

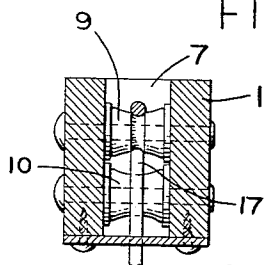
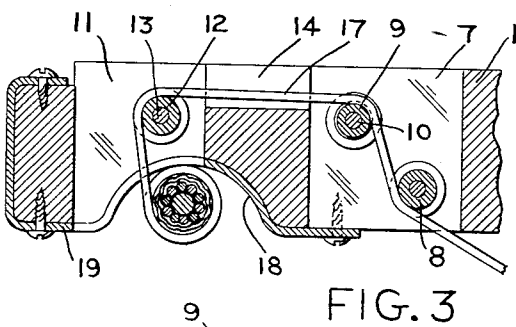
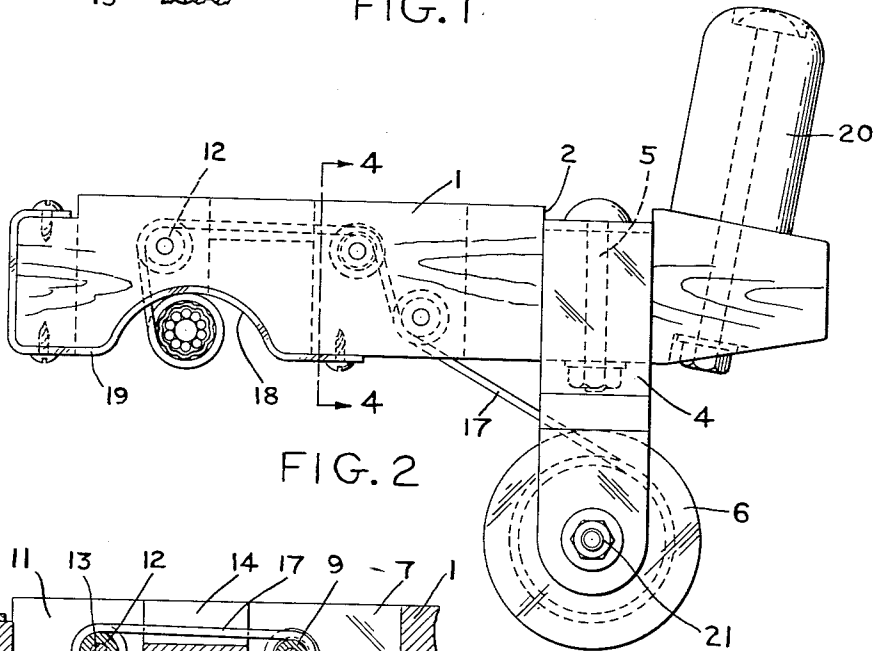
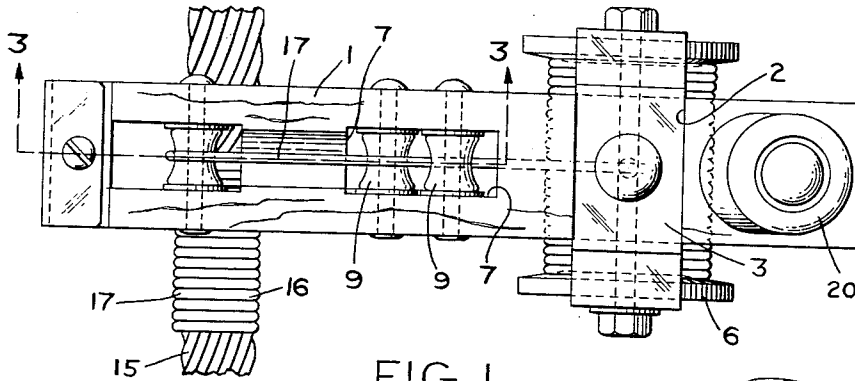
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P. W. BURGHARDT

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WIRE WINDING TOOL

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PAUL W. BURGHARDT
INVENTOR.

