Nov. 12, 1929. W. SHORT 1,735,301

CABLE CONVEYING MEANS

Filed Dec. 3, 1926

FIG. 3

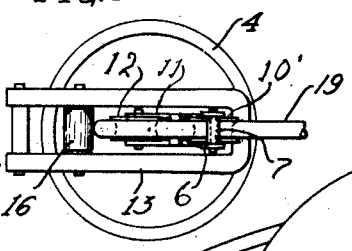


FIG. 2

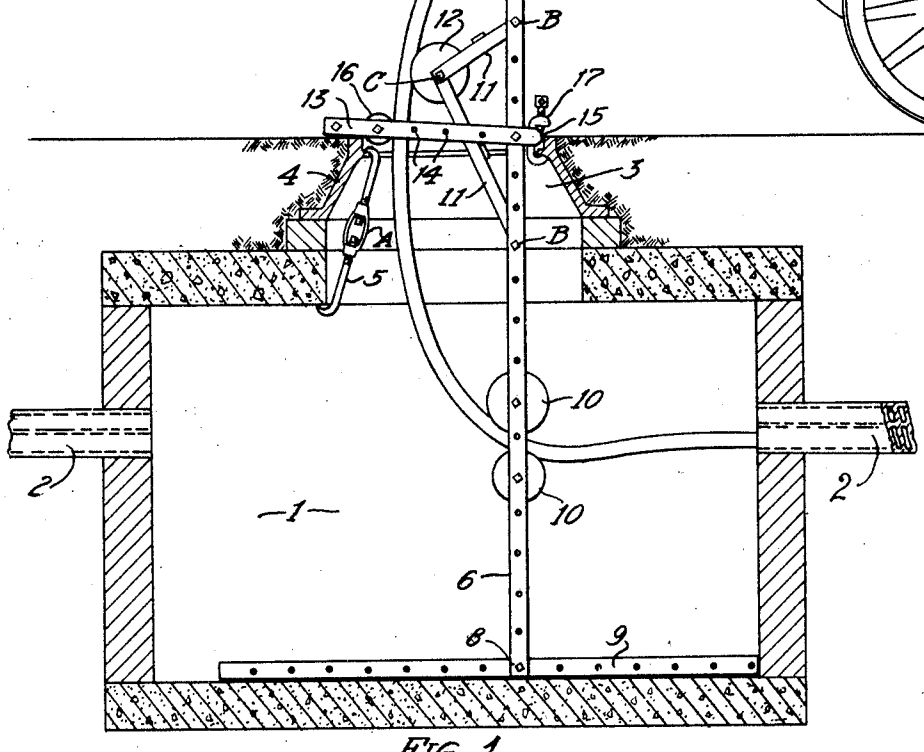


FIG. 1

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CABLE-CONVEYING MEANS

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My invention relates to a cable conveying means for the purpose of uniformly bending the cable as it enters the manhole and conduit of an underground conduit system.

The object of my invention is to provide a portable means that may be placed in the manhole functioning as a conductor to obviate short bends in the cable.

A further object of my invention is to provide a conductor or guiding means that is adjustable to accommodate for differently arranged manholes relative to the position of the underground conduit entering the same.

A still further object of my invention is to provide an inexpensive structure for the purpose described.

These and other objects will hereinafter be more fully explained.

Referring to the drawings:

Fig. 1 is a sectional view through the manhole or working chamber of an underground conduit system with the conducting means in operative position.

Fig. 2 is a view showing the conducting means positioned differently to that shown in Fig. 1, and other positions may be had to meet conditions required.

Fig. 3 is a plan view of Fig. 1.

The conducting means herein disclosed is operatively positioned in a working chamber 1, in which is shown an underground conduit 2 entering the side walls thereof. Concentrically positioned to the chamber is a manhole 3 as accessible means to the working chamber, the said manhole is usually equipped with a collar 4 adapted to receive a lid as a covering (but not shown in the drawings).

The said collar is bound firmly to the overhead slab of the chamber by an anchor 5 having hooks on both ends thereof to engage with the collar and slab as shown in Fig. 1 and tensioned thereto by a turnbuckle A.

