May 12, 1931. J. L. ALDEN 1,804,732

FLEXIBLE CONDUCTOR

Filed March 28, 1928

FIG. 3.

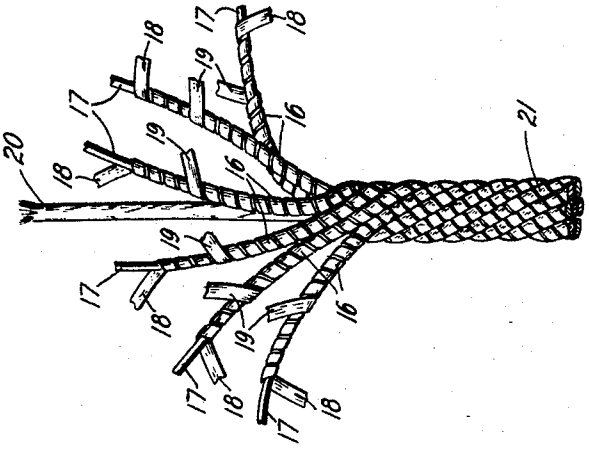


FIG. 2.

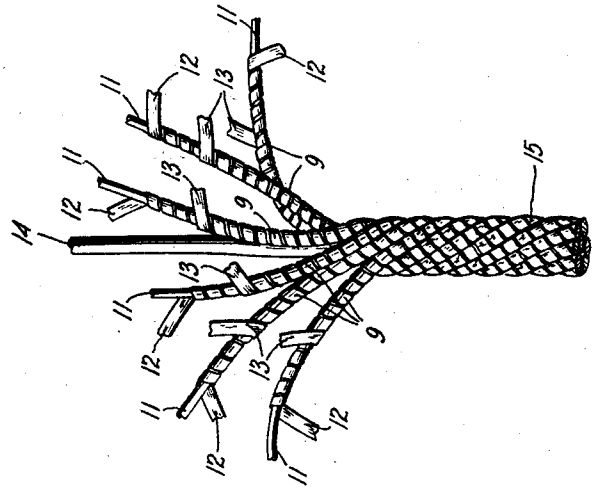
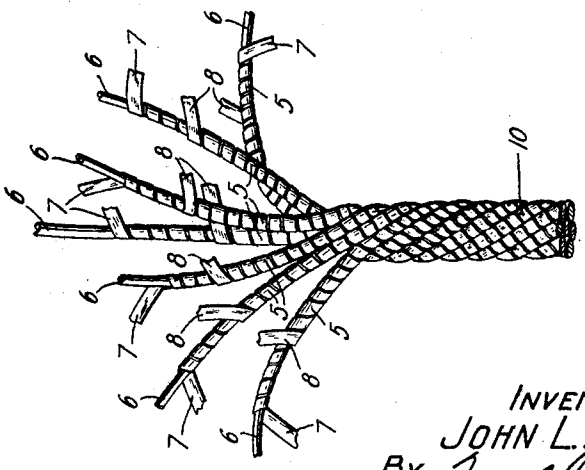


FIG. 1.



INVENTOR
JOHN L. ALDEN
BY Joel A. Palmer
ATTORNEY

Patented May 12, 1931 1,804,732

UNITED STATES PATENT OFFICE

JOHN L. ALDEN, OF WYNCOTE, PENNSYLVANIA, ASSIGNOR, BY MESNE ASSIGNMENTS, TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

FLEXIBLE CONDUCTOR

Application filed March 28, 1928. Serial No. 265,243.

This invention relates to flexible conductors.

The object of the present invention is to provide a conductor which will not only possess qualities of high flexibility, but in addition will be much stronger and have a much higher conductivity than heretofore has been obtained in conductors of this nature.

In accordance with the present invention a composite conductor is formed which comprises a plurality of strands, each of which consists of a plurality of metal tapes or tinsel wound in individual layers on a metal core. The individual tapes of each strand are wound in the same direction, the outer ones thereby causing the inner ones to bind closer to the metal core. The strands are then twisted in the opposite direction to produce a composite conductor.

In the drawing, Fig. 1 illustrates the invention in its preferred form and consists of a plurality of strands having a plurality of layers of metallic tape or tinsel wound upon a conducting core and then twisted together to form the conductor;

Fig. 2 is a modification of Fig. 1 and comprises a plurality of tinsel strands having a conducting core twisted around a central conducting core;

Fig. 3 is also a modification in which the central conducting core is replaced by a central non-conducting core.

Referring now to the drawing, the conductor illustrated in Fig. 1 consists of seven individual strands 5—5 twisted together to form the composite conductor 10. Each strand 5—5 consists of a metallic core 6, upon which is helically wound a metallic tape 7, preferably of a material having a high conductivity. Over the tape 7 and in the same direction is wound a similar metallic tape 8, which acts as an armoring for the tape 7 and assists in binding it to the metallic core 6. In order to prevent any tendency for the conductor 10, to kink or untwist the direction of the twist of the strands 5—5 making up the completed conductor 10, is opposite to that of the metallic tapes 7 and 8, wound upon the core 6.

In the modification shown in Fig. 2, the strands 9—9 consist of a metallic core 11, upon which is helically wound the metallic tapes 12 and 13, both tapes being wound in the same direction. The strands 9—9 are twisted around a central conducting core 14, in a direction opposite to that of the metallic tapes 12 and 13, to form the completed conductor 15.

In the modification shown in Fig. 3 the strands 16—16 also consist of a metallic core 17, upon which is helically wound the metallic tapes 18 and 19, both tapes being wound in the same direction. The strands 16—16 are then twisted around a non-conducting core 20, in a direction opposite to that of the metallic tapes 18 and 19, to form the completed conductor 21.

I do not desire to limit my invention to the precise details heretofore set forth as it is obvious that various modifications may be made without departing from the spirit of the invention, as defined in the appended claims.

What is claimed is:

1. A flexible conductor comprising a plurality of strands, said strands consisting of a central conducting core having a plurality of metallic tapes wound thereon and said strands being twisted around a central core of conducting material.

2. A flexible conductor comprising a plurality of strands, said strands consisting of a central conducting core having a plurality of metallic tapes wound thereon and said strands being twisted around a central core of conducting material in a direction opposite to that of the metallic tapes to form the completed conductor.

3. A flexible conductor comprising a plu-

rality of strands, said strands comprising a central conducting core having a plurality of metallic tapes wound thereon and said strands being twisted around a central core.

4. A flexible conductor comprising a plurality of strands, said strands comprising a central conducting core having a plurality of metallic tapes wound thereon and said strands being twisted around a central core in a direction opposite to that of the metallic tape to form the completed conductor.

In witness whereof, I hereunto subscribe my name this 26th day of March, 1928.

JOHN L. ALDEN.