Jan. 30, 1945. H. J. ROLLAND 2,368,326

CABLE CLAMP

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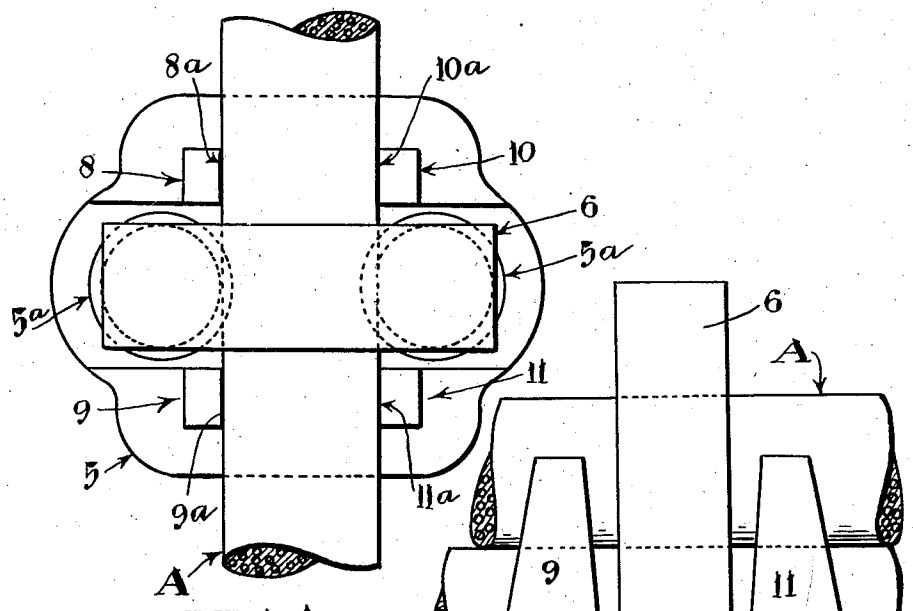


FIG. 1

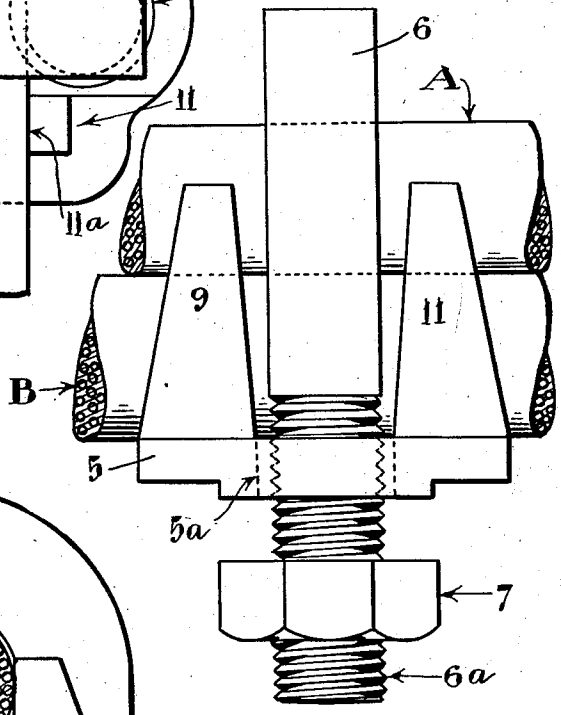


FIG. 2

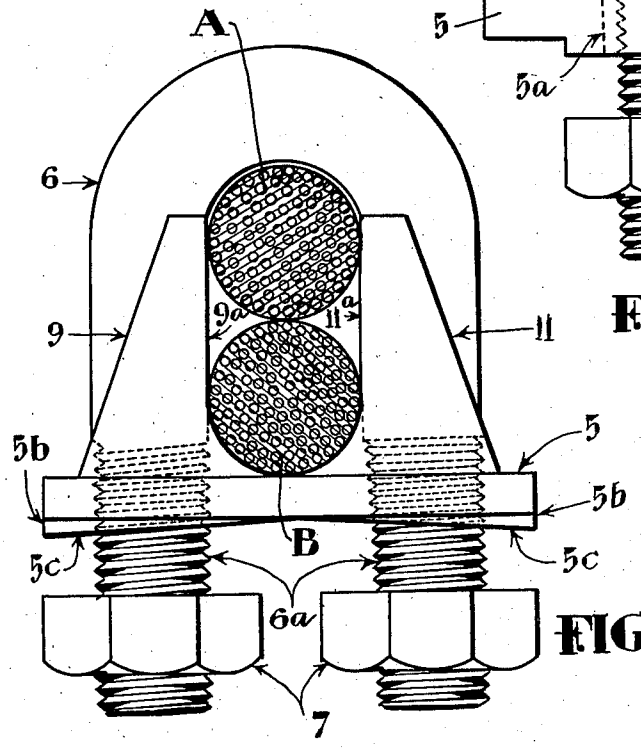


FIG. 3

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CABLE CLAMP

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3 Claims. (Cl. 24—135)

This invention relates to cable clamps and the object is to provide a generally improved clamp of the type comprising a clamping plate and a cooperating U-shaped clamping bolt having its legs passed through openings in the clamping plate and equipped with clamping nuts. In this type of cable clamp the clamping plate is usually provided with cable-engaging lugs lying at opposite sides of that portion of the clamping plate against which the cable elements are clamped by the bight portion of the clamping bolt. When the clamping nuts are tightened the cable elements are spread or expanded laterally against the lugs lying at opposite sides thereof.

