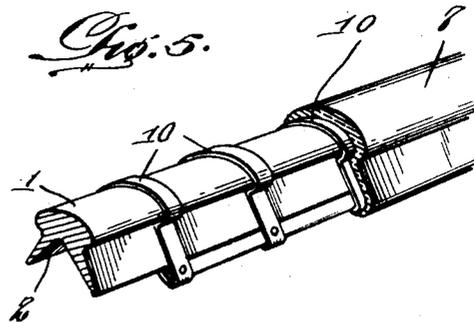
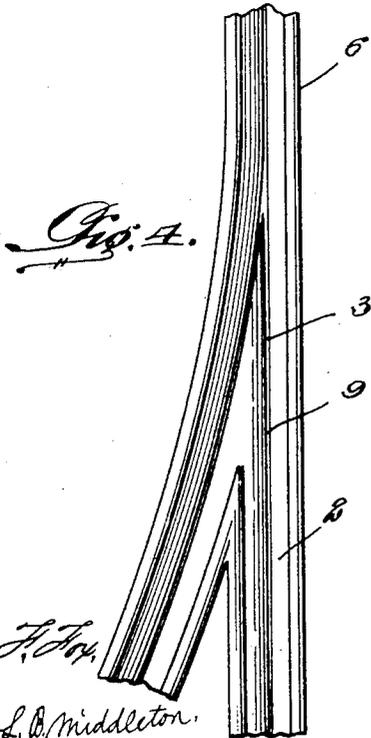
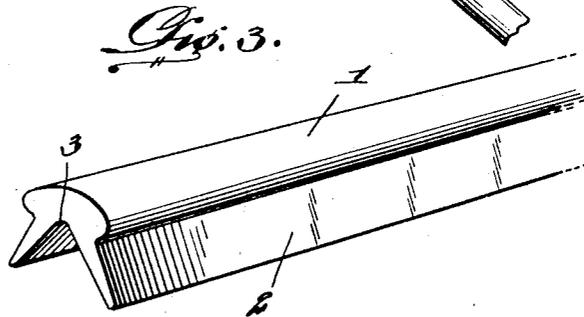
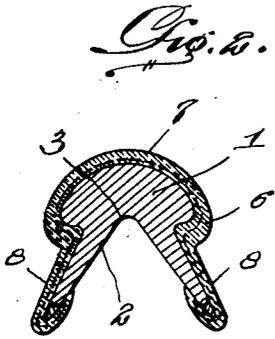
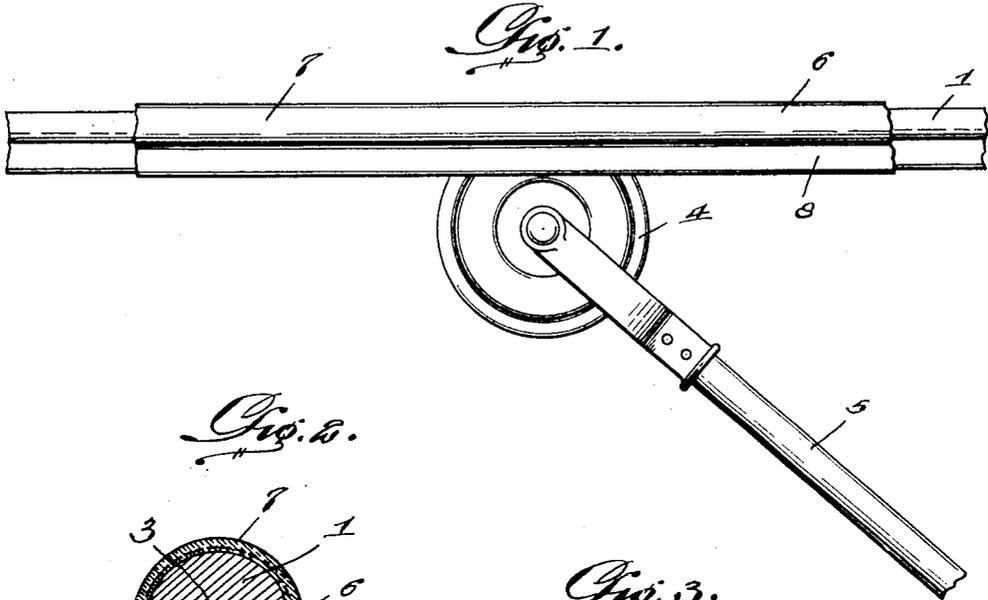


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 TROLLEY WIRE PROTECTOR.  
 APPLICATION FILED MAR. 12, 1920.

1,398,005.

Patented Nov. 22, 1921.

