

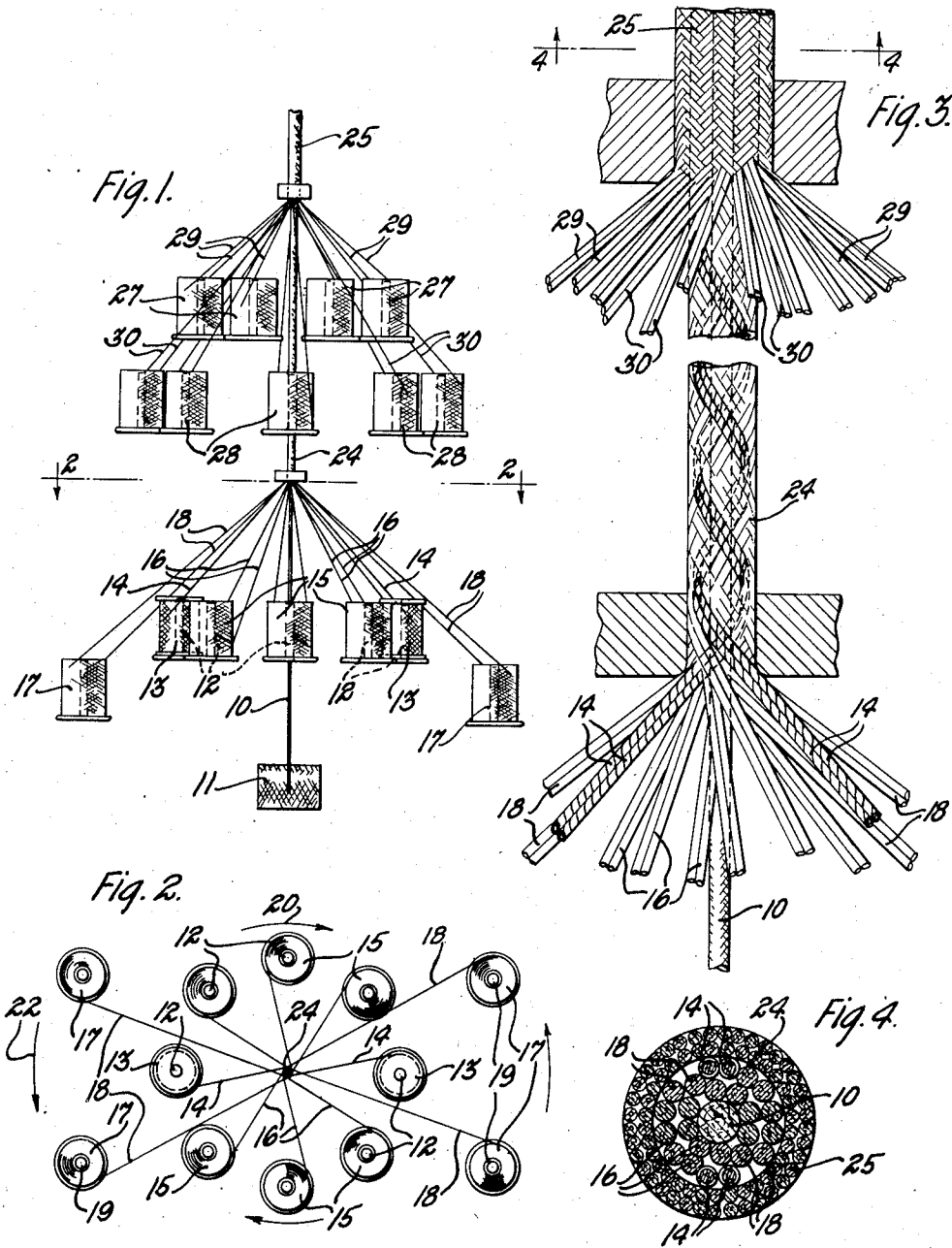
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ELECTRICAL CONNECTING CORD AND METHOD OF PRODUCING IT

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UNITED STATES PATENT OFFICE

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ELECTRICAL CONNECTING CORD AND METHOD OF PRODUCING IT

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This invention relates to improvements in electrical connecting cords and methods of producing them.

