

J. B. HAMILTON.
INSULATING SPLICE COVER.
APPLICATION FILED MAR. 6, 1914.

1,176,288.

Patented Mar. 21, 1916.

Fig. 1.

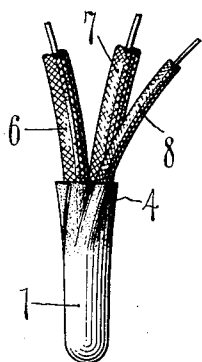


Fig. 2.

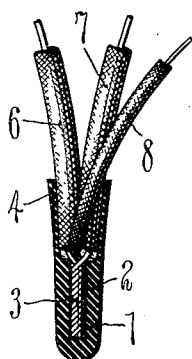


Fig. 3.

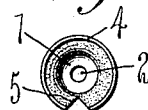


Fig. 4. *Fig. 5.*

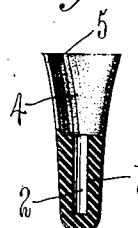
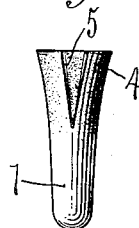


Fig. 6.

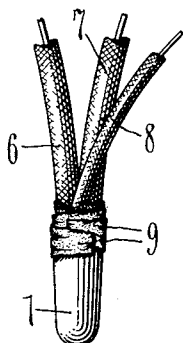


Fig. 7.

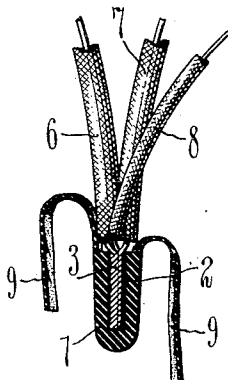


Fig. 8.

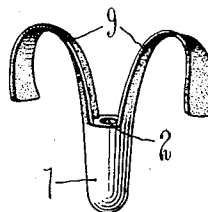


Fig. 9.

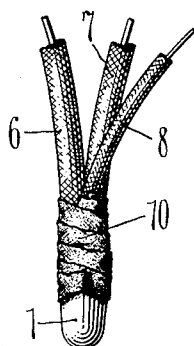


Fig. 10.

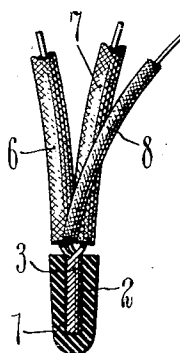
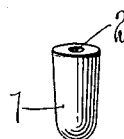


Fig. 11.



Witnesses:

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UNITED STATES PATENT OFFICE.

JAMES B. HAMILTON, OF HOBOKEN, NEW JERSEY.

INSULATING SPLICE-COVER.

1,176,288.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JAMES B. HAMILTON, a citizen of the United States, and resident of Hoboken, in the county of Hudson and State of New Jersey, have invented a new and useful Improvement in Insulating Splice-Covers, of which the following is a specification.

This invention relates to an article adapted to the purpose of providing an insulating covering for bared portions of electric wires, and more particularly for the insulation of the splices of said wires used in electrical installations, such, for instance, as the wiring of light fixtures.

The objects are to provide a device of this nature which will insure a complete insulation of the splice or bared end of the wire or wires; irrespective of the care or skill with which it is applied; which is cheap and simple to manufacture, and which may be applied and removed with great ease and rapidity; which will accommodate itself to various sizes and irregularities of configuration of the bared wires: and which may be repeatedly used.

Another object is to provide certain improvements in the composition, form and construction of the article, whereby the above mentioned objects may be effectively carried out.

A practical embodiment of the invention is represented in the accompanying drawings, in which,

Figure 1 represents a side elevation of the preferred form in operative position on a splice of three wires. Fig. 2 represents a vertical section through the same. Fig. 3 represents an end view of the article itself. Fig. 4 represents a side view thereof. Fig. 5 represents a vertical section therethrough. Fig. 6 represents a view similar to Fig. 1, of a modified form. Fig. 7 represents a vertical section therethrough. Fig. 8 represents a perspective view of this modified form of the article itself. Fig. 9 represents a view similar to Fig. 1, of a second modified form. Fig. 10 represents a vertical section therethrough with the tape removed, and Fig. 11 represents a perspective view of this modified form of the article itself.

It is a requirement in approved electrical wiring in various forms of installation, such, for instance, as the wiring of light fixtures, that the bared ends of single wires

and the spliced ends of several wires shall be provided with insulation to take the place of the rubber and braid which had been removed in baring the wire for attachment or for splicing. The requirements which must be complied with in insulating these points are established by rules issued by the underwriters and by city electrical bureaus; and inspectors are provided to examine these points in electrical installations and see that they are properly insulated.

It has been customary heretofore, after the bared ends of the wires have been spliced and soldered together, to wrap the splice with an adhesive rubber tape, which is supposed to take the place of the layer of rubber which has been removed from the wire for the purpose of making the splice; and then to cover this rubber tape with a friction cloth tape which is supposed to compensate for the removal of the braided cord normally on the outside of the wire insulation.

It frequently happens that electricians use too little of the rubber tape, and endeavor, by stretching it, to cause it to cover the splice. In such cases, the stretching of the rubber tape naturally reduces its thickness, and hence reduces its capacity as an insulator; and furthermore, this tension of the rubber tape renders it susceptible of being punctured in case rough ends are left on the wire or rough points on the solder. Also, this inadequacy of tape provides a tendency to omit effectively covering the end of the splice. In the above cases reliance is placed upon the provision of the friction cloth tape, but it, of itself, is not a sufficient insulator; and the result of the careless practice outlined above, is that the splices are weak points in the installation, and become a source of great danger by reason of grounding of the conductors on the metal of outlet and junction boxes, cabinets, metal parts of fixtures, etc. Not only do these conditions give rise to danger of fire, but short-circuiting is also apt to result where poorly protected splices of wires of different polarity are brought into contact with each other or engage a common metallic conductor. It will be seen that the provision of a device which will obviate these risks and disadvantages would be an appreciable step in advance in the art, and with the above thoughts in mind, I have devised the article

which is the subject-matter of this application.

