Dec. 19, 1944. A. E. WINSLOW 2,365,661

METHOD OF TWISTING WIRE

Filed Aug. 21, 1943

Fig. 1.

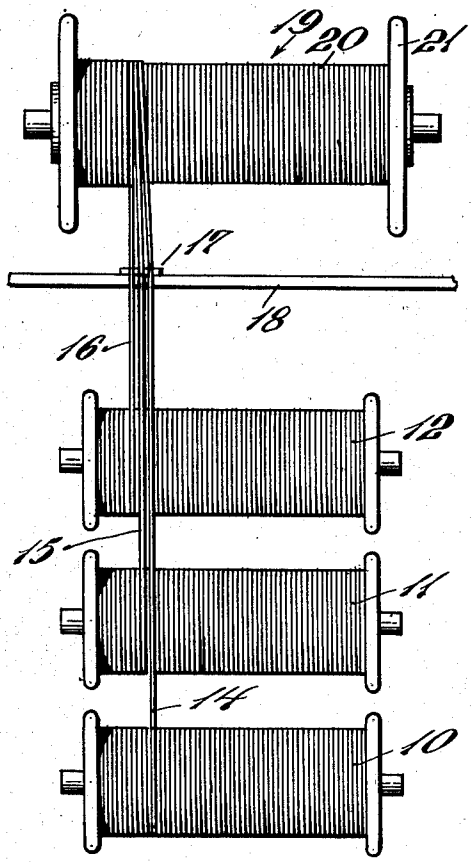


Fig. 2.

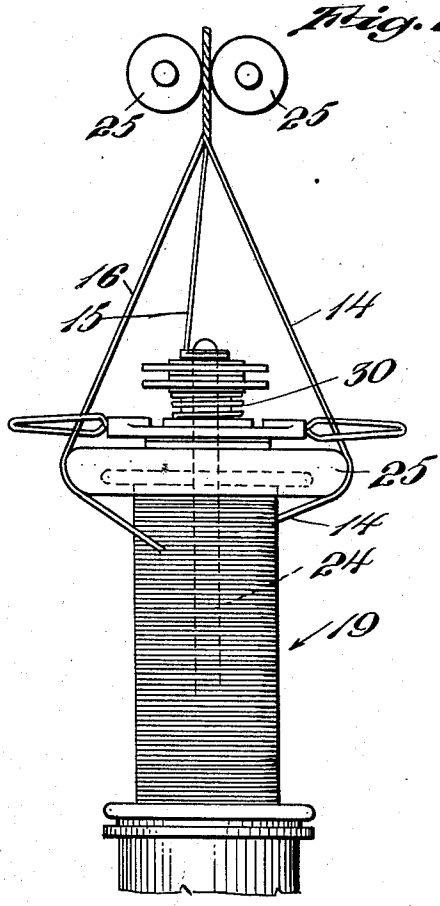


Fig. 3.

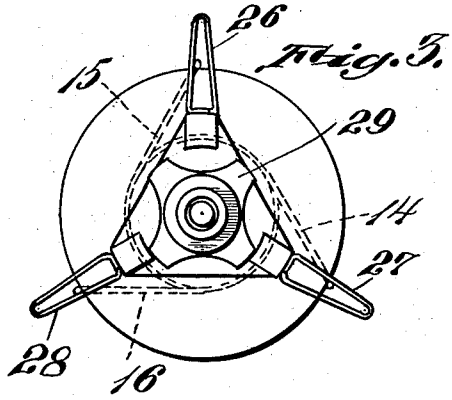
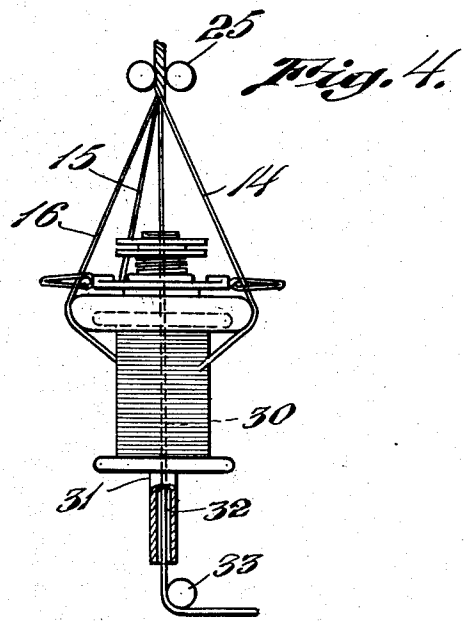


Fig. 4.



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METHOD OF TWISTING WIRE

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Application August 21, 1943, Serial No. 499,576

8 Claims. (Cl. 57—160)

This application relates to the laying of wire in which one strand is helically wound about another or a plurality of strands are helically wound about a core.

