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INSULATOR AND SUPPORT FOR ELECTRICALLY CHARGED FENCE WIRES

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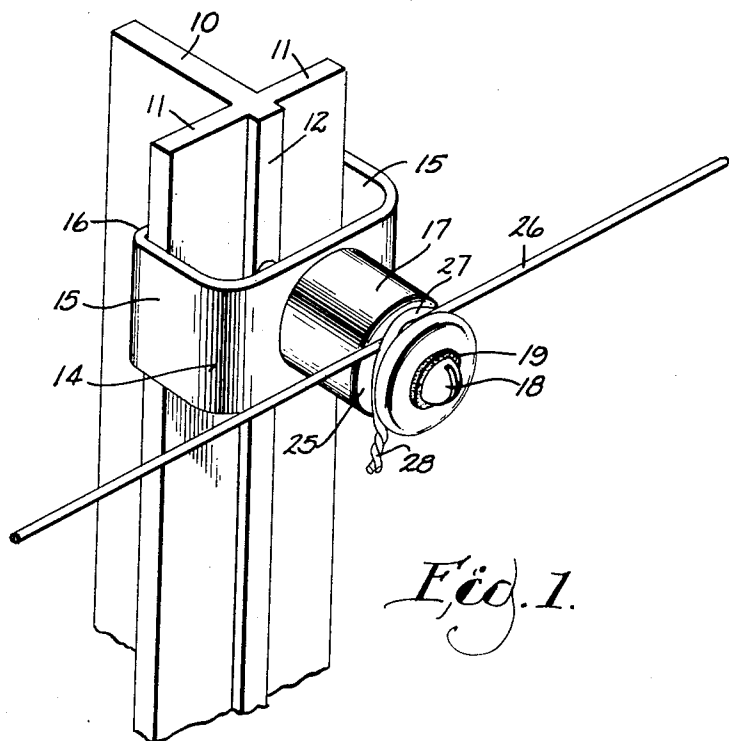


Fig. 1.

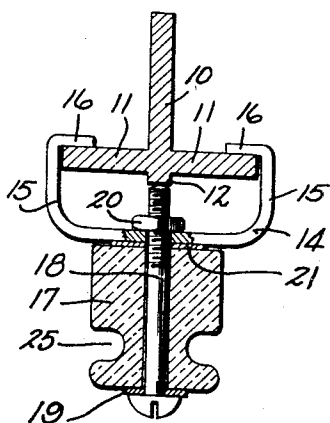


Fig. 2.

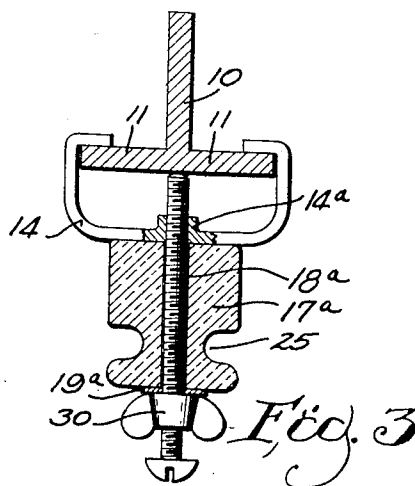


Fig. 3.

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INSULATOR AND SUPPORT FOR ELECTRICALLY CHARGED FENCE WIRES

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2 Claims. (Cl. 174-163)

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My invention relates to improvements in insulators and supports for electrically charged fence wires.

The object of my invention is to provide means whereby bare wires may be handily, quickly, and inexpensively connected with metal posts by inexperienced farm workers in such a manner as to avoid all danger of short circuiting to the posts when the wires are electrically charged, even though the wires may be violently swayed by wind or weighted by ice.

A further object is to provide an insulator and support having the above specified characteristics and which is also peculiarly adapted for quick attachment to metal fence posts of standard T-shaped cross section, and in which the connection may include a porcelain insulator which will be supported with substantial rigidity in uniformly spaced relation to the post, and with its axis at right angles thereto.

In the drawings:

Figure 1 is a perspective view of my connector, showing the same in wire supporting relation to a standard fence post of T-shaped cross section, a fragment of which is also illustrated.

Figure 2 is a plan view of my improved connector showing the same applied to a standard T-shaped fence post, illustrated in cross section.

Figure 3 is a similar view showing a modification.

Like parts are identified by the same reference characters throughout the several views.

Metal fence posts of the preferred universally recognized standard type comprise a wide flat bar 10 having oppositely disposed lateral flanges 11 along one margin of the bar 10, either at the margin or slightly inset therefrom. When slightly inset, said margin of the bar 10 may project beyond the flanges 11 in the form of a rib 12 as shown in Figures 1 and 2, whereas if the flanges are not inset their outer surfaces will be continuous with the associated margin of the bar 10, thereby forming a post with a wide flat surface, as illustrated in Figure 3.

