Aug. 15, 1961 R. M. WILSON 2,996,570

ELECTRIC INSULATOR MOUNTING CLAMP

Filed May 9, 1958

Fig. 1.

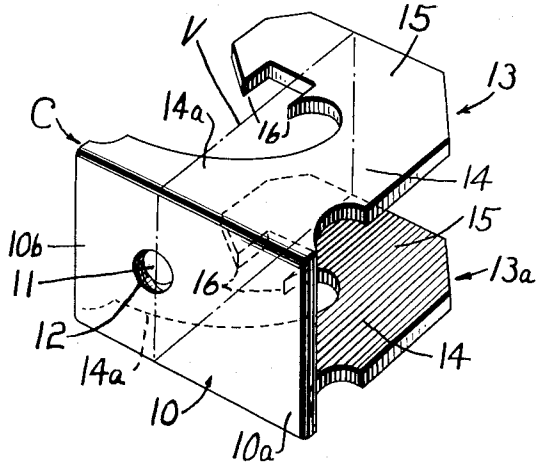


Fig. 2.

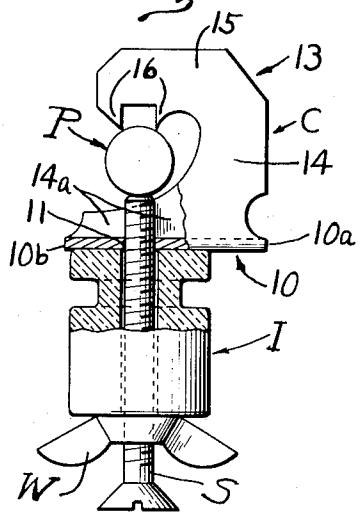


Fig. 3.

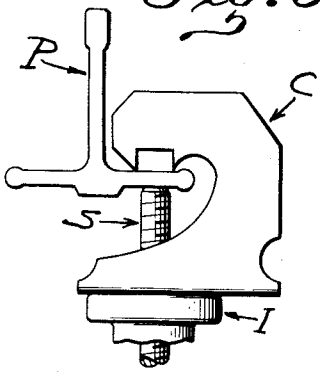


Fig. 4.

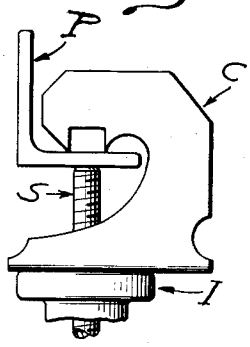


Fig. 5.

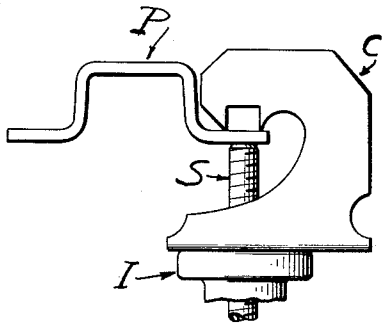
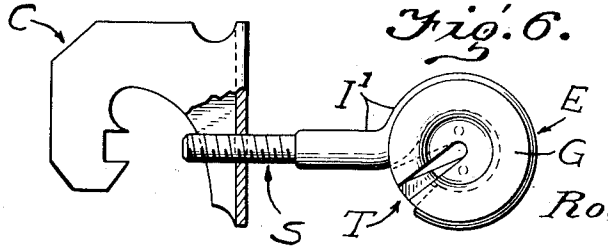


Fig. 6.



INVENTOR

Robert M. Wilson

BY Roy A. Plant

ATTORNEY

United States Patent Office 2,996,570 Patented Aug. 15, 1961

2,996,570

ELECTRIC INSULATOR MOUNTING CLAMP

Robert M. Wilson, Battle Creek, Mich., assignor to Dare Products Incorporated, Battle Creek, Mich., a corporation of Michigan

Filed May 9, 1958, Ser. No. 734,361
4 Claims. (Cl. 174—163)

This invention relates generally to the construction of electric fences, and more specifically to a novel clamp for mounting electric insulators on metal fence posts.

