March 8, 1938. O. F. TALLMAN 2,110,408

CABLE CLAMP

Filed Aug. 10, 1936

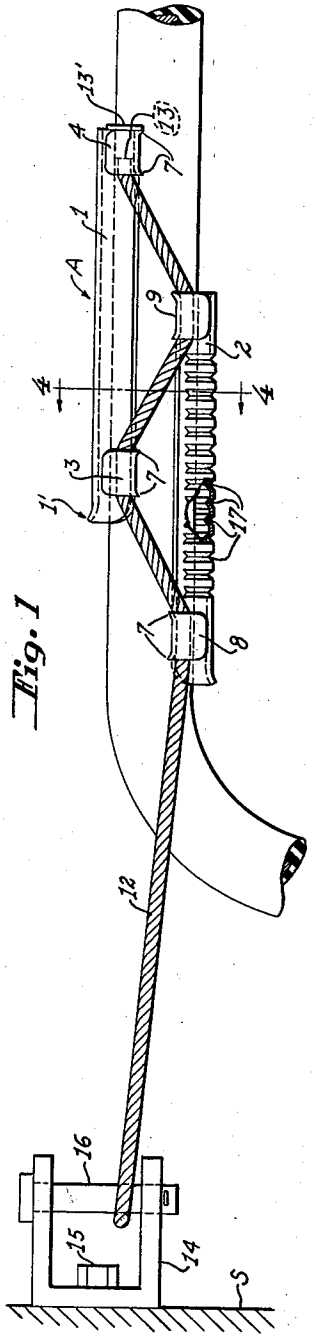


Fig. 1

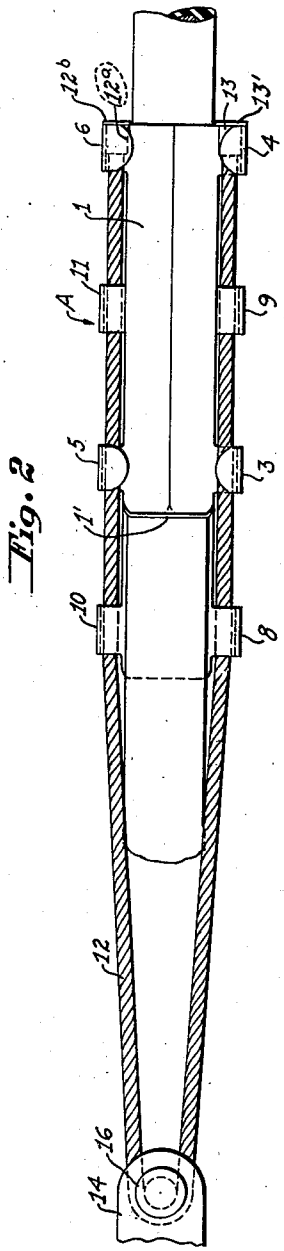


Fig. 2

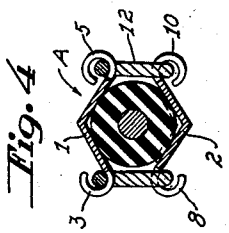


Fig. 4

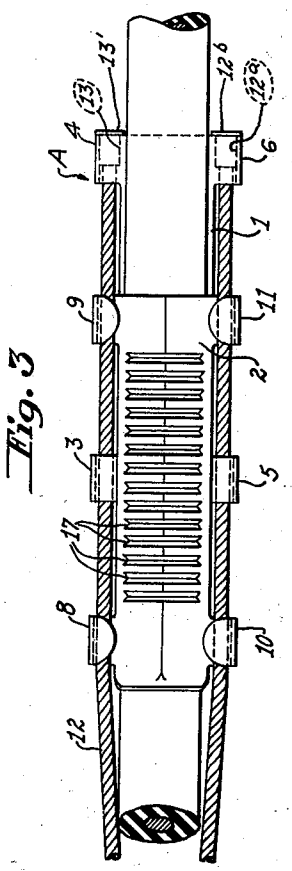


Fig. 3

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CABLE CLAMP

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3 Claims. (Cl. 24—123)

This invention relates generally to cable clamps, and more specifically to cable clamps of the type adapted for permanently supporting an electric cable, as for dead-ending such a cable, the predominant object of the invention being to provide a cable clamp of this type which, though of extremely simple and inexpensive construction performs its intended function in a highly efficient manner.