A yoke-shaped connector bracket member 14 has elbowed arms 15 at its respective ends adapted to straddle the post with the arms 15 embracing the outer margins of the flanges 11, as clearly shown in the drawings. The tips of the arms 15 are intumed to provide clamping fingers 16 engageable with the inner surfaces of the flanges 11 in the angle between those surfaces and the bar 10. These arms, and if desired the entire yoke, may be formed of resilient material for reasons hereinafter explained.

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A generally cylindrical porcelain insulator knob 17 is axially apertured to receive a clamping bolt or screw 18 which may extend loosely there-through and through an aperture in the central portion of the yoke member 14, a washer 19 being preferably interposed between the head of the screw and the outer end of the knob 17. The threaded portion of the screw is provided with a clamping nut 20 engageable with the inner face of the yoke member 14, whereby the knob 17 may be clamped between the washer 19 or the head of the screw and said yoke member. Another washer 21 may be interposed between the knob 17 and the member 14, and will preferably be of a resiliently yielding type.

With the nut 20 properly adjusted to allow a sufficient retraction of the screw in the yoke, the latter may be readily slipped over the upper end of the fence post and moved downwardly to the desired elevation. Thereupon the nut 20 may be adjusted to simultaneously advance the inner end of the screw into clamping engagement with the post and to clamp the porcelain knob to the yoke member 14. The yielding characteristic of the yoke or of one or both of the washers may be relied upon to distribute the clamping pressure where a screw 18 of proper length is employed. Therefore the parts may be bound together with the necessary degree of rigidity to hold the coupling member or connector in its proper position on the post, and to hold the insulating knob 17 in a position at right angles to the post and in uniformly spaced relation thereto.

The knob 17 is provided with a groove 25 to receive a fence wire 26 applied to its upper surface, as shown in Figure 1. The fence wire may be secured to the knob by a short piece of tie wire 27 of standard length, which may be passed about the fence wire 26 and the grooved portion of the knob, with the ends of the wire 27 twisted together as shown at 28. By employing tie wires of standard length in association with insulator knobs 17 which are uniformly held fixedly in positions of projection at right angles to the post, all danger of short circuiting between the fence wire and the post is avoided.

I am aware that numerous attempts have heretofore been made to provide for connecting electrically charged fence wires to metal fence posts, but so far as I am aware, they have uniformly failed to avoid short circuiting without involving prohibitive expense for manufacture and installation of the connectors. This has been largely due to a failure on the part of the engineers

working in this industry to perceive the necessity of providing against faulty installation by inexperienced persons, and of providing a structure which in each of a multitude of instances will be uniformly attached to each fence post with the necessary rigidity and identity of projection, and which can be installed at such minimum expense as to eliminate the temptation to resort to other means.

In Figure 3 I have illustrated a slight modification. The fence post is of a type in which the rib 12 is omitted, but this is immaterial since the conector may be applied to either type of fence post with equal facility. However, the yoke is made with a thickened apertured portion 14a, and the aperture is threaded to receive a clamping screw 18a, the nut 20 being omitted. But a thumb nut 30 is provided near the outer end of the screw in a position to bear upon a washer 19a interposed between the thumb nut and the insulator knob. With this construction, after adjusting the yoke to a fence post, a screw driver may be employed to turn the screw in a direction to clamp the yoke to the fence post, after which the thumb nut 30 may be adjusted to apply the desired clamping pressure to the knob 17a. With this construction, none of the parts need be resilient, since independent means are employed to clamp the post and the knob to the yoke.

It will be observed that the portion 14 (or 14a) of the yoke is substantially parallel to the laterally extending flanges, and the clamping bolt or screw is substantially parallel to, or in, the central plane of the post member or bar 10. Therefore the conector is secured to the post in a symmetrical position from which it cannot be readily dislodged by any form of pressure to which fence posts or wires may be subjected.

I claim:

1. Means for securing electrically charged bare fence wires to metal posts having flanges extending laterally in opposite directions from the central portion of the post, comprising the combination of a yoke-shaped member having resilient arms provided with free and mutually spaced hook-shaped extremities adapted to loosely embrace the outer margins of said flanges and to

move downwardly along said margins from the top of the post to the fence wire level, a clamping bolt extending through the central portion of said yoke-shaped member and having threaded engagement therewith, an annularly grooved wire supporting insulator knob through which said clamping bolt extends along the axial line of said knob, said clamping bolt being adapted when turned in one direction to clamp said knob to the yoke-shaped member and to also clamp the yoke-shaped member to the post under the resiliently yielding tension of its arms.

2. An insulator mounting for attaching the conductors of electrical fences to metal posts which are T-shaped in cross section, said mounting comprising the combination of a yoke-shaped member having resilient arms provided with free and mutually spaced hook-shaped extremities adapted to embrace the post, a clamping bolt extending through said member and having thrust engagement therewith, said bolt having a portion for engagement with a post with which such extremities are also engaged, and an insulating knob through which such bolt extends, said knob being confined under pressure by said bolt and member, the single bolt serving to clamp the knob to said member and the member and knob to the fence post.

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