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CABLE CLAMP

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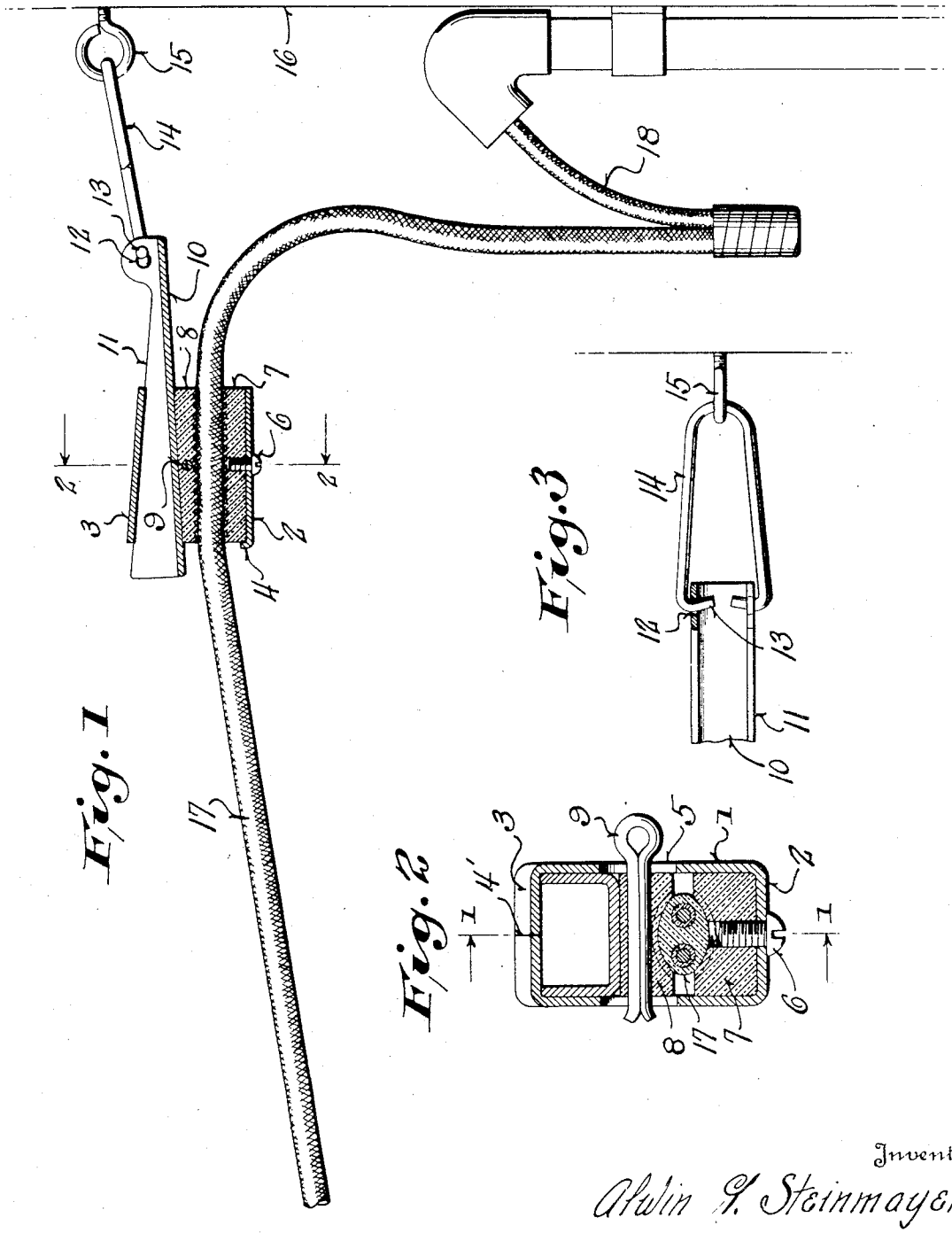


Fig. 1

Fig. 3

Fig. 2

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CABLE CLAMP

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This invention relates to clamps for cables, and is particularly directed to a clamp construction which may be used with a two, three, or other multiple conductor cable, such, for example, as are used for house drops and replace the single conductor cables heretofore used, although the invention in its broader aspects is not limited to use with a multiple conductor cable.

In using these cables it is desirable that the weather-proof wrapping which encases all of the wires be left undisturbed or undamaged even when it is attached in place, and it is also desirable to leave the wrapping undisturbed until the splice is made at both the building end and the pole end of the cable.

Objects of this invention are to provide a clamp which is so constructed that it will securely grip and permanently hold a cable, whether a single or a multiple conductor cable, without damage to the weather-proof wrapping, without any possible chance of slipping of the cable, and without any chance of causing a short circuit or grounding of the wires in the cable.

