June 13, 1967 F. W. WAHL 3,325,591

INSULATIVE COVER FOR A CONNECTION ASSEMBLY

Filed Nov. 30, 1965 2 Sheets-Sheet 1

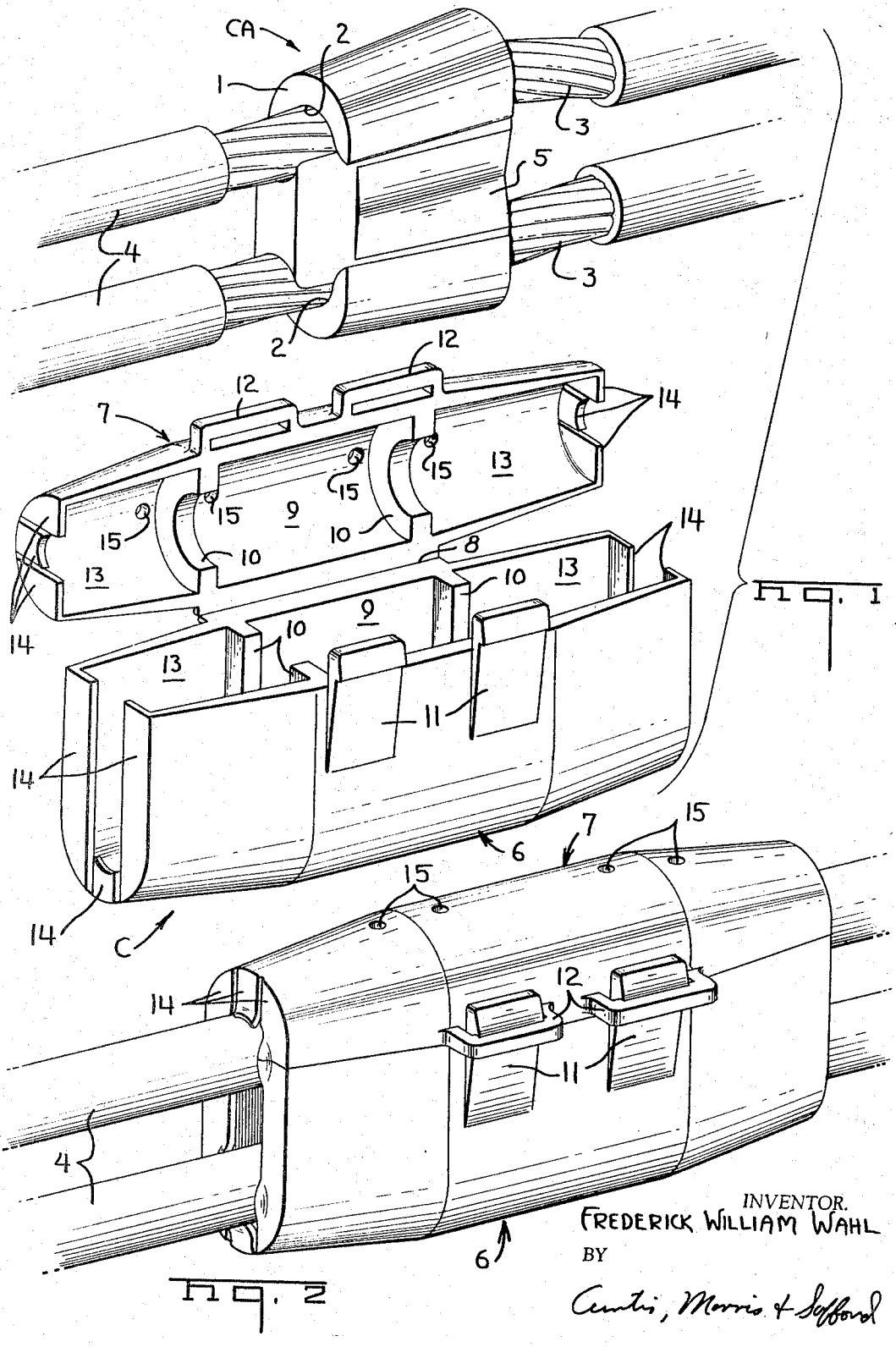


Fig. 1

Fig. 2

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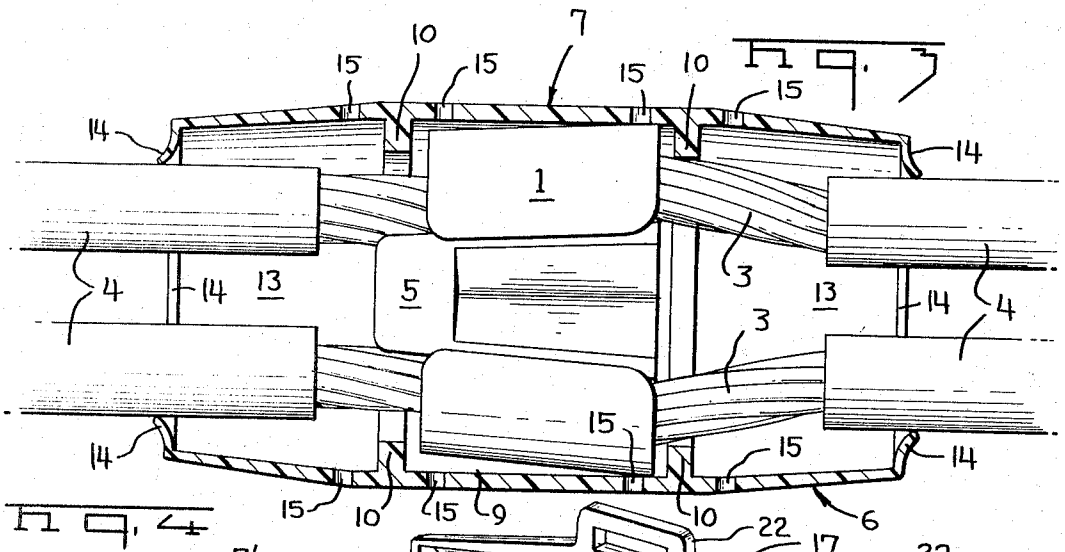