Referring now to the form shown in Figs. 1 to 5 inclusive, the insulating cover or cap is denoted by 1, and is composed of a suitable insulating material, and preferably of an elastic insulating material. I suggest the use of a rubber compound which is known in the art as "New Code" rubber. This cap 1 is cored to provide a recess 2 therein, which recess is open at the inner end of the cap, as clearly shown in the drawings. The recess 2 is made of about the proper depth for substantially covering a splice 3 of ordinary length; and its diameter is adjusted so as to be less than the diameter of the splice which it is to cover, in order that the elasticity of the material may cause the cap to adhere to the splice. It will be understood that caps may be made having different depths and diameters of the recess 2, in order to accommodate themselves to varying standard conditions. The inner end of the cap 1, has a projecting flap 4, which is shown in the preferred form as taking the shape of a petticoat. This flap 4 is slit, as shown at 5, and is preferably composed of the same material as the cap 1, but is somewhat thinner. I also prefer to provide this flap 4 with an adhesive for a purpose to be hereinafter described.

The manner of using this device will be apparent from the drawings, but it may be stated that when two relatively large wires 6, 7, are spliced to a relatively small wire 8, which wire 8 is to run down the stem of, for instance, a light fixture, or into an arm thereof, the splice takes the form substantially as shown at 3, and the bared ends may be soldered together. The insulating cap is applied by simply slipping it on over the splice 3, and the flap 4 is pressed in around the wires 6, 7, 8, where its adhesive quality will cause it to remain.

It will be noted that the cap effectively insulates all sides of the splice as well as the end thereof, while the provision of the flap or petticoat obviates the necessity of the use of any rubber tape. Furthermore, the device may be quickly removed for inspecting the splice and quickly replaced thereafter. Consequently, it not only provides a sure insulation, but a quick insulation, and is adapted for repeated use.

Referring now to the modified form shown in Figs. 6 to 8 inclusive; it is the same as the form already described except that two flaps 9, which take the form of rubber tape, are provided in place of the flap or petticoat 4. After the cap has been applied as already described, the flaps 9 are wound around the wires, as clearly shown in Fig. 6.

Referring to the second modified form, shown in Figs. 9 to 11 inclusive, it is the

same as the previous forms except that the cap has no flap of any kind, and a separate rubber tape 10 is used for covering the space between the inner end of the cap and the insulation of the wires.

It will be understood that various changes may be made in the composition, form and construction of the device without departing from the spirit and scope of my invention, and hence I do not wish to be limited to specific details except as they are set forth in the claims.

What I claim is:

1. An insulating cover for the bared spliced ends of electric wires, comprising an elastic cap provided with a hole extending from one end to a point adjacent the other end for receiving the said bared ends of the wires, the walls of the cap being substantially as thick as the diameter of the hole and the hole being smaller in cross section than the spliced ends of the wires, whereby the said cap will be held in place by the elasticity of the rubber.

2. An insulating cover for the bared spliced ends of electric wires, comprising a cap of insulating material provided with a hole extending from one end to a point adjacent the other end, the walls of the cap around the said hole being yielding, whereby the cap may be slipped on and off the bared ends of the wires, and when on will be held in place by the elasticity of the said walls, and a flap of insulating material projecting from the open end of the cap for meeting the insulation on the wires and thereby protecting the bared portion of the wires between the cap and the said insulation.

3. An insulating cover for the bared spliced ends of electric wires, comprising a cap of insulating material provided with a hole extending from one end to a point adjacent the other end for receiving the said bared ends of the wire, and a flap of insulating material projecting from the open end of the cap for meeting the insulation on the wires and thereby protecting the bared portion of the wires between the cap and the said insulation, the said flap being adhesive, whereby it will grip the said insulation and hold the cap in place.

4. An insulating cover for the bared spliced ends of electric wires, comprising a rubber cap provided with a hole extending from one end to a point adjacent the other end for receiving the said bared ends of the wires, the said hole being smaller in cross section than the spliced ends of the wires, whereby the said cap will be held in place by the elasticity of the rubber, and a rubber flap projecting from the open end of the cap for meeting the insulation on the wires and thereby protecting the bared portion of the wires between the cap and the said insulation.

5. An insulating cover for the bared spliced ends of electric wires, comprising a rubber cap provided with a hole extending from one end to a point adjacent the other end for receiving the said bared ends of the wires, and a rubber flap projecting from the open end of the cap for meeting the insulation on the wires and thereby protecting the bared portion of the wires between the cap and the said insulation, the said flap being adhesive whereby it will grip the said insulation and hold the cap in place.

6. An insulating cover for the bared spliced ends of electric wires, comprising a rubber cap provided with a hole extending from one end to a point adjacent the other end for receiving the said bared ends of the

wires, the said hole being smaller in cross section than the spliced ends of the wires, whereby the said cap will be held in place by the elasticity of the rubber, and a rubber flap in the form of a petticoat projecting from the open end of the cap for meeting the insulation on the wires and thereby protecting the bared portion of the wires between the cap and the said insulation.

In testimony, that I claim the foregoing as my invention, I have signed my name in presence of two witnesses, this fifth day of March 1914.

JAMES B. HAMILTON.

Witnesses:

F. GEORGE BARRY,

C. S. SUNDGREN.