There has been for some time a demand for a simple clamping device which would permanently support, as for purposes of dead-ending, an insulated electric cable. The gripping effect of such a clamping device should be commensurate with the strength of the cable and yet serve its intended purpose without damaging the protective insulation surrounding the one or more conductors within the protective insulation. Some of the clamps now available to the trade are unsatisfactory in failing to fully meet these requirements, while others of the available clamps are undesirable because their complex nature renders them quite expensive to manufacture.

The prime purpose of this invention is to produce a clamp of the type mentioned, which is of extremely simple and inexpensive construction and which, in spite of its simple and inexpensive construction, performs its intended function in a highly efficient manner.

Fig. 1 is a side elevation of the improved cable clamp showing same as it appears when in use, a part of the clamp being shown in section.

Fig. 2 is a plan view of the cable clamp and associated parts shown in Fig. 1, a part of the anchoring means being broken away.

Fig. 3 is a fragmentary, inverted plan view of the improved cable clamp as shown in Fig. 1, with a fragment of an electric cable associated therewith in clamped relation.

Fig. 4 is a sectional view taken on line 4—4 of Fig. 1.

In the drawing, wherein is shown for the purpose of illustration, merely, one embodiment of the invention, A designates the improved cable clamp generally. The cable clamp A comprises a pair of cable-gripping elements 1 and 2 formed of sheet metal or other suitable material, which, when the clamp is in use, engage the cable B that is supported by the clamp in gripping relation with respect thereto. When viewed in cross-section the gripping element 1 is of substantially inverted V-shaped formation as shown in Fig. 4, and at each side edge of said gripping element 1 a pair of spaced, laterally extended portions is provided which are shaped and formed to provide eyes, the eyes at one side edge of the gripping element 1 being designated by the reference characters 3 and 4 and the eyes at the opposite side edge of said gripping element being designated by the reference characters 5 and 6. It is to be noted that the forward edge of the gripping element 1 is flared slightly, as indicated at 1', while the lower portions of the eyes 3, 4, 5, and 6 of said gripping element are similarly flared at their forward and rear ends, as indicated at 7.

The gripping element 2, when viewed in cross-section, is of V-shaped formation, and said gripping element 2 is provided at each side edge with a pair of laterally extended portions which are shaped and formed to provide eyes, the eyes at one side edge of the element 2 being designated by the reference characters 8 and 9, while those at the opposite side edge of said element are designated by the reference characters 10 and 11.

It is to be noted that the eyes of the gripping element 1 are curved upwardly from the side edges of said element, while the eyes of the gripping element 2 are curved downwardly from the side edges of said element 2. Also, as is shown clearly in Fig. 4, the eyes 5 and 6 at one side of the gripping element 1 and the eyes 10 and 11 at the corresponding side edge of the gripping element 2 are substantially closed, while the eyes 3, 4, 8, and 9 at the opposite side edges of the gripping elements 1 and 2 are open. It is to be noted that the forward, lower portion of the gripping element 2 is flared and that the opposite end portions of the eyes of said gripping element 2 are also flared.