Fig. 4

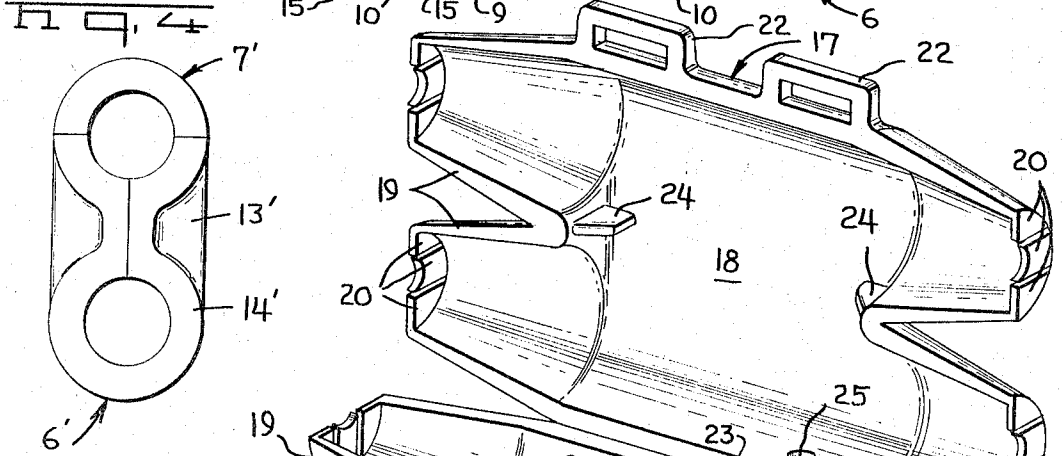


Fig. 5

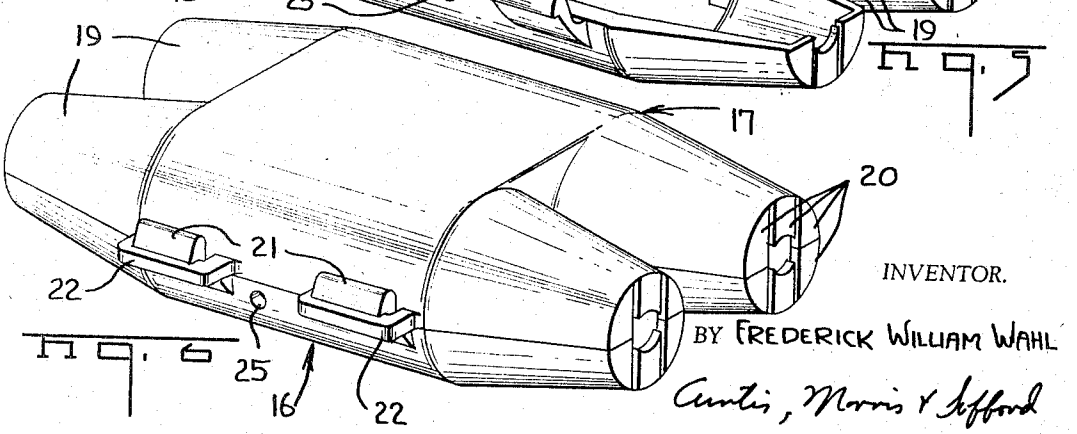


Fig. 6

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United States Patent Office 3,325,591
Patented June 13, 1967

3,325,591

INSULATIVE COVER FOR A CONNECTION ASSEMBLY

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Filed Nov. 30, 1965, Ser. No. 510,621
5 Claims. (Cl. 174—138)

This invention relates to an insulative cover for an electrical connection and more particularly to an insulative cover for a connector to connect utility conductors.

In the utility field, a connection assembly including a C-shaped body member and a wedge member is used to interconnect insulated utility conductors. At the connection area, the utility conductors are stripped in order to make the connection via the connection assembly. Since the connection assembly and bare conductors are now present as a result of the connection being effected, it is proper in accordance with utility company procedure to insulate this connection in order to protect and insulate the connection and thereby provide a safe connection. The connection also has to be insulated in order to prevent any vegetation or the like from coming in direct contact with the bare conductors or connector thereby effecting a short circuit. In addition, the connection has to be insulated in order to protect personnel.

An object of the invention is to provide an insulative cover for an electrical connection between insulated conductors to accomplish the foregoing procedures.

Another object of the invention is the provision of an insulative cover which receives a connection assembly in either direction.

A further object of the invention is to provide an insulative cover that allows obstructions to slide thereover.

An additional object of the invention is the provision of an insulative cover that has flexible ends to engage cables of different sizes.

Other objects and attainments of the present invention will become apparent to those skilled in the art upon a reading of the following detailed description when taken in conjunction with the drawings in which there are shown and described illustrative embodiments of the invention; it is to be understood, however, that these embodiments are not intended to be exhaustive nor limiting of the invention but are given for purposes of illustration in order that others skilled in the art may fully understand the invention and the principles thereof and the manner of applying it in practical use so that they may modify it in various forms, each as may be best suited to the conditions of a particular use.

The foregoing objects are achieved by means of a structure having first and second sections, spaced projections are located on an inside surface of middle portions of the sections with the space therebetween defining a connector-receiving area, means provided on the sections to hingedly connect the sections together, tapered extensions extending outwardly from each end of each of the middle portions of the sections and having a decreasing thickness from the middle portions to the outer ends thereof to define flexible extensions to engage cables of different sizes, and means to secure the sections together.

