

[54] **CABLE CLAMP**
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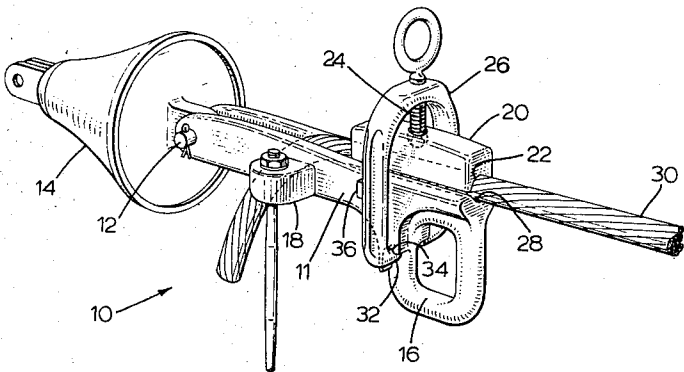
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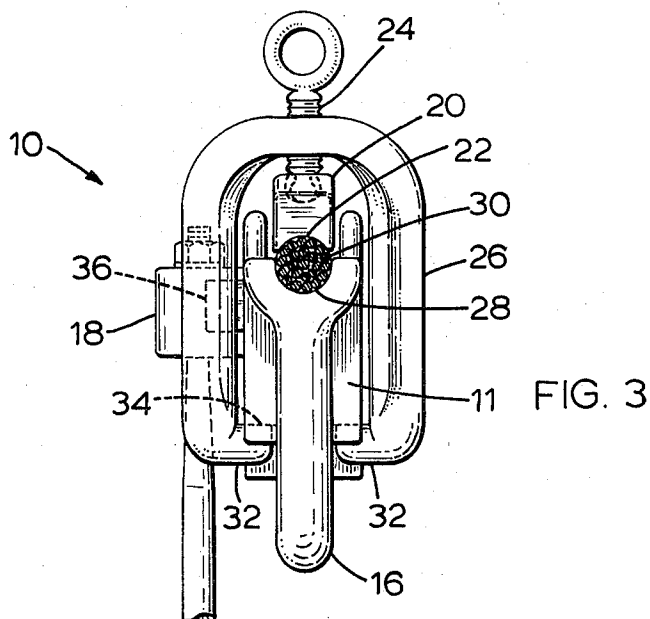
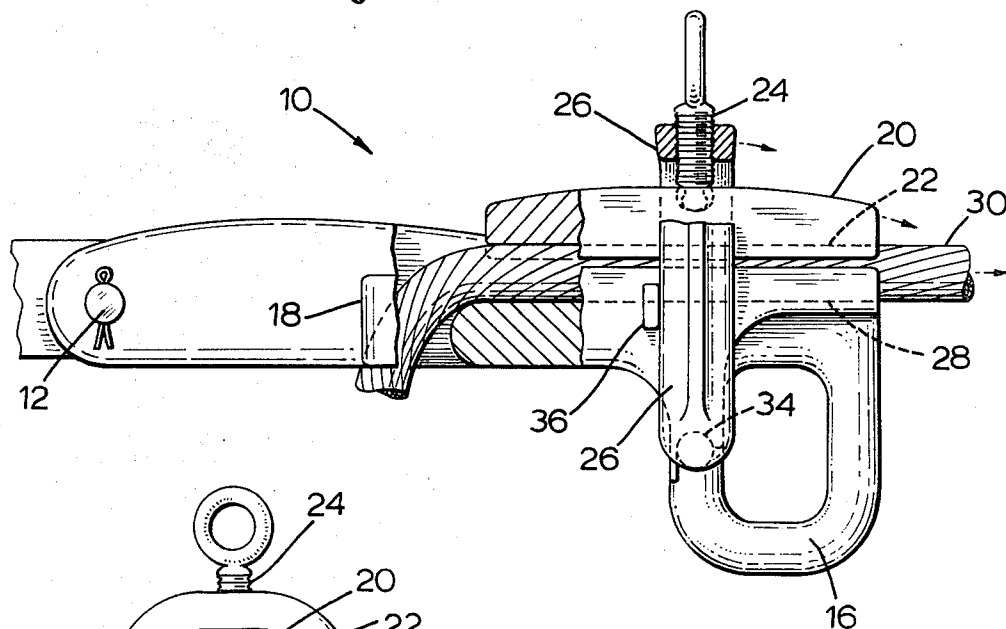
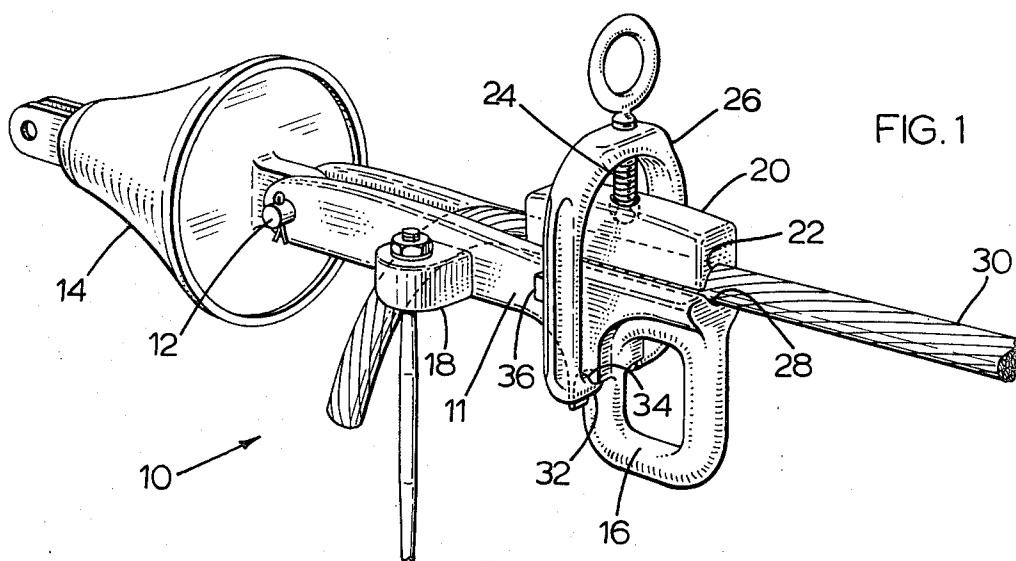
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[57] **ABSTRACT**