Associated with the gripping elements 1 and 2 is a flexible, metallic cable 12, one end of which is secured to the eye 6 of the gripping element 1. This attachment of the cable 12 to the eye 6 may be accomplished in various ways; for instance, the end of the cable may have attached to it a head element in the form of a sleeve 12a having a flange 12b at one end which contacts with an end face of the eye 6, and said eye may be forced into clamping relation with respect to said head element. From the eye 6 the cable 12 extends forwardly and downwardly to and through the eye 11 of the gripping element 2, from said eye 11 upwardly and forwardly to and through the eye 5 of the gripping element 1, and from the eye 5 downwardly and forwardly to and through the eye 10 of the gripping element 2. From the eye 10 the cable extends forwardly and then rearwardly to form an elongated loop, the return side of which passes through the eye 8 of the gripping element 2, then rearwardly and upwardly to and through the

eye 3 of the gripping element 1, then downwardly and rearwardly to and through the eye 9 of the gripping element 2 and upwardly and rearwardly to the eye 4 of the gripping element 1. The end of the flexible cable 12 which is associated with the eye 4 of the gripping element 1 has secured thereto a head element 13 provided with a flange 13' at its rear end. The head element 13 is disposed within the eye 4 and the flange contacts with the rear edge of said eye so that the flexible cable may not be pulled from said eye.

It is important to note that the flexible cable may move slidingly through all of the eyes of the gripping elements other than the eyes 4 and 6 of the gripping element 1. Also it is obvious that the flexible cable is confined for such sliding movement within the closed eyes 5, 10, and 11, so that said flexible cable may not be displaced from said eyes while said flexible cable may be moved into and out of the eyes 3, 8, and 9 through their open mouths, as shown in Fig. 4, wherein the eyes 5 and 10 are shown closed while the eyes 3 and 8 are illustrated as being open to permit passage of the flexible cable transversely into and out of said eyes 3 and 8. The eye 4 of the gripping element 1 is also open, as already stated herein, and therefore the flexible cable may be passed into said eye through the open mouth thereof, as already explained in connection with the eyes 3, 8, and 9. When the flexible cable is to be introduced into the eye 4, the head 13 is drawn rearwardly of said eye and the flexible cable is passed transversely thereinto through the open mouth of the eye. The flexible cable is then drawn forwardly so as to draw the head 13 into the eye 4 and the flange 13' of said head into contact with the rear edge of said eye.

In order to attach the improved cable clamp A to a support S, a substantially U-shaped bracket 14 is employed which is secured to said support by a suitable fastening device 15. A pin 16 is passed through apertures formed through the spaced legs of the bracket 14, and this pin extends through and is engaged by the outer end of the elongated loop produced by the flexible cable 12, as shown in Figs. 1 and 2.

In applying the improved cable clamp to an electric cable the flexible cable 12 is withdrawn from the eyes 3, 8, and 9, and the end of the flexible cable is detached from the eye 4 by withdrawing the head 13 from said eye. This permits the gripping elements 1 and 2 to be spread apart at one side of the device so that the device may be passed laterally onto the electric cable in such position that the gripping element 1 is in contact with the top portion of the electric cable and the gripping element 2 in contact with the lower portion of said electric cable.

The flexible cable is then arranged in the eyes 3, 8, and 9 in the manner already described, and the end of the flexible cable is attached to the eye 4 through the instrumentality of the head 13. The outer end of the elongated loop produced by the flexible cable 12 is then extended between the spaced legs of the bracket 14 and the pin 16 is passed through said outer end of said elongated loop.

With the improved clamp so assembled and arranged in association with the electric cable B and the support S, the tensional strain applied to the flexible cable 12 by the weight and sag of the electric cable B will cause the gripping elements 1 and 2 to be drawn into tight, gripping contact with the electric cable by the tendency of the flexible cable to assume a straight line position under the tensional strain applied thereto, and therefore the electric cable will be very tightly gripped by the cable clamp. An important characteristic of the improved cable clamp is that the gripping action between the elements 1 and 2 and the electric cable is in direct proportion to the extent of the tensional strain applied to the flexible cable 12, hence increased pull by the electric cable results in increased gripping action by the clamp, which effectively prevents slippage of the electric cable with respect to the clamp. Attention is directed to the fact that the flared, forward ends of the gripping elements 1 and 2 and the flared portions of the eyes prevent cutting of the electric cable and of the flexible cable by sharp edges of said gripping elements and eyes.