In wire twisting it is usual to take from several packages the several strands which are to be used in the formation of a cable. Where it is desired that these strands be laid without torsional twist the supply packages are turned in an amount to lay the wire without such torsional twist.

One of the objects of this invention is to provide a method for making wire cable in which the strands may be laid without torsional twist and by simple machinery.

Another object of this invention is to accomplish this simplified result by utilizing two simple steps of the handling of the wire and with the packaging after each step whereby more simplified machinery and much faster operation may be had.

Another object of the invention is to provide a cable in which the helically laid strands will be more evenly laid than heretofore.

Another object of the invention is to provide a cable the strands of which are free from torsional twist in themselves.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 diagrammatically illustrates the drawing of wire from three different spools to parallelly package the strands on a single spool;

Fig. 2 illustrates the parallel wires as being drawn from the spool of Fig. 1 upon which it is packaged and then being twisted or laid;

Fig. 3 is a top plan view of the flyer and package as illustrated in Fig. 2;

Fig. 4 is a view similar to Fig. 2 illustrating a modified form in that a core strand is passed up through the package about which the several strands are laid.

In proceeding with this invention I take from a plurality of packages 10, 11, and 12, each having a single strand material thereon, the strand 14, 15, and 16, guiding them in parallel relation by the fingers 17 and traverse bar 18 onto a package 19 comprising a suitable barrel 20 and ends 21. This package 19 is driven to package the strands in parallel relation, all as described and shown in more detail in my co-pending application Serial No. 508,818.

The drawing of the wire from the several single strand packages may be accomplished at a relatively high rate of speed and the packaging on the package 19 thus accomplished quickly.

The package 19 presents the strands in a form in which they may be laid in helical fashion by a subsequent operation and in Fig. 2 I have illustrated this package designated generally 19 as mounted upon a vertical spindle 24 upon which there is also mounted a cap 25 over which the several strands 14, 15 and 16 are drawn upwardly by the feed rolls 25. As the strands 14, 15, and 16 are drawn upwardly they are equally separated and guided in equally angular relation by arms 26, 27, and 28 of a flyer designated generally 29 (see Fig. 3) which is mounted upon the spindle and cap and controlled by spring 30 so as to permit relative rotation of the flyer with respect to the cap and package, all as illustrated and described in more detail in my co-pending application Serial No. 499,575.

The package 19 is driven so that helical laying of the wires 14, 15, and 16 occur. The number of helical turns will depend upon the differential of movement between the driven package 19 and the flyer 29. The flyer 29 will turn sufficient to unlay the parallel wrapping or winding of the three parallel wires on the spool while any added revolution given to the package will result in the helical disposition of the wires one about the other adjacent to the feed rolls 25 which draw the wire upwardly. The wires as they leave the cap 25 travel in substantially a conical path and extend substantially up to the nip and feed rolls 25. By reason of the arms 26 of the flyer being equally disposed the strands are all equally disposed and an even helical laying of the cable results. Also, by reason of these equally arranged arms each of the strands 14, 15, and 16 are drawn tangentially from the body of the package 19 as will be seen in Fig. 3 which is of advantage.

In some cases it is desirable to provide a core strand 30 as shown in Fig. 4 and in this case the spindle 31 will be provided with a hollow bore 32 and this core strand 30 will be guided over a suitable guide 33 through this bore while the strands wrap about this core at a point adjacent to the feed roll 25 as heretofore.

By this arrangement there is no torsional twist in any of the strands or in the core and each will be laid in cable form without strain or stress by reason of the turning of the ends together in the package 19 while no turning whatsoever occurs in the core.

I claim:

1. The method of laying wire cable which com-

prises packaging in parallel relation on a single package a plurality of strands, rotating said package and drawing from said package the plurality of strands thereon from equally spaced points in the surface of the package and helically positioning said strands one about the other in a cable formation.

2. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package and drawing from said package the plurality of strands thereon from equally spaced points in the surface of the package and helically positioning said strands about a core strand passed through the center of said package.

3. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package and drawing from said package the plurality of strands thereon from equally spaced points in the surface of the package and helically positioning said strands about a core strand passed into the center of said strands through the center of said package to provide a cable formation.

4. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package and drawing from said package the plurality of strands thereon from equally spaced points in the surface of the package and helically positioning said strands one about the other along the path of the surface of a wire to provide a cable.

5. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package a predetermined number of times to helically lay the strands the desired amount of twists per linear dimension and guiding the strands from the package from equally spaced points on the surface of the package.

6. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package a predetermined number of times to helically lay the strands the desired amount of twists per linear dimension while feeding a wire strand into the center thereof and guiding the strands from the package from equally spaced points on the surface of the package.

7. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package and taking the strands from said package from equally spaced points on the surface of the package.

8. The method of laying wire cable which comprises packaging in parallel relation on a single package a plurality of strands, rotating said package and taking the strands from said package from equally spaced points on the surface of the package and positioning them in helical relation one about the other to form a cable.

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