BY

Robert Meyer
attorney

1

2

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WIRE WINDING TOOL

Paul William Burghardt, Weehawken, N. J.

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This invention relates to wire winding tools and more particularly to a tool to facilitate the winding of the strengthening protective wire about a splice in a metal rope or cable. In industrial uses, wire ropes or cables in loop formation are extensively used, especially in connection with moving heavy objects by cranes, etc., and it is desirable to provide smooth strong joints or splices of the ends of such ropes or cables. It has long been the practice to protect and strengthen such splices by tightly winding a single strand wire of suitable size tightly about the splices. Such protective winding has, in the past, been done by hand, requiring considerable time and causing injury to the hands of the winder by the short ends of the individual wires of which the rope or cable is formed.

The present invention comprehends a tool for winding protective wire about the splice in a wire rope or cable which winding will provide a close, tight, neat appearing winding and will prevent injury to the hands of the user, as well as materially reduce the labor time required to make such a winding.

With these and other objects in view, as may appear from the accompanying specification, the invention consists of various features of construction and combination of parts, which will be first described in connection with the accompanying drawings, showing a

Wire winding tool

of a preferred form embodying the invention, and the features forming the invention will be specifically pointed out in the claims.

In the drawings:

Figure 1 is a top plan of the improved wire winding tool.

Figure 2 is a side elevation of the wire winding tool.

Figure 3 is a fragmentary longitudinal section taken on the line 3—3 of Figure 1.

Figure 4 is a cross section taken on the line 4—4 of Figure 2.

Referring more particularly to the drawings, the improved wire winding tool comprises an elongated rectangular body 1 formed of any suitable material and which has a recess 2 cut in the top thereof near one end. The connecting leg 3 of a substantially U-shaped spool support 4 rests in the recess 2 and the support 4 is attached to the body 1 by a bolt or bolts extending through the connecting leg 3 and the body 1 as shown at 5. A spool 6 on which wire to be used in making the winding is rolled is rotatably carried by the spool supporting bracket 4.

The body 1 has an opening 7 cut vertically therethrough and a pair of grooved rollers 8 and 9 are rotatably supported in the opening 7 by suitable pins 10 disposed on axis spaced vertically and horizontally from each other, as is shown in Figure 2 of the drawings. The body 1 has a second vertical opening 11 therein near its end remote from the spool 6 and a grooved guiding roller 12 is rotatably supported in the opening 11 on a suitable pin 13. The wire to be used in winding about a splice in a wire

rope or cable is unwound from the spool 6, passes beneath the roller 8 and over the roller 9 through a cutout portion 14 in the body 1 and over the roller 12 from which it passes to the wire rope or cable shown at 15, about which it is wound in snugly engaging tight coils as shown at 16 in Figure 1 of the drawings. To facilitate the tight winding of the wire 17 about a splice in a wire rope or cable, the body 1 has a convexly curved recess 18 cut in its undersurface at its end remote from the spool 6, and when a wire is being wound about a wire rope or cable the tool is placed so that the outer surface of the concave portion 18 rests upon the wire rope or cable such that the line of contact therewith will be in offset relation horizontally and vertically with respect to the axis of rotation of the guiding roller 12 as is clearly shown in Figures 2 and 3 of the drawings. The surface of the body 1 which rests upon the wire rope or cable 15 during the winding operation is strengthened and protected by a metal protecting plate 19 suitably attached to the body 1 as clearly shown in Figures 2 and 3 of the drawings.

A handle 20 is attached to the body 1 at the same end which carries the spool 6 and outwardly of the spool 6. This handle preferably inclines outwardly at an acute angle to the perpendicular and it is jointed so that it may be conveniently gripped by the user.

