April 28, 1925.

1,535,117

I. FULTON ET AL

CABLE CONNECTER

Filed March 27, 1923

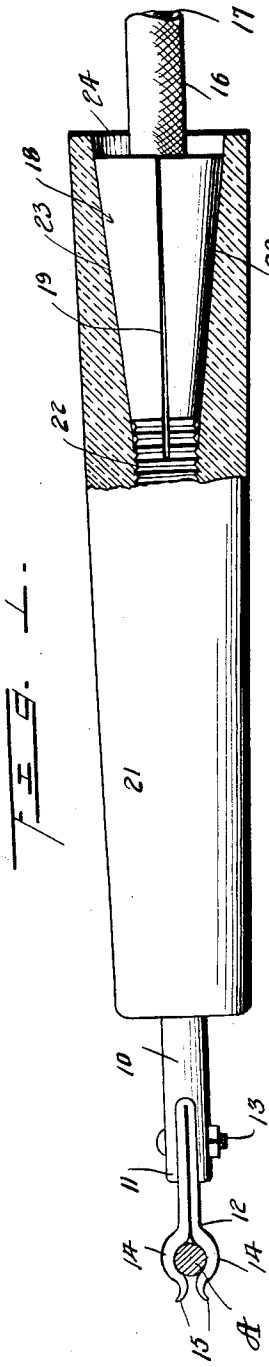


FIG. 1.

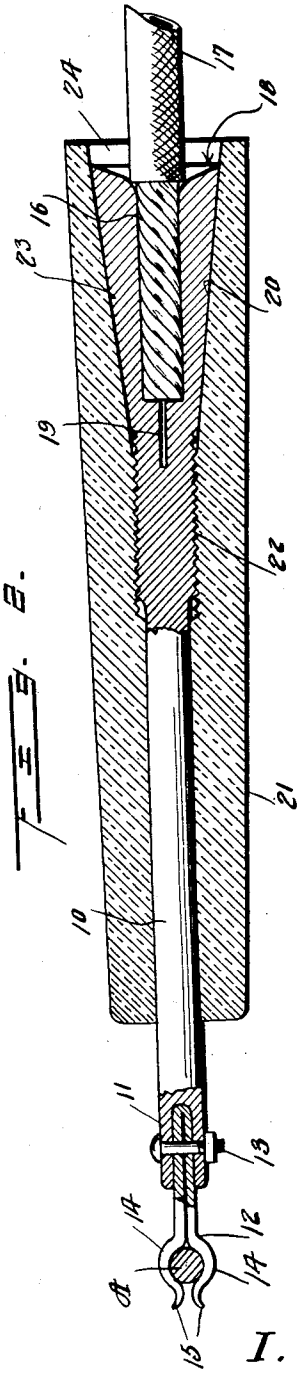


FIG. 2.

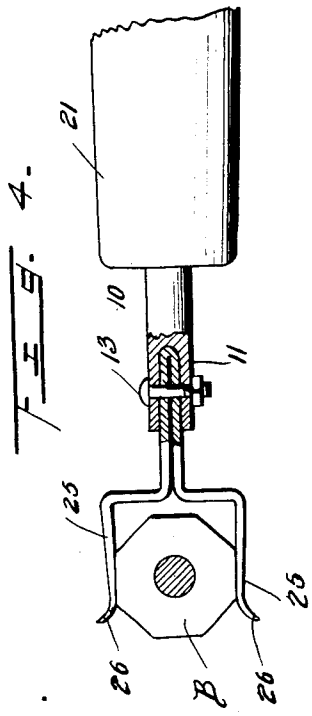


FIG. 4.

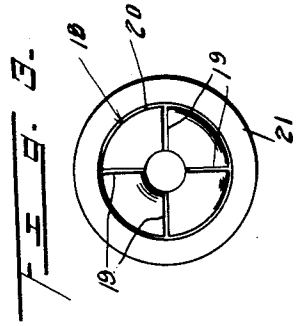


FIG. 3.

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Patented Apr. 28, 1925. 1,535,117

UNITED STATES PATENT OFFICE.

ISADORE FULTON AND CHARLES A. BOUSTEAD, OF CRESAPS, WEST VIRGINIA.

CABLE CONNECTER.

Application filed March 27, 1923. Serial No. 628,048.

To all whom it may concern:

Be it known that we, ISADORE FULTON and CHARLES A. BOUSTEAD, citizens of the United States, residing at Cresaps, in the county of Marshall and State of West Virginia, have invented certain new and useful Improvements in Cable Connecters, and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a cable connecter.

It is generally aimed to provide a means which will lessen the danger and hazard to which workmen in coal mines and the like are daily subjected, such as from displacement, entanglement or short circuiting of the feed wires for the mining machines, and to this end to provide a novel connecter which may be rapidly disconnected when desired, even when the workman is at a distance from the connecter, and a connecter embodying novel means for clamping the mining machine cable in place.