Further objects of this invention are to provide a novel form of clamp which is so constructed that the cable is gripped between insulating jaws in a very secure manner so the pull upon the cable serves to tighten the gripping of the jaws thereon, and which is so made that there is no possible chance of relative slipping of the jaws one past the other, but which instead is so made that an accurate alignment of the jaws takes place at all positions of adjustment, thus preventing one jaw from sliding past the other and producing undesirable cutting and damage to the cable and insecure gripping of the cable.

Further objects are to provide a clamp in which a simple and substantial means is provided for readily attaching it to the supporting structure in a manner to prevent a sharp kink in the cable and to permit the cable to be readily looped down for any attachments or connections.

Further objects are to provide a clamp for a cable which is so made that it may be easily attached either to a hook, a closed eyelet, or any other device of this type, and which will freely adjust itself roughly in approximate alignment with the cable, so that the minimum strain is placed upon the several parts.

Further objects are to provide a clamp which is so constructed that the major portions of the clamp aside from the jaws may be made from stampings, in which the jaws may be made from any suitable insulating material, and in which both of the jaws are securely held in place against displacement, at least one of the jaws being freely guided to permit the ready adjustment of this jaw to secure clamping of the cable between the jaws.

Further objects are to provide a clamp construction which is so made that the entire body of each of the jaws bears the strain at all times, and in which the strain is not borne by any relatively delicate or fragile parts.

Further objects are to provide a clamp construction which is very cheap to make, which is rugged and reliable, and which is easy to manipulate.

An embodiment of the invention is shown in the accompanying drawings, in which:—

Figure 1 is a longitudinal sectional view through the clamp, such view corresponding to a section on line 1—1 of Figure 2.

Figure 2 is a transverse sectional view on the line 2—2 of Figure 1.

Figure 3 is a fragmentary plan view of the bail portion of the device.

Referring to the drawings, it will be seen that the clamp comprises a rectangular shell or casing 1, which is formed from a stamping and has a flat bottom 2, side walls, and a top 3. This top is preferably formed by inturning the edges of the stamping, and the joint indicated at 4′ in Figure 2 may be welded or brazed, or if desired it may be left open, although the preferred construction is to unite these edges. It is to be noted from Figure 1 that the top slants downwardly towards the rear, and that the front edge of the bottom 2 is upturned to provide a small lip 4.

The side walls are provided with elongated slots 5 for a purpose hereinafter to appear,

and the bottom wall is preferably apertured for the reception of a screw 6.

The lower and upper insulating jaws 7 and 8 respectively are positioned within the rectangular shell or body portion. The lower jaw 7 contacts with the lip 4 and is preferably locked in place by means of the screw 6, although obviously other securing means could be employed. The upper jaw 8 is provided with any suitable pin, for example, the split pin 9, which projects through the slots 5 and slideably guides the upper jaw to permit such upper jaw to move towards or from the lower jaw, but to preclude longitudinal motion of the upper jaw with respect to the lower jaw, thus maintaining alignment of the jaws at all times.

A wedge member 10 is provided and is preferably formed from a sheet metal stamping. This wedge member is channel-shaped and is provided with tapered side walls 11, which bear against the underside of the slanting top as shown in Figures 1 and 2. The flat bottom contacts with the flat upper surface of the upper clamping jaw or member. Preferably the upper jaw has its upper surface slightly tapered, to thus make the jaw somewhat wedge-shaped, as may be seen from Figure 1. The rear portion of the side walls of the wedge are provided with apertures 12, through which the inturned hooked ends 13 of an attaching bail or anchoring member 14 are passed. This bail preferably has the opposed hook-shaped ends slightly rearwardly turned, as shown in Figure 3, to obtain a more secure attachment between the wedge and the bail. However, the bail may be slightly sprung and one of the jaws may be slipped from its opening 12 to allow the hooking of the bail through a closed eye, as indicated at 15, after such eye has been screwed into the supporting structure as indicated at 16 in Figure 1, such, for example, as the side of a house. Thereafter the prong or hooked end of the bail may be reinserted through the opening 12.

The metal body portion, wedge, and bail of the clamp are preferably formed from non-rusting material, or are coated with a non-rusting coat. The clamping jaws 7 and 8 are formed from bakelite, fiber, or other suitable insulating material, so that there is no possible chance of short circuiting or grounding the wires of the cable.

The cable 17 has been illustrated as a multiple conductor cable. This is clearly brought out in Figure 2, and it will be noted that the cable is roughly oval in contour. Obviously the cable may be a single wire cable if desired, although the multiple wire cable is coming into more extended use due to its numerous advantages. The jaws are similarly shaped to the cable, so that an accurate fit is obtained throughout the major portion of the periphery of the cable. It is also preferable to form the jaws with a corrugated or fluted surface to obtain a more secure grip upon the cable.