This application deals with a clamp that has a body formed with a trough, a shoe having a back and being formed with a trough on its bottom, a stirrup pivotally anchored to the body, support means carried by the stirrup pivotally engaging the back of said shoe to support said shoe in a selected spaced relation with respect to the stirrup with the open top of the trough of the body and the open top of the trough of the shoe in opposed relation to receive a cable therebetween.

2 Claims, 3 Drawing Figures





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CABLE CLAMP

This invention relates to a clamp that is designed to hold the free end of a cable.

The clamp of this invention is useful for dead ending a conductor in the transmission of electrical per energy. In the transmission of electrical energy it is customary to dead end conductors where a transmission line changes direction, at a switching structure and at a floating opener. The common wire sizes encountered in such applications, range from 4 to 795 M.C.M. wire size, and the present day common conductor material is aluminum. While the clamp of this invention is particularly useful in these and other situations in the transmission of electrical power, it is not intended that the invention should be limited in scope to such uses.

There are many different clamping arrangements for cables. They usually involve a type of screw press, which tightens upon the cable. Many of the clamp designs for electrical energy transmission have been developed for hot line working, that is they are developed so that the lineman can change the clamp, or cable without taking the voltage off of the conductor. Mechanical detail of these designs varies considerably, and the modifications are too numerous to deal with in this specification. It is thought sufficient to say for the purposes of this application that the mechanical design of the present invention is thought to be substantially different to that of any known type of practical cable clamp.

Generally speaking, a cable clamp, according to this invention, comprises a body formed with a trough, a shoe having a back and being formed with a trough on its bottom, a stirrup pivotally anchored to the body, support means carried by the stirrup pivotally engaging the back of said shoe to support said shoe in a selected spaced relation with respect to the stirrup with the open top of the trough of the body and the open top of the trough of the shoe in opposed relation to receive a cable therebetween. The invention will be clearly understood after reference to the following detailed specification read in conjunction with the drawings.

In the drawings:

FIG. 1 is a perspective view of a cable clamp according to this invention,

FIG. 2 is a partially sectioned side view of a cable clamp,

FIG. 3 is an end view.

