Sept. 30, 1952 N. W. ROMSOS 2,612,546

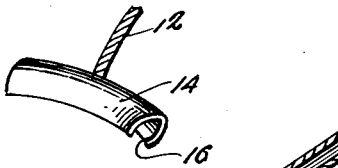
WIRE LEADER

Filed June 15, 1951

Fig. 1.



Fig. 8.



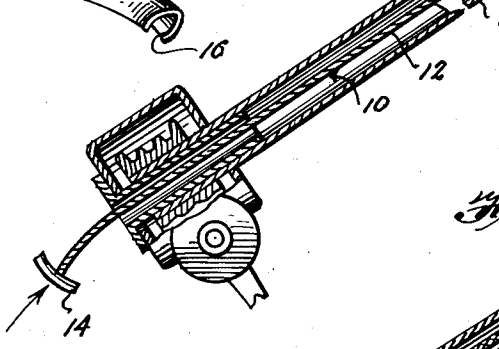


Fig. 2.

Fig. 5.

Fig. 3.

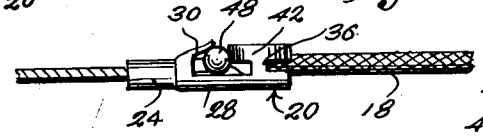


Fig. 4.

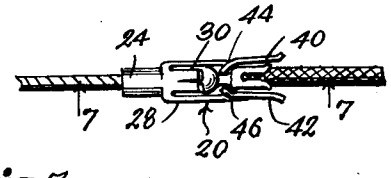


Fig. 6.

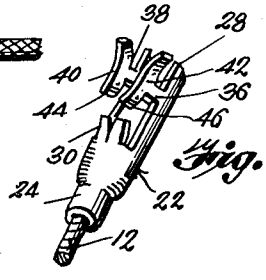
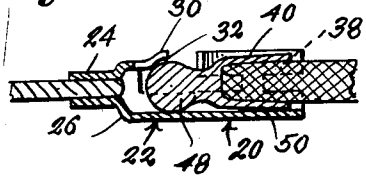


Fig. 7.



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WIRE LEADER

Norman W. Romsos, Crosby, N. Dak.

Application June 15, 1951, Serial No. 231,889

1 Claim. (Cl. 175—376)

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This invention appertains to a wire leader for drawing flexible elements, such as electric conductors or wires, through conduits and has for its primary object to provide means for effecting a facile and convenient replacement of a lead wire for a vehicle horn.

Another object of this invention is to provide an elongated flexible tool and to provide means for detachably connecting one end of a wire or similar element thereto, so that the wire or cable can be easily drawn by the tool through a conduit or similar member.

These and ancillary objects are attained by this invention, the preferred embodiment and one environmental use of which is set forth in the following description and illustrated in the accompanying drawing wherein:

Figure 1 is a fragmentary longitudinal sectional view of the tube and worm assembly of the steering mechanism of a conventional vehicle, illustrating a tool, constructed in accordance with the principles of this invention in use to dispose a horn wire therethrough;

Figure 2 is a view similar to Figure 1 with the horn wire shown in a position, after being drawn through the worm assembly;

Figure 3 is a detailed side elevational view of the means for connecting the tool to the wire;

Figure 4 is a top plan view of the connecting means;

Figures 5 and 6 are perspective views of the parts of the connecting means;

Figure 7 is a longitudinal sectional view taken on line 7—7 of Figure 4, and

Figure 8 is a perspective view of the handle for the tool.

With continued reference to the accompanying drawing, the tool 10, which is especially designed and adapted for drawing cables, wires, or similar flexible elements through conduits or similar housings, includes an elongated flexible cable 12, which constitutes the shank portion. An arcuate handle 14 is transversely fixed at the center of its inner convex side to one end of cable 12, the handle being hollow and having an axial slot 16 formed in its outer side to provide means for receiving and retaining the cable, when it is coiled for storage.

Means is provided for detachably connecting the opposing end of the cable 12 to a wire, such as the lead wire 18 for a horn, as illustrated in the drawing. The connecting means 20 includes a socket member 22, which is permanently affixed to the end of the cable. The socket member 22 consists of a collar 24, which is fixedly cir-

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cumposed on the terminal of the cable. An integral axially enlarged sleeve 26 is formed on the outer end of the collar and a trough shaped guide 28 extends axially from one-half of the end wall of the sleeve. Bifurcated outwardly curved resilient fingers 30 overlie the inner end of the guide and are formed at their outer ends with grooves 32, defining a socket with the inner portion of the guide.

Opposed lateral arms 36 and 38 extend integrally from the side edges of the guide and inherently resilient confronting clamping bars 40 and 42 are carried by the outer ends of the arms, the bars paralleling the side edges of the guide. Inwardly extending inner ends 44 and 46 are formed on the bars and the outer ends are curved outwardly.

A ball 48 forms the other part of the connecting means and is detachably fixed on an end of the wire 18 or similar element, the ball having a sleeve 50 formed integral therewith and axially split to receive the end of the wire. Thus, the sleeve is expandable to accommodate various sizes of wires or similar elements which have one of their ends clampingly engaged therein.

The ball 48 is adapted to be axially moved in the guide, through the opposing clamping bars and into engagement with the finger 30, the ends 44 and 46 of the bars engaging the ball, as seen in Figure 4, to prevent accidental dislodgement thereof from the socket.

In the use illustrated in the drawing, the horn wire 18 has one of its ends attached to the ball 48 and the ball is attached in the socket member, after the cable 12 is pushed through the tube 52 of the steering assembly. By moving the cable 12, effected by grasping and pulling the handle 14, the wire 18 is pulled through the tube and the difficulties normally encountered in trying to thread the wire 18 through the tube are obviated.

Of course, the tool 10 can be dependably employed for use in other environments, where it is desired to pass a thin flexible element through a tube or conduit and, therefore, limitation is sought only in accordance with the spirit and terms of the appended claim.

Having thus described this invention, what is claimed as new is:

A device of the character described comprising a fish tape having a handle at one end thereof, and a socket at the other end thereof, a ball, and a split sleeve formed integrally with said ball, said sleeve adapted to engage a conductor wire, said ball adapted to be removably engaged

in said socket, and said socket comprising a collar affixed to said tape, an enlarged sleeve portion formed integrally with said collar, said sleeve portion having a longitudinally extending slot extending inwardly from its outer end, a pair of outwardly curved resilient fingers formed integrally with said sleeve portion and extending from the inner end of said slot, a pair of lateral arms formed integrally with said sleeve portion at either side of said slot, and a clamping bar formed integrally with the outer end of each arm and having inturned inner ends, whereby

said ball may be yieldably held by said fingers and said inner ends of said bars.

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