The additional objects and advantages will become apparent from a consideration of the description following taken in connection with accompanying drawings illustrating an operative embodiment.

In said drawings:—

Figure 1 is a view of the connecter inside elevation partly broken away;

Figure 2 is a longitudinal sectional view taken at a right angle to Figure 1;

Figure 3 is a rear elevation of the connecter, and

Figure 4 is a fragmentary view partly in elevation and partly in section of a modified form.

Like reference characters designate like or similar parts in the different views.

In carrying out the invention, a central stem is provided as at 10 which may be made in one piece of brass or other suitable electric conducting material. The forward end of the stem 10 is reduced to form a bifurcation or fork 11 in which conducting and attaching fingers 12, as of brass are removably fastened through the medium of a bolt 13. Fingers 12 are thus formed from a single resilient strip and are outwardly bowed as at 14 to facilitate their attachment to an electric feed wire as suggested at A. The free ends of the bowed portions 14 are also outwardly deflected as at 15 to facilitate entrance of the feed wire into the bowed portions 14. As fingers 12 are resilient and the stem may be quickly pulled so as to simultaneously detach the fingers from the feed wire A.

The stem 10 at its rear end is adapted for connection to a branch feed wire or conducting cable 16 of the type which usually leads to a mining machine. The insulation 17 of the cable 16 is cut off for a short distance from the adjacent end of the cable so that an exposed portion may be inserted into an enlarged socket 18 of the stem. Said socket 18 has one or more splits as at 19 to enable contraction and expansion thereof. The outer surface of the socket 18 is cam shaped or substantially conical as at 20.

The stem 10 is disposed in the bore of a cuff or sleeve 21 of fiber or other insulation and has screw threaded connection with the sleeve as at 22. The bore of the sleeve is also enlarged or conical as at 23 to provide a cam surface to coact with the cam surface 20. Thus it will be realized that as the sleeve 21 is turned with surface 23 engaging the surface 20 and with the cable 16 located in socket 18, that the socket 18 will be compressed so as to tightly grip and retain the cable.

It will be noted that the cuff or sleeve 21 is tapered and increases in diameter in a direction away from the fingers 12.

The cuff 21 preferably has a free end portion or flange 24 extending rearwardly beyond the socket 18 so that the free end of cable 16 may be housed and guided during attachment or detachment with respect to the socket 18.

When the connecter is used, cable 16 is located within the socket 18 and the sleeve or cuff 21 is then turned in the proper direction so that the cam surfaces 20 and 23 will coact to contract the socket 18 about the cable 16 and thus tightly clamp or grip it. Thereafter, the connecter is manually moved to engage the feed wire or cable A at the deflected portions 15, after which by a slight push of the connecter toward such wire, it will spread the fingers 12 and be received in the offset portions 14. Should strain occur on cable 16, a short circuit occur in any of the wires or in the mining machine or truck or trouble otherwise occur, a jerk on the connecter or cable 16 will cause the fingers 12 to move out of engagement with the feed wires. This result can be ac-

complished by the workman when many feet away from the connecter, as is usually the case, as well as when the operator is adjacent the feed wire. It is also to be borne in mind that the fingers 12 grip the feed wire to prevent movement longitudinally along the feed wire into engagement with another wire.

The form illustrated may be varied according to conditions and for instance as illustrated in Figure 4. This form is the same as the preceding one except for the fingers. Here the fingers are designated 25, being made of a single strip of suitably bent brass or other resilient metal. These fingers are L-shaped so as to embrace a trolley hanger nut B which is a conductor like wire A of the other form. The free ends 26 of fingers 25 are outwardly deflected to facilitate engagement and disengagement with respect to nut B like the coaction of parts 15 with wire A.

We claim as our invention:—

1. A branch wire connecter for electric conductors comprising a stem, an enlarged outwardly flared head on one end of said stem and provided with a socket to receive the end of a branch wire, said head being split longitudinally, said stem being threaded intermediate its ends, a sleeve movably mounted on the stem having a tapered opening to receive the head on the stem and a threaded portion engaging the threads on the stem, and means to secure the stem to a conductor wire.

2. A branch wire connecter for electric conductors comprising a stem circular in cross section, an outwardly flaring head on one end of said stem provided with a socket and split longitudinally, the stem at the base of said head provided with an enlarged threaded portion, a sleeve movably mounted on the stem and having a bore to receive the stem outwardly flared at one end to receive said head and threaded at the base of said outwardly flared portion to engage the threads on the stem, and a clamp on the end of the stem remote from the head aforesaid.

In testimony whereof we affix our signatures in presence of two witnesses.

ISADORE FULTON.
CHARLES A. BOUSTEAD.

Witnesses:
L. L. Rea,
R. M. Johnson.