

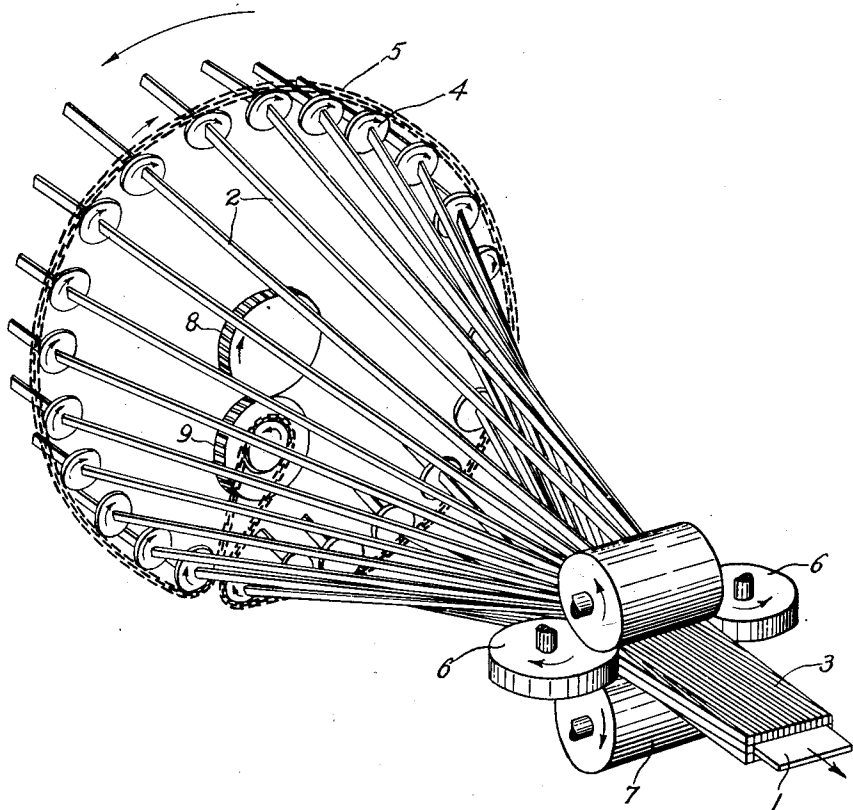
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METHOD OF AND MEANS OF PRODUCING CABLES

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WITNESSES:

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METHOD OF AND MEANS OF PRODUCING CABLES.

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My invention relates to apparatus for and a method of making stranded cable, more particularly cable composed of bare conductors of rectangular cross-section, by twisting and rolling a plurality of strands to constitute a cable member of predetermined form.

It is among the objects of my invention to provide a method of forming stranded cables of rectangular shape, in which the conductor members are maintained in parallel relation to each other during and after the forming operation, in a simple and efficient manner.

Another object of my invention is to provide means for guiding and feeding conductor elements into a plurality of pressure rolls in such manner that they maintain a particular relation to the rolls and to each other, respectively.

Heretofore, it has been customary to form cable of relatively heavy conductor materials by assembling a plurality of individual strands of circular cross-section and flattening them to rectangular shapes by passing them between pressure rolls; but some of the difficulties encountered in carrying out this process were conducive to considerable waste and greatly increased the cost of manufacturing such cable. For instance, there were no adequate means provided for guiding the conductors while they were being twisted and rolled, which resulted in a tensile stress that worked the conductor material beyond its elastic limit, thereby causing a permanent setting of the material and leaving it hard and brittle.

My present invention is directed to means for obviating these difficulties which comprises providing relative motion between the conductor members while they respectively pass through the guide elements into the rollers during the stranding operation. In this manner, stressing of the conductors is entirely eliminated and they are maintained in parallel relation during the rolling operation.

In the accompanying drawing, constituting a part hereof, the single figure is a diagrammatic view of apparatus for forming stranded conductor cables in accordance with the principles of my invention.

In the drawing, the member 1 constitutes a removable core, on which the several conductors 2 are rolled into a rectangular

shaped cable 3 to thus produce a hollow stranded cable after the core member 1 is removed.

