April 18, 1939. L. F. PHILLIPS 2,155,060

CONVERTIBLE ELECTRIC CONDUCTOR

Filed Dec. 10, 1936

Fig. 1.

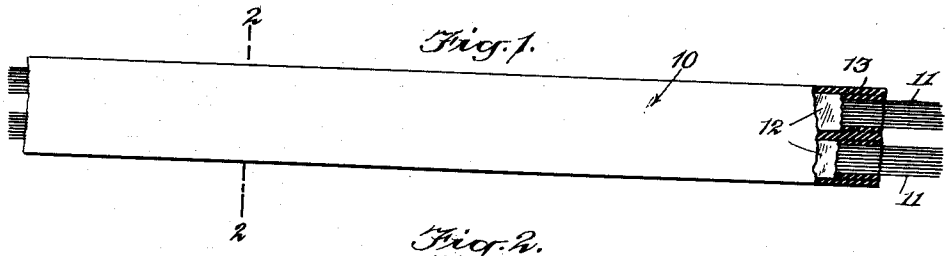


Fig. 2.

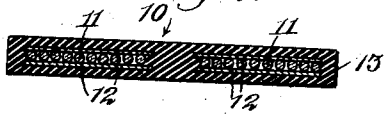


Fig. 3.

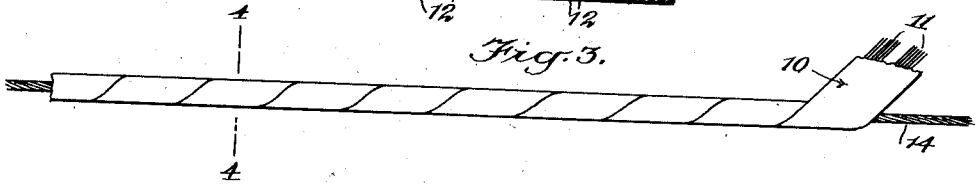


Fig. 4.

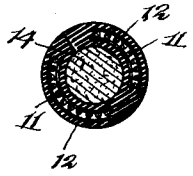


Fig. 5.

Fig. 6.

WITNESSES

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CONVERTIBLE ELECTRIC CONDUCTOR

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3 Claims. (Cl. 174—113)

This invention relates to an electric conductor which may be used either in the form of a cord or a flat ribbon or band, as conditions may dictate.

The primary object of the invention is to produce a flexible electric conductor for lamps, etc., which may present the appearance of the conventional cord and at the same time be capable of being transformed and used as a flat ribbon conductor, or in which portions of the same conductor may be used in cord form and other portions in flat or ribbon form, thus permitting the conductor to be used to cross exposed floor surfaces where the cord form would be a potential menace to unwary feet. It also permits of passing the conductor under rugs and carpets without causing undue wear to the rug while at the same time by its ribbon form makes the presence of the conductor beneath the rug or carpet unnoticeable.

By gumming one surface of the ribbon, it can be wound about a central flexible core, preferably a heavy or light cord. Upon being unwound the gummed surface makes it possible to attach the ribbon to the flat surface to be traversed. The central core is cut away to make the ribbon lie flat to the surface.

The advantage of this is that the core portion can be used where the ribbon portion is not needed, and can be easily converted into the ribbon form for a portion of its length.

With these and other objects in view, the invention consists in certain novel features of construction and combinations and arrangements of parts, all of which will be more fully hereinafter described and pointed out in the claims.

In the accompanying drawing—

Fig. 1 is a plan view, partly in section, illustrating the flat ribbon which constitutes a portion of my improved convertible electrical conducting cord;

Fig. 2 is an exaggerated view in section on the line 2—2 of Fig. 1;

Fig. 3 is a view in elevation illustrating the manner of spirally winding the flat ribbon around the core;

Fig. 4 is an exaggerated view in transverse section on the line 4—4 of Fig. 3;

Fig. 5 is a broken view in elevation illustrating how the cord can be unwound to present a flat portion intermediate the cord portions;

Fig. 6 is a broken view in elevation on a reduced scale, showing how the ribbon can be partially unwound and the extremities of the core used as terminal connections.

My invention includes a flat ribbon 10 in which electric conductors 11 are located and insulated from each other. It is to be understood that the ribbon is extremely thin and flat, and that the exact construction of the same may be widely varied. I have shown one form of my invention, which is merely illustrative of the general idea, and in the particular form illustrated the electric conductors 11 consist of groups of small wires located side by side and of any desired number. These wires 11 have located on opposite sides thereof, strips of paper 12 with suitable adhesive on their surfaces adjacent the wires to hold the wires against movement. These electric conductors with their covering strips 12 are then enclosed in a covering of rubber or other suitable insulation 13. 14 represents a flexible core, which may constitute a cord of any suitable material and size, around which the ribbon 10 is spirally wound, as shown clearly in Figs. 3 and 4 of the drawing. The inner surface of the ribbon 10 is provided with an adhesive, preferably a suitable gum, so that when spirally wound around the core 14, the ribbon will be retained thereon and the conductors will have the general circular appearance in cross section of any ordinary cord.

When, however, it is desired to utilize any part or the whole of the cord as a flat conductor, it is simply necessary to unwind the ribbon 10 from the core 14 and cut off the portion of the core which has been exposed. This flat portion of the conductor can then lie against the surface over which it is laid and its adhesive or gum will hold it against accidental movement on the surface.

It is, of course, to be understood that when the cord is in use, the ends of the covering may be scraped to expose the wires, as shown most clearly in Fig. 6 of the drawing, and the two sets of conductors can be readily separated for attachment to terminals.

While I have throughout the specification referred to the ribbon as being spirally wound on the core, it is to be understood that the invention is not limited to this particular manner of winding as it is obvious that the ribbon may be removably affixed to the core in any manner desired.

While I have illustrated and described what I believe to be a preferred embodiment of my invention, it is obvious that various slight changes may be made with regard to the form and arrangement of parts without departing from the invention, and hence I do not limit myself to the precise details set forth but consider myself at

liberty to make such changes and alterations as fairly fall within the spirit and scope of the claims.

I claim:

1. A convertible electrical conducting cord including two sets of wires located side by side, strips secured above and below each conductor, a covering of insulating material embedding all of the strips and wires, and a flexible core, said covering being spirally wound around the core, and an adhesive for removably securing said covering in a spiral formation to said core, said covering being bodily demountable and unwindable from any portion of said core whereby any portion may be used as a flat electric cord.

2. An electrical conducting cord comprising a cord body formed of a pair of parallel electric conductors spaced apart and a flat flexible insulating material embedding said conductors and holding them in spaced parallelism, a flexible core of the same length as said cord body, said cord body being spirally wound around the core for the full length of the core, and an adhesive on the inner face of said cord body functioning to normally hold the cord body in spiral formation on said core while allowing any portion of the cord body to be unwound from the core and used flat.

3. An electrical conducting cord comprising a flexible core extending the full length of the cord and a cord body wrapped spirally around said core and removably affixed thereto for the full length of the core, said cord body being formed with a pair of spaced parallel conductors and a flat piece of insulating material embedding said conductors and holding the conductors in their spaced relation.

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