The use of the anchor may be eliminated when the collar is surrounded by concrete, but when placed in soft earth the anchor should be applied to prevent removal or sliding of the collar while the mechanism is in operation.

The conducting means consists of a standard 6 comprising two bars placed parallel to each other and joined at the top end by means of a bolt 7 having a separating sleeve thereon, the opposite end being connected by a similar bolt which is removable to insert or engage with a strut bar 9 functioning as a brace for the lower end of the standard as shown in Fig. 1.

Longitudinally spaced and passing through the parallel bars are a plurality of apertures in registry with each other so that the position of the sheaves 10 and 10′ may be varied for the purpose hereinafter described, also as attaching and spacing means for arms 11, the ends of which are attached by pins engaging through apertures in the parallel bars as at B. The said arms are pivotally connected by means of a pin C on which is trunnioned a sheave 12 as bending means for the cable as it is drawn longitudinally toward the underground conduit.

As a rigid supporting means for the standard 6 in proper working relation to the manhole I have provided a rectangular frame 13 having a plurality of apertures 14 spaced along the sides thereof by which means the position of the standard may be varied and attached by a pin as at 15. Trunnioned in the opposite end by means of a pin engaging in similar apertures is a roller 16 functioning as a guard between the cable and the collar and also to incline the bend of the cable towards the sheaves 10. The said frame is rigidly attached thereto by means of a clamp 17 so that the tension of the cable will not cause displacement while in operation. The mechanism thus arranged will operate as follows:

In Fig. 1 is shown a spool 18 having a flexible cable 19 wound thereon, the said spool being mounted on a truck in close proximity

to the manhole preparatory to engaging the conducting means entering the cable with proper curvature to enter the underground conduit in such a way that will avoid abrupt bends causing the wall of the pipe to collapse binding the electric or phone conductors making it difficult to withdraw and replace any portion thereof. This acquirement is obtained by placing the said cable on the sheave 10′ which is trunnioned between the parallel bars and from thence over the sheave 12 and downward between the two sheaves 10 that are positioned to support the cable in axial alignment with the predetermined underground conduit.

As a means to prevent the cable from being damaged by contacting the collar of the manhole I have provided a roller 16 as heretofore described which will also incline the pipe toward the sheaves 10.

It is now readily seen how the cable is conveyed to proper alignment with the underground conduit by rotatably mounted sheaves aligned to properly curve the cable prior to entering the conduit.

In Fig. 2 is shown a different position of the conveying means eliminating the use of the strut bar 9, the standard contacting the side wall of the working chamber as resisting means while the cable is being drawn through the underground conduit.

The mechanism is adjustable in many ways, the sheaves 10′ may be raised or lowered and likewise the sheaves 10 and the last said sheaves may be separated as the slant of the standard may require for proper curvature of the cable. The sheave 12 may be moved to and from the standard by the arms 11 rocking to or from each other, the ends of which may be attached thereto as heretofore described.

Such modifications may be employed as lie within the scope of the appended claim.

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

In a cable conveying means, in combination with the manhole of an underground conduit system, a pair of apertured bars, one end of the bars resting on one side of the manhole, and a clamp for snug engagement, and a second clamp as carrying means for the other end of the bars on the opposite side of the manhole, a roller having a journal to engage in a selected pair of apertures as guiding means for a cable, a pair of apertured bars vertically positioned, a sheave trunnioned in the selected pair of apertures in the upper end of the bars, and a pair of sheaves, each being trunnioned in a selected pair of apertures, the last said sheaves positioned near the lower end of the bars, the said sheaves being the carrying and guiding means for a cable in axial alignment with the conduit, two pairs of arms pivotally connected at the ends, and a sheave trunnioned on the pivot connecting means, each of the opposite ends of said bars being attached by pins engaging in apertures in the vertical bars selected respectively, by which means the last said sheave is moved to and from the vertically positioned bars to cause snug engagement between the last said sheave and the roller, an apertured bar connected to the lower end of the vertical bars, the first said bar functioning as spacing and carrying means for the said vertical pairs of bars.

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