In the drawing:

FIGURE 1 is a perspective exploded view of a connection assembly and an insulative cover therefor;

FIGURE 2 is a perspective view of the insulative cover in position on the connection assembly;

FIGURE 3 is a longitudinal cross-sectional view of FIGURE 2;

FIGURE 4 is an end view of a alternative embodiment of the insulative cover;

FIGURE 5 is a perspective view of a further embodiment of the insulative cover in the open position; and

FIGURE 6 is a perspective view of the insulative cover of FIGURE 5 in its closed position.

Turning now to the drawings and more particularly to FIGURES 1 through 3, there is illustrated a connection assembly CA and an insulative cover C. Connection assembly CA includes a C-shaped body member **1** having spaced bights **2** in which stripped sections **3** of insulated conductors **4** are disposed. A wedge member **5** is forcefully driven within body member **1** in order to secure conductors **4** together.

Insulative cover C is preferably made from a low density polyethylene, is preferably black for maximum ultraviolet protection and is made in accordance with conventional injection molding techniques. Insulative cover C includes first section **6** and the second section **7** which are complimentary and are hingedly connected together at **8** along portions of adjacent sides. Middle portions **9** of sections **6** and **7** define a connector-receiving area delimited by spaced projections **10** which are located on the inner surfaces of sections **6** and **7**. The wall thickness of middle portions **9** is the same throughout and, as can be discerned, middle portion **9** of first section **6** is larger than middle portion **9** of section **7**. Hook-shaped lugs **11** are located on first section **6** and they mate with respective loops **12** located on second section **7** in order to secure the sections together as illustrated in FIGURE 2.

Outer portions or tapered extensions **13** extend outwardly from middle portions **9** from projections **10**. The thickness of the walls of outer portions **13** decreases from projections **10** to the outer ends thereof. These outer portions are therefore flexible in order to accept different sizes of conductors. Extensions **14** are located at the free ends of outer portions **13** and extend inwardly toward the longitudinal axis of the cover in a direction substantially parallel with respect to projections **10**. Extensions **14** engage insulative conductors **4** and accommodate conductors of different sizes.

The walls of outer portions **13** taper inwardly from projections **10** and the taper thereof in addition to the flexibility thereof as a result of the decreasing thickness of the wall portions of outer portions **13** permit these outer portions to engage insulative conductors along a substantial length thereof outwardly from the connection. This assures proper insulative protection for the connection as illustrated in FIGURE 3. Since outer portions **13** taper from their outer ends to middle portions **9**, this permits obstructions to slide thereover such as, for example, branches of treees. Holes **15** are disposed in sections **6** and **7** in order to prevent the accumulation of moisture within the cover.

In assembly, connection assembly CA is applied to the stripped sections **3** of insulated conductors **4** and wedge member **5** is forcefully driven into C-shaped body member **1** in order to interconnect the conductors. One of insulated conductors **4** is a through wire and the other is a tap. Insulative cover C is then applied to the connection with connection assemblies CA being disposed within middle portion **9** of first section **6** and second section **7** is then moved to its closed position with hook-shaped lugs **11** mating with loops **12** in order to secure the sections together. Enough room is provided between the connection assembly and projections **10** in order to permit the connection assembly to be easily disposed within the middle portion of first section **6** and projections **10** prevent the insulative over from moving any further along the interconnected conductor except for the slight amount of play between the connection assembly and the space between projections **10** as illustrated in FIGURE 3.

FIGURE 4 illustrates an embodiment of the insulative cover. In this embodiment outer portions **13'** of first section **6'** are formed so that extensions **14'** abut each other or are close together in the central area of outer

portions 13'. With the embodiment of FIGURE 4, outer portions 13' engage the insulated conductors more snugly and thereby minimize the possibility of foreign substances entering the insulative cover. The remainder of the embodiment of FIGURE 4 is the same as that of FIGURES 1 through 3.