2 SHEETS—SHEET 1.



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 WITNESSES;

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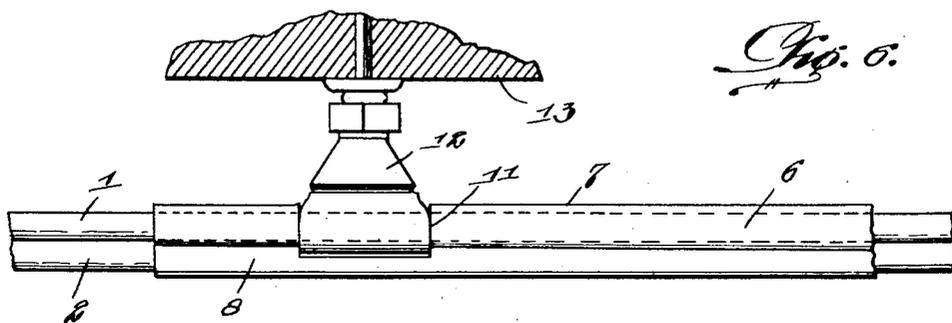


Fig. 7.

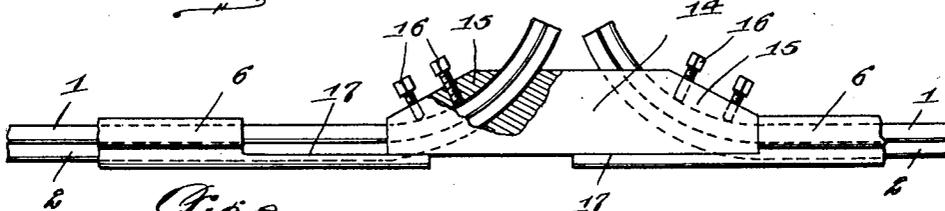


Fig. 8.

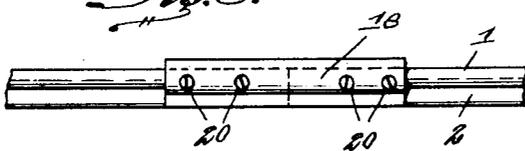


Fig. 9.

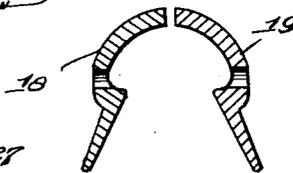


Fig. 10.

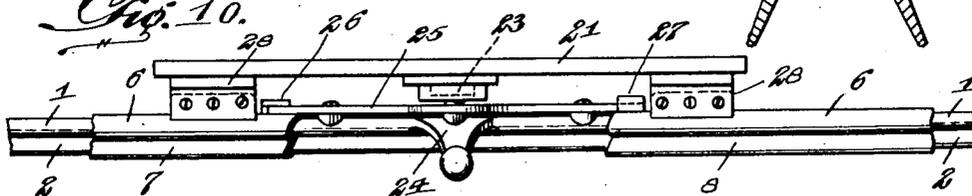
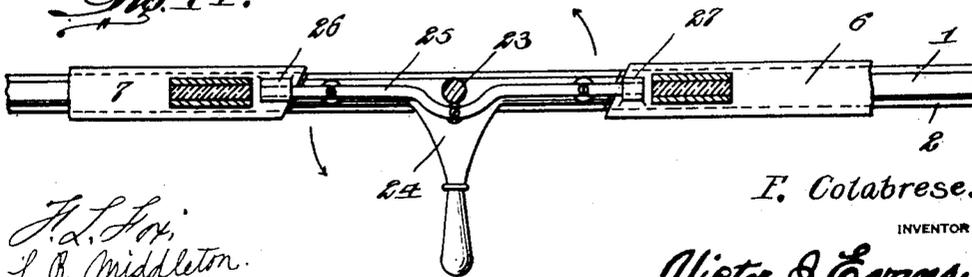


Fig. 11.



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WITNESSES:

# UNITED STATES PATENT OFFICE.

FRANCESCO COLABRESE, OF ALBERT, WEST VIRGINIA.

TROLLEY-WIRE PROTECTOR.

1,398,005.

Specification of Letters Patent.

Patented Nov. 22, 1921.

Application filed March 12, 1920. Serial No. 365,279.

*To all whom it may concern:*

Be it known that I, FRANCESCO COLABRESE, a citizen of the United States of America, residing at Albert, in the county of Tucker and State of West Virginia, have invented new and useful Improvements in Trolley-Wire Protectors, of which the following is a specification.

This invention relates to protectors for electric wires and the principal object of the invention is to provide covering means for the trolley wires of mine cars and the like for preventing the workmen from touching said wires.

Another object of the invention is to provide means for permitting the trolley wheel to freely engage the wire while the same is contained in the covering.

Still another object of the invention is to provide means for strengthening the covering by steel inserts which are inclosed by the covering.

This invention also consists in certain other features of construction and in the combination and arrangement of the several parts, to be hereinafter fully described, illustrated in the accompanying drawings and specifically pointed out in the appended claims.

