

April 10, 1928.

1,665,531

E. K. COLE

CABLE CLAMP

Filed June 21, 1926

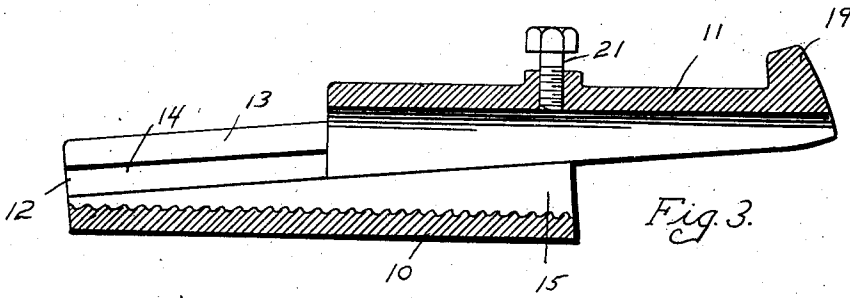


Fig. 3.

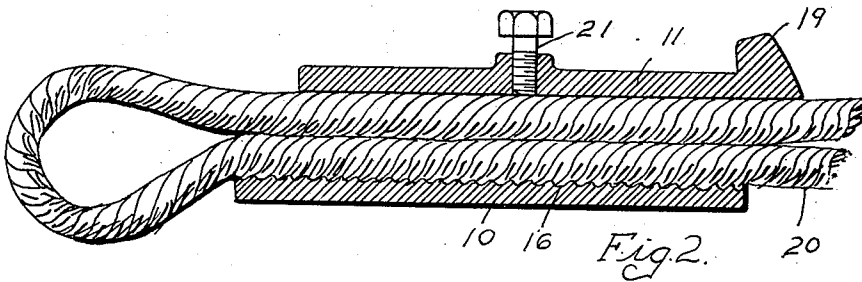


Fig. 2.

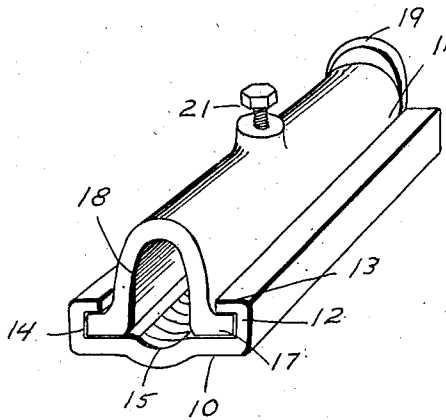


Fig. 1.

Inventor
Elmer K. Cole
by Craig & Hauger Attys.

UNITED STATES PATENT OFFICE.

ELMER K. COLE, OF WINTERSET, IOWA.

CABLE CLAMP.

Application filed June 21, 1926. Serial No. 117,559.

This invention relates to cable clamps of that type which is designed to splice adjacent ends of two cables together, or to secure the free end of one of the cables adjacent to the body portion of the cable when forming a loop.

The object of my invention is to provide a cable clamp of simple, durable and inexpensive construction, which may be easily and quickly applied to splice the adjacent ends of two separate cables or to form a loop on one end of a cable.

More specifically it is the object of my invention to provide a cable clamp of very simple construction which may be easily applied to the cables, and when so applied will form a rigid grip between the splice members, so arranged that any tension on the members to separate them will cause the clamp to become tightened without destroying or cramping the strands of the cable.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims, and illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my improved cable clamp.

Figure 2 is a longitudinal sectional view of the same showing my improved clamp applied to the loop portion of a cable for securing the free end of the cable adjacent to the main body portion.

Figure 3 is a longitudinal sectional view of the clamp moved to a partially closed position.

My improved cable clamp comprises a stationary body member 10 and a movable body member 11. The stationary body 10 has each edge provided with laterally projecting member 12 terminating in an inwardly projecting portion 13. The members 12 are parallel and the members 13 are parallel with the body portion 10, to form slide grooves 14.

The inner face of the central portion of the body 10 is provided with a cable groove 15 which is tapered at one end. The bottom of said groove 15 is rounded and provided with transversely arranged grooves or corrugations 16, which are preferably slightly inclined relative to the transverse axis of

said body portion to fit into the helical grooves of the cable formed by the twisted strands. The depth and width of the groove 15 at its enlarged end is substantially equal to the diameter of the cable which it is designed to receive.

The body member 11 has its edges 17 designed to slidably travel in the grooves 14. The inner face of said body portion 11 is provided with a longitudinal groove 18 which has its bottom rounded and formed smooth. Said groove 18 is tapered at one end, and is of a depth and width substantially equal to the diameter of the cable which it is designed to receive.

The smaller end of the body portion 11 is provided with an outwardly projecting lug 19 which serves to provide a reinforced head, by means of which the member 11 may be driven into position within the grooves 14 of the member 10.

The device is operated as follows: Assuming that it is desired to form a loop in one end of a cable 20, in the manner illustrated in Figure 2, in which the free end of said cable 20 is folded adjacent to the body portion, then the body portion 10 is grasped and placed in position with the cable 20 in the groove 15 with the enlarged end extending inwardly, after which the member 11 is grasped with the enlarged end extending outwardly and placed in position over the free end of the cable with the members 17 in alinement with the members 14, after which the said member 11 may be moved outwardly relative to the member 10 and set into position by tapping the head 19 with a light hammer, after which the said member 11 may be locked to the free end of the cable by means of a set screw 21 mounted in the said member 11, thereby providing a firm and rigid connection between the free end of the cable and its body portion in which the said ends will be firmly clamped together.