Electric fencing is becoming exceptionally common and this calls for means to fasten electric insulators on posts of various types, and which are generally of steel and of various cross-sections. At the present time there is no insulator fastener on the market which will satisfactorily fit all styles of steel electric fence posts, and those which are currently in use are subject to turning, sliding, and jiggling loose. It was a recognition of this problem and the lack of a thoroughly satisfactory solution to same which led to the conception and development of the present invention.

Accordingly among the objects of the present invention has been the provision of a new and improved clamp advantageously usable for effectively mounting many kinds of insulators on any of the customary metal post, whether these posts be mere rods, T-bars, angle bars, or channel bars.

Another object has been to provide a novel clamp member cooperable with a combined clamping and insulator-carrying screw in gripping the post and having post-engaging teeth to prevent slipping out of place.

Still another object has been to provide a novel toothed clamp member which can be inexpensively manufactured from sheet metal.

Still further objects and advantages of the present invention will appear as the description proceeds.

To the accomplishment of the foregoing and related ends, the invention, then, consists of the means hereinafter fully described and particularly pointed out in the claims, the annexed drawing and the following description setting forth in detail certain means for carrying out the invention, such means illustrating, however, but several of various ways in which the principle of the invention may be used.

In the annexed drawing:

FIGURE 1 is a perspective view of a preferred form of the novel clamp member of the present invention.

FIGURE 2 is a top view, partly in section, showing the clamp member of FIGURE 1 cooperatively related with an insulator-carrying screw and mounted on a rod-type electric fence post.

FIGURES 3, 4, and 5 are fragmentary top views showing the clamp mounted respectively on T-bar, angle bar, and channel bar type electric fence posts.

FIGURE 6 is a top view showing a construction in which the clamping screw has an insulated eye interiorly protected with a metal grommet, said eye portion being usable as a handle when tightening said screw.

A preferred construction of the insulator mounting clamp has been disclosed, and will be rather specifically described, but attention is invited to the possibility of making variations within the spirit and scope of the invention as shown and hereinafter described.

A clamp member C is cooperable with a combined clamping and insulator-carrying screw S, regardless of the common types of post P, FIGURES 2, 3, 4, and 5, to be used.

The clamp member C, FIGURE 1, includes a vertical base plate **10** for disposition at one side of the post P, said plate having an opening **11** through which to thread

the screw S, the wall of said opening being threaded at **12** to engage the thread of said screw.

An upper hook member **13** and a lower hook member **13***a* are disposed at the post-facing side of the plate **10** and are located in two substantially parallel horizontal planes. Each of these hook members **13** and **13***a* comprises one arm portion **14** integrally joined at its inner end to the plate **10** and a second arm portion **15** integral with and projecting laterally from the outer end of said one arm portion **14**. The second arm portion **15** is disposed in opposed and spaced relation with the post-facing side of the plate **10**; and the inner edge of said second arm portion **15** is provided with two teeth **16** projecting toward said plate **10**, to engage the side of the post remote from said plate **10** when the screw S is tightened.

The opening **11** is so located as to dispose the screw S centrally between the two horizontal planes in which the upper upper and lower hook members **13** and **13***a* are located; and said opening **11** is also so located as to position the axis of the screw S parallel to the planes of hook members **13** and **13***a* and in a third and vertical plane V which is at right angles to said two planes and the plate **10**, as shown in FIGURE 1. The two teeth **16** of each hook member **13** and **13***a* are spaced about equidistantly on opposite sides of this plane V. Thus, when the screw S is tightened, it has no tendency to cant the clamp member C about any of the teeth as pivots. In order that these teeth may better bite into and grip the post, the toothed regions of the hook members **13** and **13***a* are preferably hardened, or the entire clamp member C may be hardened, or this clamp member can be constructed from sufficiently hard metal to accomplish this end.

The two hook members **13** and **13***a*, FIGURE 1, are disposed at the upper and lower edges of the plate **10**, respectively. The longest part of their arm portions **14** is located so as to extend from one end **10***a* of said plate, and the inner ends **14***a* of said arm portions **14** are shorter but gradually widen from said one end **10***b* of said plate **10** to the other end **10***a* of said plate. These portions **14** and **14***a* form flanges which not only strengthen the hook members **13** and **13***a* but also longitudinally reinforce the plate **10**.