In describing my invention in detail, reference will be had to the accompanying drawings wherein like characters denote like or corresponding parts throughout the several views, and in which:—

Figure 1 shows a section of a trolley wire to which my improved trolley is applied and showing a portion of the trolley and its wheel engaged with the trolley wire.

Fig. 2 is a cross section through Fig. 1.

Fig. 3 is an enlarged view of a portion of the wire.

Fig. 4 is a view showing the connection of a branch line with the main line.

Fig. 5 is a view of one of the reinforcing clips.

Fig. 6 is an enlarged view of one of the hangers for the wire.

Fig. 7 is an enlarged view showing means for splicing the wire.

Figs. 8 and 9 are views showing a modified form of the splicing means.

Fig. 10 is an elevation of a switch. Fig. 11 is a plan view thereof, with parts omitted and parts in section.

In these views 1 indicates the trolley wire

which is formed with a flaring groove 2 on its under part, the walls of said groove converging to form a channel 3 which is centrally arranged and is adapted to receive the periphery of the trolley wheel 4 which is carried by the usual trolley pole 5. In order to prevent the workmen or other persons in the mine from touching the wire and thus becoming shocked I provide a covering 6 for the wire which is made of any suitable kind of insulating material. This covering is formed of a substantially semi-circular part 7 for inclosing the upper portions of the wire and with the downwardly and outwardly extending side wings 8, forming a channel to receive the upper part of the trolley wheel when the same is in engagement with the wire.

Where a track branches off from the main track and a branch trolley wire is connected with the main wire I provide a section of covering of Y shape, as shown at 9, in Fig. 4. This section has its wings formed to permit the trolley wheel to pass from the main line on to the branch line or to continue along the main line.

In order to strengthen the covering I provide steel reinforcing pieces 10 which are of substantially the same shape as the cross sectional shape of the covering and are located within said covering. These pieces are located at intervals so as to stiffen and support the covering. They may be suitably secured to the covering or simply placed within the same and held therein by friction.

The covering is provided with recesses 11 in its upper portion 7 to receive the hangers 12 which connect the trolley wire with their supports 13. These hangers may be of any suitable form. The sections of trolley wire may be spliced together by the clips 14 shown in Fig. 7. These clips are each provided with a pair of curved openings 15 to receive the ends of the wires and the wires are clamped therein by the set screw 16. An opening 17 is formed in the upper part of the covering to receive said clips.

The connecting clip shown in Figs. 8 and 9 may be used instead of the one just described, this clip consisting of the two members 18 and 19 which have portions which fit around the ends of the wire and are bolted together as at 20. In this case the covering would extend over the clip.

Any suitable form of switch may be used for controlling the supply of current to the trolley wire within the mine. Figs. 10 and 11 show one form of switch which consists of the supporting frame 21 for supporting the feed section and the mine section of the wire. The switch 24 is pivotally supported in the frame 21 by the pivot pin 23 and this switch is provided with a latch bar 25 adapted to engage the keepers 26 and 27 for frictionally holding the switch in closed position. The frame 21 is connected with the wires by the insulators 28.

It will thus be seen that the trolley wires are fully insulated by the covering and cannot be touched by a person riding in the car or walking along the shaft of the mine. Thus the danger of the workmen being shocked by coming in contact with the wire is reduced to a minimum. The formation of the wire and the covering acts as a means for keeping the trolley wheel in engagement with the wire.

It is thought from the foregoing description that the advantages and novel features of my invention will be readily apparent.

I desire it to be understood that I may make changes in the construction and in the combination and arrangement of the several parts, provided that such changes fall within the scope of the appended claims.

What I claim is:—

1. A trolley wire having an enlarged upper part and downwardly extending diverging wings, said wings forming exterior

grooves at their point of connection with the body and a covering of insulating material surrounding the body and outer surfaces of the wings and having portions extending into the grooves.

2. A trolley wire having a V-shaped channel in its lower part for receiving the trolley wheel, a covering for the wire having depending parts covering the exterior surface of the walls of the channel part of the wire, reinforcing strips placed between the wire and covering and having portions engaging the lower edges of the walls of the channel part.

3. A trolley wire having a channel in its lower part for receiving a trolley wheel, a covering for the wire having portions extending over the exterior walls of the channel forming part, said covering having openings therein for the passage of the wire supports and the connectors.

4. A trolley wire having a channel in its lower part for receiving a trolley wheel, a covering for the wire having portions extending over the exterior walls of the channel forming part, said covering having openings therein for the passage of the wire supports and the connectors, each connector consisting of a body having curved openings therein for receiving the ends of the wires and clamping bolts holding the said ends in the openings.

In testimony whereof I affix my signature.

FRANCESCO COLABRESE.