It will be seen that if power is applied to the loop portion of the cable, and the main body portion of the cable held stationary, there will be a tendency for the free end of the cable to move outwardly, which will cause the member 11 to move outwardly and the two members to be clamped tightly together. The set screw 21 prevents any sliding movement between the cable and the

said member 11, while the corrugations 16 will prevent movement of the member 11 relative to the main cable 20, so that any sliding action will have to be between the members 17 and the grooves 14. It will be seen that a clamping action between the two members will be imparted without the use of any auxiliary wedges or complicated mechanisms.

The device is equally as well adapted to be used for joining the adjacent ends of two separate cables together, which is accomplished in the same manner as above described, the two adjacent ends first being laid side by side and the clamping members applied.

One of the important features of my device lies in providing one of the clamping members with corrugated grooves in the bottom, while the groove of the movable member is formed with a smooth surface to permit said movable member to slide relative to its adjacent cable and the stationary member, without moving the free end of the cable relative to the main body portion. It will readily be seen that when the two adjacent cables are laid side by side, the outer strands of one cable will rest within the spaces between the outer strands of the adjacent cable, thereby having a tendency to prevent any sliding movement of one cable relative to the other, while the clamps are being moved into position. This would hinder the movement of the slidable member if it were provided with a corrugated surface similar to the stationary member. However, after the movable member has been set, it is advantageous to secure the free end of the cable to the said movable member, which I have accomplished by means of the set screw 21, which provides means whereby, if the strain should become great enough to cause the free end of the cable to slip relative to the main body portion, then the movable member will be dragged or moved relative to the stationary member, and further clamping action imparted.

It should be further noted that my cable clamp comprises essentially two castings, which may be formed without any special machine work, any other than a grinder for smoothing the surfaces of the members 17, and then applying the set screw 21. I am aware that a number of cable clamps have been placed on the market in which various wedge devices are employed. So far as I am aware, all of these devices have the wedging members separate from the main body portion. Often the complete clamp comprises a number of pieces which have to be properly assembled under unfavorable circumstances when joining two stiff and troublesome cable members. The advantage gained by few parts in a device of this kind is emphasized by the fact that each size of cable requires a

corresponding clamp, making it necessary for the operator to carry a considerable supply of parts of various sizes.

I claim as my invention:

1. A cable clamp comprising two clamping members, one slidably mounted longitudinally with the other, each of said clamping members having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other, the deeper end of one groove lying adjacent to the shallow end of the opposite groove.

2. A cable clamp comprising a stationary and a movable member, one slidably mounted longitudinally with the other, each of said cable clamps having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other, the deeper end of one groove lying adjacent to the shallow end of the opposite groove, the groove of said stationary member being provided with a series of transversely arranged corrugations, while the groove of the movable member has its inner face formed smooth.

3. A cable clamp comprising a stationary and a movable member, one slidably mounted longitudinally with the other, each of said cable clamps having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other, the deeper end of one groove lying adjacent to the shallow end of the opposite groove, the groove of said stationary member being provided with a series of transversely arranged corrugations, while the groove of the movable member has its inner face formed smooth, said movable member being provided with a set screw, for the purposes stated.

4. A cable clamp comprising a stationary and a movable member, one slidably mounted longitudinally with the other, each of said cable clamps having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other, the deeper end of one groove lying adjacent to the shallow end of the opposite groove, the groove of said stationary member being provided with a series of transversely arranged corrugations, while the groove of the movable member has its inner face formed smooth, said movable member being provided with a set screw, said movable member also being provided at one end with a head portion.

5. A cable clamp comprising a stationary member and a movable member, one of said members being provided with longitudinal grooves to slidably receive the edges of the other member with their inner faces adjacent, the inner face of each of said members being provided with a longitudinal cable receiving groove, one end of each of said

grooves being deeper than the other, the deeper end of one groove being arranged adjacent to the shallow end of the opposite groove when the members are in a closed position.

6. A cable clamp comprising a stationary member and a movable member, one of said members being provided with longitudinal grooves to slidably receive the edges of the other member with their inner faces adjacent, the inner face of each of said members being provided with a longitudinal cable receiving groove, one end of each of said grooves being deeper than the other, the deeper end of one groove being arranged adjacent to the shallow end of the opposite groove when the members are in a closed position, the cable receiving groove of said stationary member being provided with transversely arranged corrugations, while the cable receiving groove of the slidable member is provided with a smooth surface.

7. A cable clamp comprising a stationary member and a movable member, one of said members being provided with longitudinal grooves to slidably receive the edges of the other member with their inner faces adjacent, the inner face of each of said members being provided with a longitudinal cable receiving groove, one end of each of said grooves being deeper than the other, the deeper end of one groove being arranged adjacent to the shallow end of the opposite groove when the members are in a closed position, the cable receiving groove of said stationary member being provided with transversely arranged corrugations, while the cable receiving groove of the slidable member is pro-

vided with a smooth surface, said movable member being provided with a set screw, for the purposes stated.

8. A cable clamp comprising two clamping members, one slidably mounted longitudinally with the other, each of said members having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other and arranged in opposite directions, so that the combined grooves will form an oblong cable receiving opening having its thickness substantially equal to the diameter of the cable to be clamped and its width substantially equal to twice the diameter of the cable when the clamping members have been moved to position to form an opening of maximum width.

9. A cable clamp comprising two clamping members, one slidably mounted longitudinally with the other, each of said members having its inner face provided with a longitudinal cable receiving groove, each of said grooves being deeper at one end than the other and arranged in opposite directions, so that the combined grooves will form an oblong cable receiving opening having its thickness substantially equal to the diameter of the cable to be clamped and its width substantially equal to twice the diameter of the cable when the clamping members have been moved to position to form an opening of maximum width, the inner face of the groove of one of said clamping members being provided with transverse corrugations.

Des Moines, Iowa, June 5, 1926.

ELMER K. COLE.