If desired, the gripping element 2 may be provided with transverse, inwardly extended ribs 17 which bite into the insulation of the electric cable B and thus increase the gripping action of said gripping element.

By providing the gripping element 2 with the ribs referred to and employing a gripping element 1 which is provided with a substantially smooth inner face, the element 2 is constituted an anchor element which grips an electric cable with which the improved cable clamp is being associated when the clamp is being drawn to the clamping position by a pull on the flexible cable 12, and during such pull on the flexible cable the element 1 is drawn slidingly along the electric cable until the proper gripping action is obtained. In this manner the element 1 of the improved clamp is adjusted to its proper relation with respect to the element 2 to obtain the desired maximum gripping action on the electric cable engaged by the clamp.

I claim:

1. A cable clamp comprising a pair of cable-gripping elements adapted for arrangement in contact with a cable, and flexible means adapted to be anchored to a support, said cable-gripping elements being each provided with a pair of transversely alined extensions located at opposite sides thereof at points adjacent to one end of the cable-gripping element and a pair of transversely alined extensions located at opposite sides thereof at points adjacent to the opposite end of the cable-gripping element, said cable-gripping elements being disposed in staggered relation when in their operative cable-gripping arrangement so that said extensions of each cable-gripping element are disposed in staggered relation with respect to said extensions of the associated cable-gripping element, said flexible means having opposed portions located at opposite sides of the assembled cable-gripping elements each of which is extended longitudinally of the assembled cable-gripping elements at a single side thereof, said opposed portions of said flexible means being extended symmetrically at opposite sides of the assembled cable-gripping elements and being arranged to alternately engage said extensions of said cable-gripping elements in such manner that tensional strain applied to said flexible means will draw said cable-gripping elements toward each other into gripping contact with the cable.

2. A cable clamp comprising a pair of cable-gripping elements adapted for arrangement in contact with a cable, and flexible means adapted to be anchored to a support, said cable-gripping elements being each provided with a pair of transversely alined eyes located at opposite sides thereof at points adjacent to one end of the cable-

gripping element and a pair of transversely alined eyes located at opposite sides thereof at points adjacent to the opposite end of the cable-gripping element, said cable-gripping elements being disposed in staggered relation when in their operative cable-gripping arrangement so that the eyes of each cable-gripping element are disposed in staggered relation with respect to the eyes of the associated cable-gripping element, said flexible means having opposed portions located at opposite sides of the assembled cable-gripping elements each of which is extended longitudinally of the assembled cable-gripping elements at a single side thereof, said opposed portions of said flexible means being extended symmetrically at opposite sides of the assembled cable-gripping elements and being arranged to alternately engage the eyes of said cable-gripping elements in such manner that tensional strain applied to said flexible means will draw said cable-gripping elements toward each other and into gripping contact with the cable.

3. A cable clamp comprising a pair of cable-gripping elements formed from sheet material into substantially V-shaped cross-sectional form and adapted for arrangement in contact with a cable, and flexible means adapted to be anchored to a support, said cable-gripping elements being each provided with a pair of integrally formed transversely alined eyes located at opposite sides thereof at points adjacent to one end of the cable-gripping element and a pair of integrally formed transversely alined eyes located at opposite sides thereof at points adjacent to the opposite end of the cable-gripping element, said cable-gripping elements being disposed in staggered relation when in their operative cable-gripping arrangement so that the eyes of each cable-gripping element are disposed in staggered relation with respect to the eyes of the associated cable-gripping element, said flexible means having opposed portions located at opposite sides of the assembled cable-gripping elements each of which is extended longitudinally of the assembled cable-gripping elements at a single side thereof, said opposed portions of said flexible means being extended symmetrically at opposite sides of the assembled cable-gripping elements and being arranged to alternately engage the eyes of said cable-gripping elements in such manner that tensional strain applied to said flexible means will draw said cable-gripping elements toward each other and into gripping contact with the cable.

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