In use, one end of the wire from the spool 6 is threaded over the concave rollers 8, 9 and 12, and the terminal is fastened in any suitable manner among the strands of which the rope or cable 15 is formed. The tool is then moved so that the concave portion 18 will receive and engage the cable after which the tool, being held tightly against the cable or rope, is moved in a circle about the cable winding the wire 17 thereon in tight snugly fitting coils as shown in Figure 1 of the drawings. The wire 17 will unwind from the spool 6 as it is wound about the rope or cable 15. By threading the wire under the roller 8 over the rollers 9 and 12 in the manner shown in Figure 3 of the drawings the wire will always be held taut or tensioned so as to provide proper tight winding of the wire 17 about the rope or cable 15. When the spool 6 becomes empty it may be removed by removal of the bolt 21 and a full spool substituted therefor.

It will be understood that the invention is not to be limited to the specific construction or arrangement of parts shown, but that they may be widely modified within the invention defined by the claims.

What is claimed is:

1. A wire winding tool comprising, an elongated body having an operating handle at one end projecting outwardly from the upper surface thereof, a wire-containing spool rotatably mounted on the under surface of said body adjacent to and in a direction opposite from said operating handle for dispensing wire under friction, said body provided with a pair of spaced openings extending therethrough in the vertical plane of said handle and spool, a concave cut-out transversely disposed on the under surface of said body adjacent the end remote from said spool and adapted to communicate with one of said spaced openings and for engagement with a member to be bound by said wire, a wire guiding roller rotatably mounted in and transversely of the vertical plane of said communicating opening and having its axis offset from the axis of said member to be bound, a pair of wire guiding rollers rotatably mounted transversely of the vertical plane of said other opening, said rollers having their axis substantially parallel to each other, and a horizontal recess in the upper surface thereof extending between said spaced openings for passing wire from the pair of wire rollers to the single wire guiding roller through the recess parallel to the axial line of said elongated body.

2. In a wire winding tool as claimed in claim 1 where-

3

in said concave cut-out is provided with a wear-resistant plate attached to said body on the inner circumference of said concave cut-out and forming the outer member engaging surface of said concave cut-out.

3. A wire winding tool comprising an elongated substantially rectangular shaped body having an operating handle projecting outwardly from the upper surface thereof adjacent one end of said body, a wire dispensing spool rotatably mounted on the under side of said body adjacent said handle for dispensing wire under friction, said body having a first substantially vertically extending opening therein adjacent the opposite end thereof, a second substantially vertically extending opening in said body in spaced relationship with the first opening and said spool, said body having a recess in the upper surface thereof extending between said first and second openings, a rotatable wire guide roller disposed transversely of the first opening, a pair of other rotatable wire guide rollers disposed transversely of the second opening, said other rollers being positioned diagonally of each other therein to permit wire to be wound over one roller and under the other to maintain tension therein, said body having a concave shaped cut-out disposed in the under side thereof adjacent the rear portion of said first opening and adapted to engage a member to be bound with wire.

4. The wire winding tool of claim 3 wherein the wire

4

guide roller in said first opening is positioned in the upper rear portion thereof with its axis offset from the axis of said concave cut-out, one of the guide rollers in said second opening is positioned in the upper front portion thereof and the other roller therein is disposed in the lower rear portion thereof.

References Cited in the file of this patent

UNITED STATES PATENTS

10	464,279	Fraser	Dec. 1, 1891
	730,427	Wilson et al.	June 9, 1903
	1,214,172	Kinney	Jan. 30, 1917
	1,293,151	Madill	Feb. 4, 1919
	1,838,874	Serres	Dec. 29, 1931
15	1,904,890	Thordarson	Apr. 18, 1933
	2,275,858	Mallard	Mar. 10, 1942
	2,419,241	Wingate	Apr. 22, 1947
	2,459,504	Ghetto	Jan. 18, 1949
	2,578,753	Smith	Dec. 18, 1951
20	2,579,074	Helwick	Dec. 18, 1951

FOREIGN PATENTS

	312,680	Germany	June 2, 1919
	253,321	Great Britain	June 17, 1926
25	371,389	Great Britain	Apr. 19, 1932
	589,559	Great Britain	June 24, 1947