In FIGURES 2 to 5, inclusive, one of many common forms of porcelain insulators is shown at I. The insulator is carried by the screw S and the latter may have a wing nut W for clamping said insulator against the plate **10**. Common yieldable washers, not shown, may of course be interposed between the insulator I and the elements **10** and W, if desired.

In FIGURE 6, the outer end of the screw S has an eye E and is covered with insulating material I^1. The eye E fits in the outwardly opening channel of a metal grommet G having a wire receiving throat T. No claim is made herein to this specific construction of an insulated eye armored with a grommet, since it is disclosed and claimed in my co-pending U.S. patent application, Serial No. 621,673, filed November 13, 1956, now U.S. Patent No. 2,931,853, granted April 5, 1960. However, when this construction is associated with the clamp member C, the eye E and grommet G form a convenient handle for tightening the screw S.

The clamp member C may be readily formed from sheet metal of suitable thickness and hardness. Quantity production, with speed and at low cost, is therefore made possible, supplying a requisite in the rather highly competitive field to which the invention relates.

Attention is again invited to the possibility of making variations within the spirit and scope of the invention as shown and described. It should also be noted that directional terms such as "horizontal," "vertical," "upper," and "lower" have been used to facilitate describing the invention as shown in the drawing, and are not to be

considered as limiting the invention, since the clamp can be used in various positions depending upon the requirements for mounting a wire on the insulator carried by the clamp.

Other modes of applying the principle of my invention may be employed instead of those explained, change being made as regards the means herein disclosed, provided those stated by any of the following claims or their equivalents be employed.

I therefore particularly point out and distinctly claim as my invention:

1. An insulator mounting clamp comprising a plate for disposition at one side of a supporting post so as to have a side facing said post, said plate having at least two side edges at opposite sides of same with a threaded opening between them, two arm members which are in the form of sidewise open substantially flat-plane hook members extending outward from said side edges in substantially parallel planes at substantially right angles to the plane of said plate and adapted to be hooked sidewise onto a supporting post, both of said hook members being outwardly disposed at the post-facing side of said plate, said hook members each comprising a portion integral with said plate and projecting outward from same in varying amounts with the maximum being from the same end of said post-facing side thereof, said post having a portion facing said plate and a portion facing away from said plate, a second portion integral with and projecting laterally from the outer end of each of said first arm portions and in the respective planes of each of same, said second portion of each of the first two portions of the hook members being substantially parallel to each other and disposed in opposed and substantially equally spaced apart relation with said post-facing side of said plate and each having a pair of symmetrically located post-engaging teeth projecting toward said plate to engage the side portion of the post which faces away from said plate,

and a combined clamping and insulator-carrying screw threaded through and threadedly engaging the aforesaid opening of said plate for end contact with the post on the side of same faced by said plate, said opening in said plate being so located as to position said screw substantially centrally between the two substantially parallel planes in which said hook-ended arm members are disposed, said opening being also so located and centered with respect to the aforesaid pairs of teeth as to prohibit said screw from having a tendency to cant said plate about any of said teeth as said screw is tightened to clamp the post between said teeth and screw.

2. A structure as specified in claim 1; together with a nut threaded on said screw, said nut being in position to grip an insulator, when threadedly mounted on said screw, against said clamp on said post.

3. A structure as specified in claim 1, in which the outer end of said screw has an insulated eye interiorly protected with a grommet, and which eye with its grommet facilitates hand turning of said screw for either tightening or loosening same when mounted on a supporting post.

4. A structure as specified in claim 1, the end of each of said arm portions connected to the side edges of said plate forming a gradually widening flange for plate reinforcing purposes.

References Cited in the file of this patent

UNITED STATES PATENTS

1,637,654	Perez	Aug. 2, 1927
1,794,976	Mueller	Mar. 3, 1931
2,208,358	Chandler	July 16, 1940
2,437,344	Behlmann	Mar. 9, 1948
2,562,562	Manasek	July 31, 1951
2,593,130	Flynn	Apr. 15, 1952
2,642,243	Kindorf	June 16, 1953