In using the clamp, all that is necessary is to slip the end of the cable between the jaws, as shown in Figure 1, and allow it to loop downwardly into position for attachment to the house wires 18. The pull of the cable tends to slide the clamping jaws and the body portion of the device outwardly while the wedge 10 is held due to its attachment to the supporting structure. This causes the wedge to force the jaws into clamping engagement with the cable and thus securely locks the cable in place. Obviously the cable may thereafter be easily joined to the other wires without in any way disturbing the clamp.

It is clear from an inspection of Figures 1 and 2 that a very extensive bearing area is provided between the clamping jaws and the cable and, consequently, the pressure per unit area is sufficiently small so that no damage is done to the insulating covering or wrapping of the cable. However, a very firm grip is obtained, and the somewhat yielding covering or wrapping of the cable readily conforms or fits itself to the corrugated faces of the clamping jaws, thus practically interlocking with these jaws.

It will be seen that a very secure attachment of the wires to the supporting structure is obtained and one which may be readily manipulated with the utmost ease.

It is to be noted also that the construction is such that the jaws cannot even through improper handling become misplaced or positioned out of alignment with each other. The construction is such that one jaw cannot slip forwardly of the other jaw with consequent excessive pressure upon the gripped portion of the cable. Instead the jaws are always maintained in alignment and, consequently, the maximum bearing area is always presented between the jaws and the cable.

It will be seen further that the device is very simple, is easy to construct, and is relatively cheap.

Although this invention has been described in considerable detail, it is to be understood that such description is intended as illustrative rather than limiting, as the invention may be variously embodied and is to be interpreted as claimed.

I claim:

1. A cable clamp comprising a shell-like body portion, a pair of cable-clamping jaws located within said body portion with one of the jaws movable toward the other jaw, and an attaching member having a wedge-like portion for forcing the movable jaw toward the other jaw to cause the jaws to grip a cable, said wedge-like portion being movable independently of either jaw.

2. A cable gripping clamp comprising a

metal, shell-like body portion, means for anchoring said body portion to a supporting structure, a pair of insulating jaws carried within said shell-like body portion, and means separate from said jaws for forcing said jaws into clamping engagement with said cable when tension is placed upon said cable.

3. A cable clamp comprising a shell-like body portion formed of sheet metal, a pair of cable gripping jaws located within said body portion, a wedge-like member slidably mounted within said body portion for forcing said jaws into binding engagement with a cable, and an anchoring member attached to said wedge-like member, said wedge-like member being distinct and separate from said jaws.

4. A cable clamp comprising a shell-like body portion formed of sheet metal, a pair of cable-gripping jaws located within said body portion, one of said jaws being attached to said body portion and the other jaw being slidably held by said body portion, a wedge-like member slidably mounted within said body portion for forcing said jaws into binding engagement with a cable, and an anchoring member attached to said wedge-like member.

5. A cable clamp comprising a body portion, a pair of cable-gripping jaws carried by said body portion, means for maintaining alignment of said jaws and permitting relative movement of said jaws, a wedge-like member for forcing said jaws into binding engagement with a cable, and means attached to said wedge-like member for attachment to a support.

6. A cable clamp comprising a body portion, a pair of cable-gripping jaws carried by said body portion, means for maintaining alignment of said jaws and permitting relative movement of said jaws, a wedge-like member for forcing said jaws into binding engagement with a cable, and a bail pivotally attached to said wedge-like member for attachment to a support.

7. A cable clamp comprising a shell-like, metal body portion of approximately rectangular cross section, having a bottom, a pair of side walls provided with slots, and a top; a pair of cable clamping jaws carried within said body portion, one of said jaws being rigidly attached to the body portion, and the other of said jaws being slidably carried by said body portion; a pin carried by said slidable jaw and guided within said slots to maintain alignment of said jaws; a wedge-like member longitudinally slidable within said body portion and bearing against said slidable jaw; and attaching means secured to said wedge-like member.

8. A cable clamp comprising a shell-like, metal body portion of approximately rectangular cross section, having a bottom, a pair of side walls provided with slots, and a top; a pair of cable clamping jaws carried within said body portion, one of said jaws being rigidly attached to the body portion, and the other of said jaws being slidably carried by said body portion, said jaws being contoured to fit a cable and being serrated; a pin carried by said slidable jaw and guided within said slots to maintain alignment of said jaws; a wedge-like member longitudinally slidable within said body portion and bearing against said slidable jaw; said wedge-like member being formed of channel shape sheet metal; and attaching means secured to said wedge-like member.

9. A cable clamp comprising a shell-like body portion, cable gripping means located within said body portion, a wedge-like member slidably mounted within said body portion for forcing said gripping means into binding engagement with a cable, said wedge-like member being of channel shape and having tapered marginal edges engaging said body portion, and an anchoring member attached to said wedge-like member.

In testimony whereof, the signature of the inventor is affixed hereto.

ALVIN G. STEINMAYER.