The conductors 2 are of rectangular cross-section and are passed through individual guides 4, which are carried by a support (not shown) that is adapted to be rotated about the axis of a gear-wheel 8, as indicated by the large arrow. The guide members 4 are provided with openings of a shape similar to the form of the conductors 2 and said guides are rotatably mounted in their support. The support and guides 4 are in working alinement with a plurality of pressure rolls 6 and 7 that respectively rotate in horizontal and vertical planes in such manner that the space or opening therebetween conforms to the desired shape of the finished cable 3. A chain 5 is disposed around the guide members 4 and around the hub portion of a gear-wheel 9, which operates with the driving gear-wheel 8 for the purpose of actuating the chain 5 to rotate the guides 4 in a direction opposite to the direction of rotation of the main guide support, as indicated by the respective arrows.

During the operation of this device, the rolls 6 and 7 draw the conductors 2 through their guides 4 and the guide support rotates in the direction shown by the large arrow, to apply a twisting motion to the conductors 2. At the same time, the guides 4 are individually rotated in the opposite direction, as shown by the small arrows, and this action prevents a twisting strain in the individual conductors 2 and maintains them in parallel relation as they enter the rollers 6 and 7. The finished cable thus assumes the rectangular form shown, after which the core 1 is removed.

It is evident from the foregoing description of my invention that the method of making cable, as described herein, utilizes a simple and efficient means of manufacturing cable in a relatively inexpensive manner, with the assurance of uniform and satisfactory results.

Although I have described a specific embodiment of my invention, it will be obvious to those skilled in the art that various modifications may be made in the details of construction, and in the size and proportion of the several cooperating parts without de-

parting from the principles herein set forth. For instance, instead of utilizing the chain element 5 for actuating the guides 4, the latter may be positively geared or actuated in any suitable manner to coordinate their motion with the rotative movement of their support.

I claim as my invention: —

1. The method of making stranded cable which comprises passing a plurality of conductors through individual guides having openings corresponding to the cross-section of said conductors, extending the ends thereof through a plurality of pressure rolls, rotating said guides simultaneously about an axis extending centrally of the space between said rolls and rotating said guides individually oppositely to the direction of rotation about said axis.

2. The method of making stranded cable of rectangular cross-section which comprises disposing a plurality of pressure rolls in spaced relation and a plurality of guides in working alinement with said rolls, placing a removable core member in the opening constituting the working space between said rolls, passing a plurality of conductors through said guides and the opening between said rolls to envelop said core member, and effecting relative motion of said rolls and guides to advance said conductors parallel to each other.

3. The method of making stranded cable of rectangular cross-section which comprises disposing a plurality of pressure rolls in spaced relation and a plurality of guides in working alinement with said rolls, placing a removable core member in the opening constituting the working space between said rolls, passing a plurality of conductors through said guides and the opening between said rolls to envelop said core member, actuating said rolls to rotate the same in a direction to advance said conductors away from said guides, revolving said guides

to twist said conductors about a common axis and rotating said guides in a direction opposed to their revolving motion to maintain a parallel relation of the same, and removing said core member after the cable is formed.

4. In a cable forming machine the combination with a plurality of pressure rolls of a plurality of individual guides having non-circular openings in working alinement therewith, means for extending conductors to be formed through said guides in parallel relation, means for twisting said conductors relative to each other and means for maintaining said conductors in parallel relation during the twisting and rolling operations.

5. In a cable forming machine the combination with a plurality of pressure rolls of a plurality of individual guides having non-circular openings in working alinement therewith, means for revolving said guides about an axis extending centrally of said rolls and means cooperating with said revolving means for rotating said guides.

6. In a cable forming machine the combination with a plurality of pressure rolls of a plurality of individual guides having non-circular openings in working alinement therewith, means for revolving said guides about an axis extending centrally of said rolls and means cooperating with said revolving means for simultaneously rotating said guides.

7. In a machine for forming cables from conductors of non-circular cross-section, a plurality of individual wire guides having openings corresponding to the cross-section of the conductor, means for revolving said guides about a common axis and means for rotating the guides about their own axes.

In testimony whereof, I have hereunto subscribed my name this 31st day of July, 1925.

MAX THOMAS.