Sept. 30, 1924. 1,510,119

N. J. A. WAHLBERG

SWITCH HANDLE

Filed Jan. 6, 1921

Fig. 1.

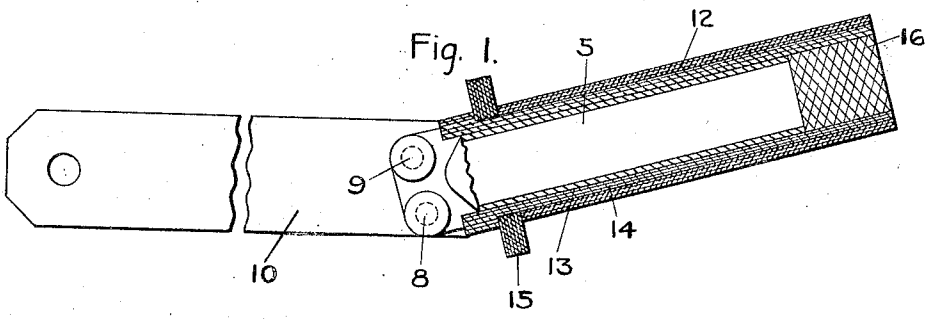


Fig. 2.

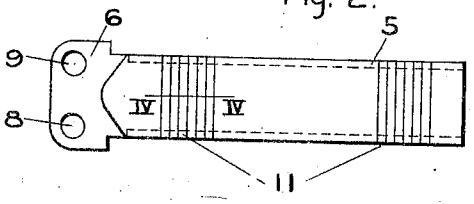


Fig. 3.

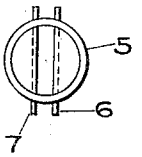
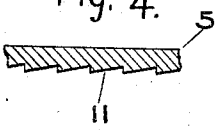


Fig. 4.



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Patented Sept. 30, 1924. 1,510,119

UNITED STATES PATENT OFFICE.

NILS J. A. WAHLBERG, OF WILKINSBURG, PENNSYLVANIA, ASSIGNOR TO WESTINGHOUSE ELECTRIC & MANUFACTURING COMPANY, A CORPORATION OF PENNSYLVANIA.

SWITCH HANDLE.

Application filed January 6, 1921. Serial No. 435,317.

To all whom it may concern:

Be it known that I, NILS J. A. WAHLBERG, a citizen of the United States, and a resident of Wilkinsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Switch Handles, of which the following is a specification.

My invention relates to switch handles and particularly to handles for use in operating switches of the knife-blade type and methods of constructing the same.

The object of my invention is to provide a switch handle capable of withstanding the conditions of rough usage and dampness, such as are present particularly in mines.

My invention is intended primarily for use in connection with section switches in mines such as are used to isolate a branch trolley line into a heading from the main trolley line. The switches are usually of the knife-blade type and the moisture present in most mines tends to convey the current from the blade to the handle and renders the handle unsafe for manual operation. Furthermore, as these switches are generally located adjacent to the roof of the mine, the motor operator often strikes the handles with a switch iron or a club, in order to throw the switch. For this reason, the handles must be capable of withstanding hard usage, in addition to meeting the atmospheric conditions.

My invention is illustrated in preferred form in the accompanying drawings, wherein—

Figure 1 is a view, partially in section, of my device, as applied to a switch blade;

Fig. 2 is a detail view of a portion of the handle;

Fig. 3 is an end view thereof, looking from the right of Fig. 2, and

Fig. 4 is a sectional view, taken on the line IV—IV of Fig. 2.

The handle, which is shown as applied to a switch blade, consists of a tubular metal member 5, one end of which is flattened and flared to form ears 6 and 7 that have perforations 8 and 9, through which rivets pass to form a connection between the handle and a switch blade 10. The member 5 is provided, for a portion of its length, with corrugations 11, the function of which will hereinafter be described.

The handle 5 serves as a support for a grip member 12, which is formed of insulating material, such as micarta, that is adapted to withstand blows without being fractured and, at the same time, serves as an efficient insulator.

The grip member 12 consists of sleeve members 13 and 14 and a washer 15, all preferably of micarta. The sleeve member 13 fits snugly around the metal member 5 and is firmly held in position thereon by means of the corrugations 11.

It will be noted that the grip member 12 extends beyond the outer end of the tubular member 5. The interior of this extended portion of the grip member may be filled by an insulating plug member 16, of material such as wood or cement.

The sleeve members 13 and 14 serve as efficient insulation between the hand of the operator and the metal member 5, and the washer member 15 insulates the grip portion of the handle against creepage of current from the switch blade, as it provides an increased creepage surface and also serves to deflect any moisture that may flow along the handle. The insulating plug 16 insulates against creepage of current from the outer end of the metal member 5.

The handle is built up of metal and micarta standard tubes and requires no special machinery or special parts for its construction.

Various modifications may be made in the construction without departing from the spirit of the invention, as defined in the accompanying claims.

I claim as my invention:—

1. A handle for electric switches comprising a metal tube having its inner end formed to provide a means for attachment to a switch member, a sleeve member of relatively yielding insulating material surrounding the metal tube and extending beyond the outer end thereof, a radially extending annular member of insulating material surrounding the tube adjacent to its inner end and a second sleeve of insulating material surrounding the first sleeve for retaining the annular member in position.

2. A handle for electrical apparatus comprising a metal body member provided with means for attachment to the apparatus, an insulating member surrounding the metal member provided at its inner end with a shoulder and an insulating barrier disposed

circumferentially of the insulating member adjacent to the inner end thereof and abutting the said shoulder, and a second sleeve surrounding the first sleeve for retaining the insulating barrier in position.

3. A handle for electrical apparatus comprising a metal body member provided with means adjacent to its inner end for attachment to the apparatus and having a stop shoulder adjacent said means, an insulating sleeve surrounding the metal body member and abutting the stop shoulder and having an enlarged portion adjacent its inner end, the said sleeve extending beyond the end of the body member, an insulating barrier disc mounted on the said sleeve and abutting the said enlarged portion thereof, a second insulating sleeve surrounding the first sleeve for retaining the barrier disc in position, and an insulating closure for the outer end of the first insulating sleeve.

4. A handle for electrical apparatus comprising a metal tubular member formed at one end for attachment to the apparatus and having an exterior surface of irregular configuration and an insulating covering of relatively yielding material disposed exteriorly of the metal member.

In testimony whereof, I have hereunto subscribed my name this 22nd day of December 1920.

NILS J. A. WAHLBERG.