It is sometimes desirable when electrically interconnecting cooperating parts of electrical apparatus to employ a plurality of flexible electrical conductors assembled into a unit ordinarily termed a "cord". Thus, the individual conductors electrically interconnecting cooperating devices of telephone systems are usually assembled into a unit termed a "telephone cord". For convenience in handling these cords or assembled units in service and in order that they may not be deleteriously affected by the continuous looping and bending to which they are necessarily subjected, it is obviously essential that they be extremely flexible.

The principal object of the present invention is to provide an electrical connecting cord which is inexpensive, durable and of maximum flexibility.

In accordance with the general features of the invention, a plurality of uninsulated flexible electrical conductors, preferably each consisting of a plurality of tinsel served strands, and a plurality of textile strands are braided together around a core of insulating material in such manner that the individual conductors are insulated from each other by the textile strands. The braid thus formed is sheathed with a textile covering braided thereover.

Other features and advantages of the invention will become apparent in the following detailed description of a specific embodiment thereof, reference being had to the accompanying drawings, wherein.

Fig. 1 illustrates schematically the manner in which the supply cops of the braiding machine may be arranged when practicing the invention;

Fig. 2 is a plan section taken on line 2—2 of Fig. 1;

Fig. 3 is an enlarged detailed view of a portion of the improved electrical connecting cord, and

Fig. 4 is an enlarged cross section taken on line 4—4 of Fig. 3.

Referring now to the drawings in detail

wherein like reference characters indicate corresponding parts throughout the several views, the reference numeral 10 indicates a central core preferably comprising a cotton strand which may be drawn from a supply cop 11 supported in any suitable manner (not shown). Arranged concentrically with respect to the axis of the core 10 are a plurality of spindles 12 (Fig. 2) and rotatably carried upon two diametrically opposed spindles are supply spools 13 of double tinsel served conductors 14. Inner supply cops 15 of double textile strands 16 are rotatably carried upon the other spindles 12. Outer supply cops 17 of double textile strands 18 are rotatably carried upon spindles 19 which are also arranged concentrically with respect to the axis of the central core 10.

The tinsel served conductor supplies 13 and the inner textile strand supplies 16 are rotated bodily around the central core 10 in the direction indicated by the arrow 20 (Fig. 2), the outer textile strand supplies 17 being simultaneously rotated bodily in the opposite direction, as indicated by the arrow 22. The textile strands 18 of the outer supplies 17 are switched in and out around the tinsel served conductor supplies 13 and the inner textile strand supplies 15 in such manner as to produce the braided structure shown enlarged at 24 (Fig. 3) in which the tinsel served conductors 14 are insulated from each other by the braided textile strands and the central cotton core 10.

When desired, a textile protective covering 25 (Fig. 3) may be braided around the structure 24. As shown in Fig. 1, a plurality of inner and outer supply cops 27 and 28 of double textile strands 29 and 30, respectively, are arranged concentrically with respect to the axis of the braided structure 24 and are adapted to be rotated bodily in opposite directions around said axis. The textile strands 30 of the outer supplies 28 are switched in and out around the inner strand supplies 27 in a well known manner to produce the braided covering 25. Thus, the improved electrical connecting cord may be very rapidly produced in one continuous operation by a single machine which obviously reduces the cost of

manufacture to a minimum. Moreover, an electrical connecting cord embodying the features of the present invention is very flexible by reason of which it may be conveniently
5 handled without an appreciable amount of wear due to the looping and bending to which it is necessarily subjected when in service.

Although only one specific embodiment of the invention has been herein illustrated and
10 described, it is to be understood that the invention is capable of other applications within the scope of the appended claims.

What is claimed is:

1. An electrical connecting cord comprising
15 ing a plurality of uninsulated electrical conductors braided with a plurality of textile strands in such a manner that the conductors are insulated from each other by the textile strands, each of the conductors comprising a
20 grouped plurality of tinsel covered strands disposed in contacting relationship throughout their entire lengths.

2. An electrical connecting cord comprising
ing a plurality of uninsulated electrical conductors braided with a plurality of pairs of
25 textile strands around a central core of insulating material in such a manner that the conductors are insulated from each other by the central core and the textile strands, the
30 textile strands of each pair being disposed in contacting relationship throughout their entire lengths and each of the conductors comprising a coacting pair of tinsel covered strands disposed in contacting relationship
35 throughout their entire lengths.

In witness whereof, I hereunto subscribe my name this 16th day of November A. D., 1927.

HENRY ROGERS MASSINGHAM.

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