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S. W. DUNCAN

2,483,760

ELECTRICAL CABLE GUIDE

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Fig. 1.

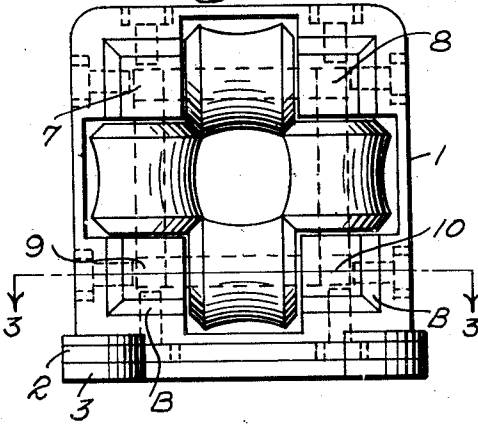


Fig. 4.

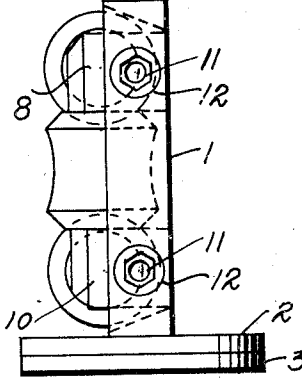


Fig. 2.

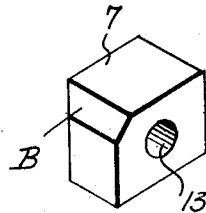
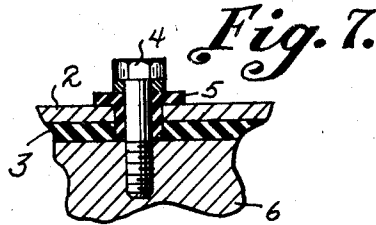
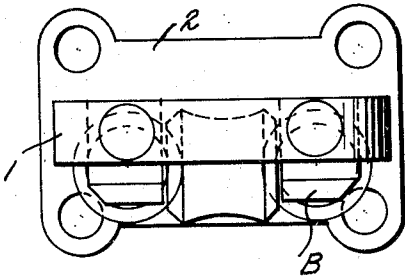


Fig. 5.

Fig. 3.

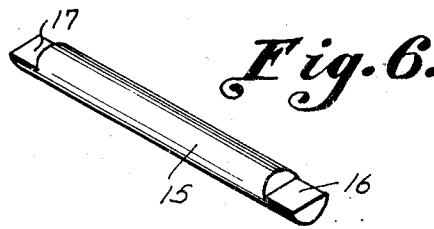
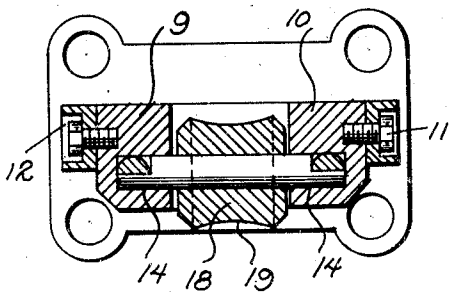


Fig. 6.

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UNITED STATES PATENT OFFICE

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ELECTRICAL CABLE GUIDE

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4 Claims. (Cl. 254—190)

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My present invention relates to cable guides in the general class of pushing and pulling implements, and more specifically to an improved electrical cable guide of the multi-roller and insulated type, which while well adapted for various purposes and uses is especially designed for mounting in upright position upon an electrical cable-operating gathering mine locomotive or motor. The guiding mechanism of my invention is mounted upon the mine gathering locomotive, or other similar appliance or implement, adjacent to the rotary winding drum, to guide the flexible cable as it is wound upon and unwound from the drum of the traveling locomotive, to insure safety for the locomotive operator, as well as facile and smooth operation of the cable, together with elimination of excessive wear between the cable and the guide.

The invention consists in certain novel features and combinations and arrangements of interchangeable parts involving a base or frame, bearings and axles, together with a series of rollers, as will be described, and more particularly set forth in the appended claims.