The configuration of the insulative cover is symmetrical so that the connection assembly can be inserted in either direction and the tap conductor can extend through the cover or terminate within the cover. The cover can be the same color as the insulation of the insulated conductors.

FIGURES 5 and 6 illustrate an alternative embodiment of the insulative cover which comprises a first section **16** and a second section **17** having identical configurations.

Middle portions **18** defines a connector- receiving area for receiving the connection assembly. Tapered outer portions **19** extend outwardly from each end of middle portions **18**, and, when the cover is in its closed position as illustrated in FIGURE 6, outer portions **19** form conical sections that surround the insulated conductors. The walls of outer portions **19** decrease in thickness from the middle portions to the outer ends thereof so that the outer portions are flexible in a manner similar to the outer portions of the embodiment of FIGURES 1 through 3. Flexible extensions **20** are located at the outer ends of outer portions **19** and these extensions are disposed substantially normal to the longitudinal axes of the outer portions. As a result of the flexible character of extensions **20**, insulated conductors of different sizes can be accommodated.

Hook-shaped lugs **21** extend outwardly from section **16** and mate with respective loops **22** on section **17** in order to secure the sections together and sections **16** and **17** are connected together along adjacent edges of middle portions **18** as indicated by reference numeral **23** to form a hinge. Projections **24** extend outwardly from the inner surface of middle portions **18** and from the junctions between outer portions **19** and these projections properly locate the connection assembly within the cover and limit the play therebetween. Projections **24** are preferably tapered at their outer ends in order to facilitate the positioning of the connection assembly within the connector-receiving area of the cover. Holes **25** are disposed in sections **16** and **17** to prevent moisture from accumulating within the cover. The insulative cover of FIGURES 5 and 6 is applied onto a connection assembly in a manner similar to that disclosed hereinabove with regard to FIGURES 1 through 3.

FIGURES 5 and 6 disclose an insulative cover to accommodate two conductors that are connected by a connection assembly with the conductors extending through the cover. If the tap conductor is to terminate inside the cover, then the cover need have only three conical outer portions instead of four and such is contemplated by the invention.

As can be discerned, there has been disclosed a novel insulative cover that accommodates a connection asembly of the character described and provides optimum insulative protection for the connection.

It will, therefore, be appreciated that the aforementioned and other desirable objects have been achieved; however, it should be emphasized that the particular embodiments of the invention, which are shown and described herein, are intended as merely illustrative and not as restrictive of the invention.

What is claimed is:

1. A unitary cover device for receiving a connection assembly electrically connecting conductor members together therein; said cover device comprising a pair of complementary sections of dielectric material having middle and outer portions; hinge means at said middle portions hingedly connecting said sections together so that the sections can be moved between an open position and a closed position; spaced projections extending outwardly from an inner surface of said sections at junctions of said middle and outer portions defining, when said sections are in said closed position, a connection assembly-receiving area in which said connection assembly is to be received; said outer portions being tapered and having a decreasing thickness from said projections to free ends thereof thereby being flexible to extend along and to accommodate conductor members of different sizes; inwardly-directed extensions at the free ends of said outer portions comprising flexible members disposed susbtantially at right angles with respect to a longitudinal axis of said cover device to snugly engage and to accommodate conductor members of different sizes; and coactable latching means on said sections for holding these sections in said closed position about the connection assembly.

2. A unitary cover device according to claim **1** wherein said outer portions include at least one outer portion of conical configuration extending outwardly from one end of said connection assembly-receiving area and two outer portions of conical configuration extending outwardly from another end of said connection assembly-receiving area.

3. A unitary cover device according to claim **1** wherein said sections have holes therein to prevent the collection of moisture within the cover device.

4. A unitary cover device according to claim **1** wherein said sections have an identical configuration.

5. A unitary cover device according to claim **1** wherein the connection assembly-receiving area of one of said sections is deep enough to receive all but a small part of said connection assembly.

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