Referring to the drawings the numeral 10 generally refers to a cable clamp. It has a body 11, one end of which is bifurcated and formed with aligned holes to receive a pin 12 whereby the clamp can be connected to an insulator 14 in use. Body 11 also has a chain hoist loop 16 and a jumper cable lug 18 which will be referred to later.

The clamp has a shoe 20 that is formed with a trough 22. Shoe 20 is carried by the free end of a threaded bolt 24, that is in turn threaded into the stirrup 26. It will be noted that bolt 24 is formed at its free end with a ball formation that seats in a spherical opening in the shoe 20. In the construction of the clamp the spherical opening is formed oversized at its open top to permit the ball on the end of the bolt 24 to enter into the spherical opening. The upper opening of the spherical opening is then peened inwardly so that the shoe is pivotally mounted on the free end of the bolt 24 and can be actuated toward and away from the stirrup by threading the bolt 24 in the stirrup.

The body 11 is formed with a trough 28 that is in cooperative relation to the trough 22 of the shoe 20, whereby as the shoe is actuated towards the body, the trough of the shoe and the trough of the body can be caused to embrace and clamp the end of a cable 30.

The stirrup 26 is formed with anchoring lugs 32 at each of

its free ends, which are adapted to pivot on shoulders 34 of the body.

In use the free end of a cable 30 is inserted in between the opposed cooperating troughs 22 and 28 of the shoe and body respectively. The bolt 24 is turned towards the cable to force the shoe 20 against the cable. In this position the stirrup axis which is a line through the pivot point of the stirrup 26 on the base 11 and the pivot point of the shoe on the bolt 24 intersects the longitudinal axis of the space defined between the cooperating troughs at right angles.

As tension is applied to the cable 30, which is sufficient to pull it out of the clamp, the cable carries the shoe 20 with it. Shoe 20 is connected by means of bolt 24 to the stirrup with the result that the stirrup swings about its pivot point from left to right, as shown in FIG. 2. The stirrup axis becomes inclined to the direction of the axis of the troughs and the shoe 20 is swung to the right and downwardly against the cable, with the result that the clamping pressure is increased. Thus any tendency of the cable 30 to dislodge from the clamp, will result in an increasing clamping action of the clamp on the cable. The result is that the clamp can never let go of the cable as a result of tension.

It is important that the stirrup axis should not swing rearwardly of the position where it intersects the longitudinal axis of the troughs 22 and 28 at right angles because in such a case the initial movement of the clamp 20 forward, as it was carried by the cable would be to the right but in an upward direction that would loosen the gripping of the clamp on the cable. To prevent this type of situation from occurring on initial clamping of the cable a lug 36 is provided on the body 10 to prevent the rearward swing of the stirrup axis beyond the position where it intersects the trough axis at right angles.

The essential thing in the use of the invention is that the line joining the point of pivotal connection of the stirrup to the base and the point of pivotal connection of the bolt 24 and the back of the shoe 20 should be at right angles to the axis of the cable or inclined forwardly of the right angle positions so that forward movement of the shoe will have a downward and clamping motion. The lug 36 ensures such a disposition by limiting the rearward movement of the stirrup.

In use the clamp secures the end of a cable as shown in FIG. 1. The end of the cable is normally raised to the clamp by means of a chain hoist that is secured to the loop 16. Lug 18 is for securement of a jumper cable as illustrated.

What we claim as our invention is:

1. A cable clamp comprising
 - a. a body formed with a trough,
 - b. a shoe having a back and a bottom said shoe being formed with a trough on its bottom,
 - c. a stirrup pivotally anchored to said body,
 - d. support means for said shoe carried by said stirrup, said support means being pivotally connected to the back of said shoe so that said shoe is swingable in a longitudinal trough direction about the pivot connection, said support means being adjustable with respect to said body to support said shoe in a selected spaced relation with respect to said body with the open top of said trough of the body and the open top of said trough in said shoe in opposed relation to receive a cable therebetween.

2. A cable clamp as claimed in claim 1 having a stop means on said body engageable by said stirrup to limit pivotal movement of said stirrup rearwardly of said body to a position where the line through the pivotal connection of said stirrup and said body and the pivotal connection of said support means and said shoe is at right angles to the axis of said trough in said body and said trough in said bottom of said shoe.

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