In the accompanying drawings an example of a physical embodiment of the invention is illustrated wherein the parts are combined and arranged in accord with one mode I have devised for the practical application of the principles of the invention, but it will be understood that changes and alterations are contemplated and may be made in these exemplifying drawings and structures, within the scope of my claims, without departing from the principles of the invention.

Figure 1 is a view in front elevation of the cable guide in which my invention is embodied; and Figure 2 is a top plan view of the guide.

Figure 3 is a horizontal sectional view at line 3—3 of Fig. 1.

Figure 4 is a side or end elevation of the guide, as seen from the right in Fig. 1.

Figure 5 is a perspective view of one of the interchangeable bearing blocks; and Figure 6 is a perspective view of one of the interchangeable axles for the multi-rollers.

Figure 7 is an enlarged vertical sectional detail view of the electrically insulated mounting for the guide.

In this specific embodiment of the invention I employ an upright rectangular open-frame or housing 1 having a base flange 2, mounted on an insulated plate 3, and fastened by four hold down bolts 4 that are passed through a flanged insulating collar or bushing 5, and the bolts are

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threaded into a support 6, as for instance the frame of a mine locomotive, to insulate the guide from the motor or locomotive upon which it is mounted.

5 Within the four corners of the square open center frame are mounted four interchangeable and preferably cubical bearing blocks 7, 8, 9, and 10, each of which is rigidly fastened in the frame by means of a pair of assembly bolts 11 having their heads protected in exterior countersunk recesses or counterbores 12, and these bolts are arranged in right angular pairs at the respective corners of the frame.

10 The interchangeable bearing blocks, which are preferably fashioned with exterior beveled faces B, are each drilled to form two diametrically arranged bores or sockets 13 and 14 that merge at their inner ends, and the sockets of adjoining blocks are axially alined in pairs to receive a square or quadrilateral frame that includes four interchangeable axles 15.

15 The axles are solid cylinders of uniform length and diameter, and their opposite ends are cut away to form tenons or tongues 16 and 17 which provide complementary grooves or mortises with flattened faces, in order that adjoining angularly disposed axles when inserted in the sockets are interlocked by their overlapped ends.

20 Each axle is provided with a roller 18 that is journaled thereon, and the four nested rollers are fashioned with annular concaves or grooves 19 for guiding the cable through the frame.

25 As thus arranged the two vertically spaced horizontal rollers, and the two laterally spaced vertical rollers are journaled upon their respective axles to provide a substantially circular eye or orifice through the frame to insure a smooth passage or travel of the electric cable through the guide.

30 In the forward and reverse travel of the cable, a portion of the cable may be flexed or bent as it passes to or from the guide, and the rollers direct the cable to or from the winding drum of the locomotive or other appliance to guide a straight stretch of the cable for winding or unwinding in smooth layers on the revolving drum.

35 Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

40 1. In a cable guide, the combination with an open rectangular frame, four corner blocks and means for fastening the blocks in the frame, and a pair of angularly disposed sockets located in the blocks, of four axles having their respective ends mounted in alined pairs of sockets, and four

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rollers journaled on the axles to form a central eye for the cable.

2. In a cable guide, the combination with an open rectangular frame, four corner blocks bolted in the frame, and a pair of merging angularly disposed sockets located in each block, of four axles each having flattened overlapping ends located in the merging sockets, and four rollers journaled on the axles having annular grooves to form a central eye for a cable.

3. A cable guide comprising a frame having inwardly extending corner portions, each corner portion having merging angularly disposed sockets, axles having their respective ends in aligned sockets and overlapping one another to retain the axles against rotation in the sockets, and rollers journaled on the respective axles whereby to form a central eye for a cable.

4. A line guide comprising an open frame having portions extending inwardly thereof and

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angularly spaced from one another, said portions having merging angularly disposed sockets, axles having their ends formed to overlap one another in the merging sockets, said axles extending between aligned pairs of sockets, and rollers journaled on the axles whereby to form a central eye for a line.

SPRINKLE W. DUNCAN.

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