outer end of the arm 14 carries a bearing sleeve 21 through which is rotatably disposed from within a stub shaft 22. This shaft 22 is of a length to extend beyond the opposite ends of the sleeve 21 and the outer extended portion of the shaft 22 has suitably keyed thereon, as at 23, a holding collar 24 which co-acts with the adjacent outer end of the bearing sleeve 21. The inner extended portion of the shaft 22 is continued by a laterally and outwardly disposed arcuate arm 25 similar to the arcuate arm 19 hereinbefore referred to and the outer end of this arm 25 is continued by the elongated straight arm 26 at right angles to the shaft 22. The arms 19 and 25, as well as the arms 20 and 26 are preferably of the same dimensions. Each of the shafts 12 is preferably tubular and each of said shafts 12 adjacent to its outer end is provided therearound with the annular series of openings 27. As is illustrated in Figure 4, these openings 27 are four in number and equi-distantly spaced around the shaft 12. Selectively engaging within one of these openings 27, as determined by the turning of the shaft 12, is a lock pin 28. This pin 28 freely passes through an opening 29 in the wall of the member 11 and is carried by the outer end portion of an elongated flat spring 30, the opposite end portion of which being anchored, as at 31, to the member 11. This spring 30 serves to constantly urge the pin 28 inwardly within one of the openings 27 so that the arms 14 may be maintained in a position parallel with

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each other and in parallelism with the shaft 5, as illustrated in Figure 1, or to maintain the arms 14 in a position at either side of the shaft 5 but at right angles thereto, as illustrated in Figure 2.

The shaft 5 within the tubular member or sleeve 1 is provided therethrough with the intersecting openings 32 at right angles to each other and which are to be selectively brought into register with the opposed openings 33 in the wall of the member or sleeve 1 so that upon application of the pin 34 the sleeves 11 will be effectively locked in a vertical position, as illustrated in Figure 1, or in a horizontal position, as illustrated in Figure 2.

When a rope or the like is to be coiled the device is preferably mounted, as illustrated in Figure 1, with the sleeves 11 vertically disposed and the arms 20 and 26 arranged in substantially a horizontal direction. These arms 20 and 26 are maintained in such position by the holding members M slidably mounted on the arms 14. Each of these members M comprises an elongated arcuate member 35 having an outer channeled face 36, as illustrated in Figure 3, to receive the adjacent portion of an arm 19 or 25. The opposite end portions of the member 35 are provided with the laterally disposed loop members 37 which frictionally engage around the arm 14 whereby the member M is readily maintained in holding position, as illustrated by full lines in Figure 1, or in a released position, as indicated by broken lines at the upper portion of Figure 1.

With the arms 20 and 26 in the position as illustrated in Figure 1 a rope is coiled or looped around the arms 20 and 26 and after the rope has been suitably coiled or wound, the arms 11 are adjusted into a substantially horizontal position, as illustrated in Figure 2, with the arms 20 and 26 free to rotate by moving the holding members M inwardly into released position. As the arm 16 is rotated by the crank 18 the coils or wrappings of the rope around the arms 20 and 26 will cause the arm 26 to trail around with the arm 20 and thus rotate the rope coils in a manner to wrap an end portion of the rope around the central portions of the coil whereby is produced a neat and compact rope package which can be easily stored away upon a fire apparatus or otherwise, as desired, and which rope is in a condition to be readily handled.

From the foregoing description it is thought to be obvious that a device constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated.

I claim:

1. An apparatus for coiling and wrapping an elongated flexible member comprising a pair of substantially aligned shafts, mountings for said shafts, elongated arms operatively supported by said shafts and disposed in directions at right angles to said shafts at spaced points between the shafts, releasable means for holding the shafts against rotation to allow the flexible member to be coiled around the arms, and means for rotating one of the shafts when released for wrapping a portion of the flexible member around the coils carried by the arms, said coiled flexible member connecting the arms for unitary rotation.

2. An apparatus for coiling and wrapping an elongated flexible member comprising a pair of

substantially aligned shafts, mountings for said shafts, elongated arms operatively supported by said shafts, and disposed in directions at right angles to said shafts at spaced points between the shafts, releasable means for holding the shafts against rotation to allow the flexible member to be coiled around the arms, means for rotating the shafts when released for wrapping a portion of the flexible member around the coils carried by the arms, means for rotating the mountings for the shafts around a common axis and releasable means for holding said mountings against such turning movement.

3. A device of the class described comprising two substantially parallel arms, bearing sleeves carried by said arms and in a substantially right angular relation thereto, shafts rotatably supported by said bearing sleeves, laterally disposed arms carried by the inner portions of the shafts and extending therefrom in a general direction one toward the other, elongated arms carried by the free end portions of the second named arms and disposed in a direction substantially at right angles to the shafts, releasable means for holding the shafts against rotation and means for rotating one of the shafts when released.

4. A device of the class described comprising two substantially parallel arms, bearing sleeves carried by said arms and in a substantially right angular relation thereto, shafts rotatably supported by said bearing sleeves, laterally disposed arms carried by the inner portions of the shafts and extending therefrom in a general direction one toward the other, elongated arms carried by the free end portions of the second named arms and disposed in a direction substantially at right angles to the shafts, releasable means for holding the shafts against rotation and means for rotating one of the shafts when released, the means for holding the shafts against rotation being slidably mounted on the substantially parallel arms and engageable with the second named arms.

5. A device of the class described comprising a pair of substantially aligned shafts, means for supporting said shafts for rotation, laterally directed arms carried by said shafts, elongated arms rotatably carried by the arms of the shafts, the axis of rotation of said elongated arms being substantially midway thereof, said arms being adapted to have a flexible member coiled therearound and means for rotating one of the arms for wrapping a portion of a flexible member around the coils thereof on the elongated arms.

6. A portable device for coiling and wrapping rope or the like comprising a member, means for engaging said member with a support, oppositely directed sleeves rotatably supported by said member, means for holding said sleeves against rotation when in either substantially a vertical position or substantially a horizontal position, shafts rotatably engaged with the sleeves, laterally directed arms carried by said shafts outwardly of the sleeves, means for holding the shafts against rotation when the arms are either in a position substantially parallel to the axis about which the sleeves rotate or when said arms are substantially at right angles to said axis, elements rotatably carried by the arms of the shafts, said elements including arms about which the rope is to be coiled and means for rotating one of the elements for wrapping a portion of the rope around the coils carried by the last-named arms.

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