Aug. 3, 1937. A. W. MALONE 2,088,755

GUY CLAMP

Filed April 20, 1936

Fig. 2.

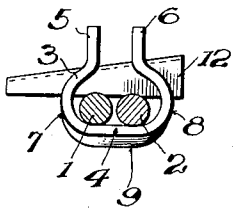


Fig. 1.

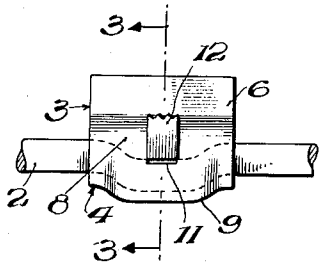


Fig. 3.

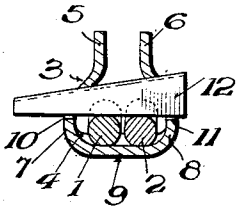


Fig. 4.

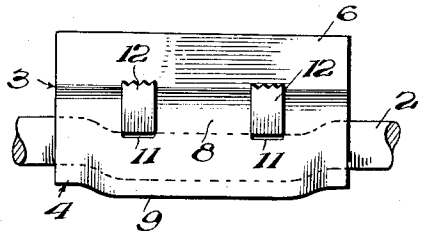


Fig. 6.

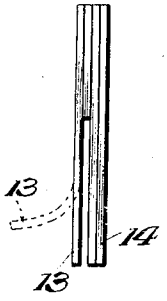
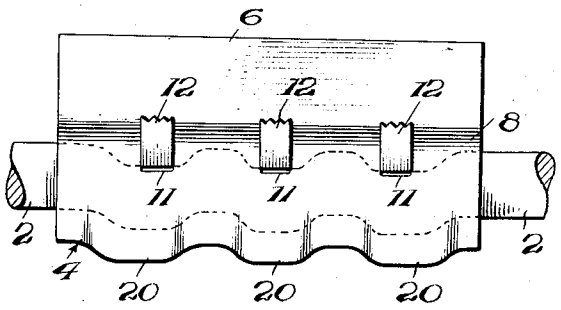


Fig. 5.



Inventor

Adolph W. Malone

By Samuel Sewall Jr.

Attorney

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GUY CLAMP

Adolph W. Malone, Arcadia, Fla., assignor of one-half to Alvah M. Lockwood, Charlotte, Tex.

Application April 20, 1936, Serial No. 75,467

2 Claims. (Cl. 24—126)

This invention relates to cable clamps of the type known as guy clamps and, more particularly, has to do with clamp devices of this type which are adapted to connect two wires or cables to prevent relative movement therebetween.

The invention, while of general applicability to the connection of lapped or parallel wires, is intended to be of particular use in the fastening of guy wires which support and steady a pole. In such constructions it is usual to attach one end of the guy wire to a ground-connected anchor, then to pass the other end of the wire one or more times around the pole and then to connect the free end of the cable to the anchored end. In the past, numerous devices have been proposed and employed for attaching this free end to the anchored end and while many of these devices have proved to be satisfactory, it is believed that the present invention provides a device which, by reason of simplicity, cheapness and ease of installation and removal, is in many ways superior to those heretofore employed or proposed.

It is, therefore, an object of the present invention to provide a device for connecting two lapped or parallel wires which will be more simple in construction and easier to install and remove than devices of this kind heretofore known.

Another object is to provide a device of the type described which is so constructed as to provide a positive locking means for the wires connected thereby.

Another object is to provide a device of the type described which will provide a positive lock for the wires connected thereby without any possibility of abrasion of the wires by the clamping device.

A further object is to provide a device of the type described which will include means for offsetting a portion of the wires connected thereby, whereby a more secure and positive clamping action will be afforded.

A still further object is to provide a device of the type described which may be provided in various sizes to provide greater or less clamping action, this depending upon the size of the device.

Other objects and features of novelty will be apparent from the following description and the annexed drawing, it being expressly understood that the invention is in no way limited by such description and drawing or otherwise than by the appended claims.

Referring to the drawing, in which similar reference numerals refer to like parts,

Fig. 1 is a plan view of one form which the invention may take;

Fig. 2 is an end view of the device illustrated in Fig. 1;

Fig. 3 is a view taken on the line 3—3 of Fig. 1;

Figs. 4 and 5 are plan views of other forms which the invention may take, and

Fig. 6 is a view of a wedge member which may be used in the invention.

The present invention provides means for attaching together two lapped or parallel and coextending wires and is particularly applicable to the attachment of the free end of a guy wire to the anchored span thereof. One form which the invention may take is illustrated in Figs. 1, 2, and 3 and referring to these figures it will be seen that the device there disclosed is preferably intended to connect two wires or cables of relatively small diameter which are denoted by numerals 1, 2. These wires are lapped or are parallel and coextending and are to be clampingly connected together by the means according to the invention.

Such means comprises a device denoted generally at 3 which is generally channel shaped or U-shaped in cross section and which is preferably formed by bending a generally rectangular piece of sheet metal into the form described. The base or bottom part 4 of the U-shaped member is of sufficient width, transversely of the device, to receive the two wires in side-by-side relation. The free upper edges 5, 6 of the devices are spaced apart a distance which is substantially less than the width of the bottom part 4. The cross section of the device is preferably such that the side members thereof extend from the free edges 5, 6 in parallelism for a short distance toward the bottom 4 and then diverge outwardly as at 7, 8 to a width which is greater than the width of the bottom, and then converge to the intermediate width of the bottom portion. By reason of this cross section, the device provides an elongated receptacle in the enlarged bottom of which the two wires lie side-by-side.