One improvement afforded by the present invention consists in providing the clamping plate with inclined surfaces against which the clamping nuts are tightened, the location and inclination of said surfaces being such that the pressure of the clamping nuts tends to force opposing lugs lying at opposite sides of the cable elements toward each other and thus into closer gripping engagement with the interposed cable elements. In other words, the clamping nuts serve, when tightened against said inclined surfaces, to subject opposing cable-engaging lugs to inward pressure in direct opposition to the outward pressure exerted against said lugs by the interposed cable elements when the latter are spread or expanded laterally by applied clamping pressure.

Another improvement afforded by the present invention consists in the provision of a U-shaped clamping bolt which is of rectangular cross section except as regards the portions of the legs which are threaded to receive the clamping nuts thereon. This materially increases the area of effective frictional contact between the cable and the clamping bolt and thereby improves the holding efficiency of the clamp.

A further improvement consists in forming the cable-engaging lugs so that opposing lugs present relatively long cable-engaging surfaces which are normally parallel to each other as distinguished from conventional cable clamps in which opposing cable-engaging lugs are formed with inclined cable-engaging surfaces which converge toward each other in the direction of the clamping plate.

Proceeding now to a more detailed description of the invention reference will be had to the accompanying drawing, in which—

Fig. 1 is a plan view of my improved cable clamp.

Fig. 2 is a side view; and

Fig. 3 is a side view taken at right angles to Fig. 1.

In the drawing the clamping plate, the U-shaped clamping bolt, and the clamping nuts of my improved clamp are respectively indicated at 5, 6 and 7.

The clamping bolt 6 is square in cross section except as regards the leg portions 6*a* which are passed through the plate openings 5*a* and are threaded to receive the clamping nuts 7 thereon.

Plate 5 is provided with four cable-engaging lugs designated 8, 9, 10 and 11. Lugs 8 and 9 are arranged at opposite sides of one of the bolt openings 5*a* and are paired, respectively, with lugs 10 and 11 which are arranged at opposite sides of the remaining bolt opening 5*a*. Lugs 8 and 9 are provided with relatively long, flat, cable-engaging surfaces 8*a* and 9*a* which are normally parallel with similar opposing cable-engaging surfaces 10*a* and 11*a* of the lugs 10 and 11.

Portions of the plate 5 in which the bolt openings 5*a* are formed are thickened as indicated at 5*b* and provided with inclined surfaces 5*c* against which the clamping nuts 7 are tightened when the clamp is in use.

In the present instance I have shown superimposed cable elements A and B arranged between the legs of the clamping bolt 6 so as to be subjected to clamping pressure between the bight portion of the bolt and the central portion of the plate 5 when the nuts 7 are tightened against the inclined surfaces 5*c*. When thus subjected to clamping pressure the cable elements A and B are deformed from the circular cross section shown to a substantially oval cross section and are thus expanded laterally against the cable-engaging surfaces 8*a*, 9*a*, 10*a* and 11*a* of the lugs 8, 9, 10 and 11. If the clamping plate is made of malleable iron the outward pressure exerted by the cable elements against the opposing lugs of each pair may result in an undesirable spreading apart of said lugs. In the case of my improved cable clamp the pressure of the clamping nuts 7 against the inclined surfaces 5*c* has the effect of applying bending or warping stresses to opposite marginal portions of the plate in such manner that the opposing cable-engaging lugs of each pair are urged toward each other in direct opposition to the cable pressure tending to separate said lugs. This, along with the increased area of frictional contact between the cable elements and the U-bolt due to the rectangular cross section of the latter, greatly increases the holding efficiency of the clamp as compared with conventional clamps of the same general type. As previously stated, the holding efficiency of the clamp is also increased by reason of the fact that opposing cable-

engaging lugs of each pair are provided with relatively long, flat, cable-engaging surfaces which are normally parallel with each other and are usually spaced apart a distance only slightly greater than the diameter of the cable or cable elements received therebetween. The length of the flat cable-engaging surfaces of each pair of cable-engaging lugs is preferably such that these surfaces extend from a point below the transverse centre of the lower cable elements shown in Fig. 2 to a point above the transverse centre of the upper cable element shown in said figure.

Having thus described what I now conceive to be the preferred embodiment of my invention, it will be understood that various modifications may be resorted to within the scope and spirit of the invention as defined by the appended claims. It will also be understood that, in the appended claims, the terms "upper" and "lower" are used in a relative sense as applied to the vertically disposed clamp assembly shown in Figs. 2 and 3.

I claim:

1. A cable clamp comprising a clamping plate provided with spaced, diametrically opposite bolt holes, a U-shaped clamping bolt having the legs thereof passed downwardly through said bolt holes and equipped with clamping nuts positioned beneath said plate and lugs extending upwardly from said plate at opposite sides of each leg of the clamping bolt, the portions of the plate in which the bolt openings are formed being provided with downwardly facing inclined surfaces against which the clamping nuts are tightened, the location and inclination of said surfaces being such that, when cable elements are clamped in place between the bight portion of the clamping bolt and the opposing portion of the clamping plate, the pressure of the clamping nuts against said inclined surfaces tends to urge opposing cable-engaging lugs toward each other and into tighter gripping engagement with interposed portions of the cable elements.

2. A cable clamp as set forth in claim 1, in which the U-bolt is of rectangular cross section except as regards portions of the legs which are threaded to receive the clamping nuts.

3. A cable clamp as set forth in claim 1, in which opposing cable-engaging lugs lying at opposite sides of the portion of the plate which is opposed to the bight portion of the clamping bolt are provided with opposing, normally parallel, cable-gripping surfaces.

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