Intermediate the ends of the device 3, the bottom portion 4 thereof is deformed downwardly from the level of the ends, as illustrated at 9 in Figs. 1 and 2, in order to provide a depression in the bottom portion of the device extending intermediate the ends thereof, for a purpose which will appear hereinafter.

Means are provided by the invention for clampingly connecting the wires to each other and to the device 3, and such means comprise a pair of aligned openings 10, 11 which are formed in the side members of the device 3 intermediate the ends thereof and which are preferably disposed above the depression 9 in the bottom por-

tion 4 a suitable distance to be formed in the divergent part of the cross section. A wedge member 12 is adapted to be received in the openings 10, 11 and the wedge member and the position and dimensions of the openings 10, 11 are so proportioned that when the cables 1, 2 are positioned on the bottom 4 and the wedge 12 is driven through the openings 10, 11 the wires 1, 2 will be engaged by the lower face of the wedge and will be deformed downwardly into the depression 9. It will be apparent that the lower face of the wedge and the upper surface of the bottom 4 will cooperate to tightly wedge the deformed wires 1, 2 into the depression 9 whereby the wires will be tightly connected together and to the device 3 through the wedge 12.

Referring particularly to Fig. 3, there is disclosed a preferred construction and arrangement of the openings 10, 11 and the wedge 12. As disclosed, the wedge 12 is preferably formed as a right triangle in longitudinal cross-section. The openings 10, 11 are so formed that the lower edges thereof are horizontally aligned or are in parallelism with the bottom 4, while the upper edges thereof are aligned at an angle to the lower edges. It will, therefore, be seen that one opening, as 11, will be larger than the other, 10, and that when the wedge 12 is inserted through these openings the inclined face thereof will engage the inclined upper edges of the openings while the longitudinal side face of the wedge will engage the upper faces of the cables 1, 2, thereby securely and firmly wedging the cables against the bottom 4.

The wedge 12 is preferably formed in the manner disclosed in Fig. 6, in which it will be seen that the smaller end of the wedge is bifurcated to provide a relatively thin strip 13 and a relatively thick strip 14. It will be apparent that when the wedge is driven into clamping position as illustrated in Fig. 3, the thin bifurcation 13 of the wedge may be turned out of alignment with the openings 10, 11 in the clamp in order to effectively prevent any undesired or accidental removal of the wedge from clamping position.

If larger wires or cables are to be connected together, it may be found desirable to provide a larger clamp than that disclosed in Fig. 1, and in Figs. 4 and 5 are illustrated two clamps which are adapted to receive and clampingly engage wires of larger diameter. The clamp illustrated in Fig. 4 is intended for use with cables of intermediate size and employs two wedge means, which are spaced along the longitudinal length of the clamp. In this structure, the bottom portion of the clamp is deformed downwardly, as at 9, to a sufficient extent along the longitudinal length of the clamp to underlie all of the wedge means. Due to this construction and arrangement the entire wedge assembly will be effective, in all cases, to deform the cables into the offset in the bottom of the clamp. Obviously, larger sizes of clamps than those disclosed may be employed without in any way departing from the spirit or scope of the invention.

When two or more wedge devices are employed, a structure such as is disclosed in Fig. 5 may be employed. In this clamp the bottom 4 is provided with a plurality of separated depressions or recesses 20 which are spaced along the longitudinal length of the device. Disposed in alignment above each of the recesses 20 are the openings 10, 11 in the side members of the device, through which openings the wedge devices 12 are adapted to be inserted. It will be seen that when cables 1, 2 are placed within the device illustrated in Fig. 5 and the wedges driven through the openings in the sides the cables will be deformed into the depression 20 and will assume a serpentine conformation, whereby a very secure engagement between the cables and the clamp will be afforded.

It will be apparent that fewer or more cables than the two illustrated in the drawing may be disposed within any one of the clamp devices illustrated and may be attached therein in the manner illustrated.

It will be seen that I have provided by this invention devices and means for securely and releasably clamping together two or more cables, wires, ropes or conductors, of any size, such means being so constructed and arranged that the members clamped together will not be abraded or broken by the clamping means but will nevertheless be held tightly together and to the clamp.

While I have illustrated and described certain embodiments of my invention, it will be apparent to those skilled in the art that further improvements may be made therein and further embodiments may be practiced, without in any way departing from the spirit or scope of the invention, for the limits of which reference must be had to the appended claims.

What is claimed is:

1. A device for connecting together a plurality of parallel lapped cables, comprising an elongated channel shaped member having side portions and a bottom portion adapted to receive the cables in side-by-side relation, said side portions being spaced apart at their free edges a distance which is smaller than the combined diameters of the cables adapted to be disposed in the bottom portion, said side portions having a plurality of spaced pairs of aligned openings formed therein and adapted to receive wedge devices which engage the edges of said openings and the cables within said channel shaped device, said bottom portion being outwardly and downwardly deformed to provide a recess which extends beneath all of said pairs of aligned openings, whereby said cables will be deformed into said recess when the wedges are extended through said openings and into engagement with the cables in said bottom position.

2. A device for clamping together a plurality of parallel cables, comprising an elongated device having side members and a bottom and being generally U-shaped in cross-section, said side members having free, parallel, longitudinal edges, each of said side members being deformed adjacent the free edge thereof with said side members closer together adjacent the free edges thereof than at the bottom portion thereof, and spaced apart adjacent the free edges thereof a distance which is less than the combined diameters of the cables adapted to be disposed in the bottom portion, the bottom portion of said device having a recess within which the parallel cables are adapted to be received, said side members being provided with aligned openings adapted to receive wedge means for clamping the cables in said bottom portion together and to said clamping device.

ADOLPH W. MALONE.