Nov. 18, 1952 C. G. LEWIS 2,618,685

WIRE SUPPORTING DEVICE

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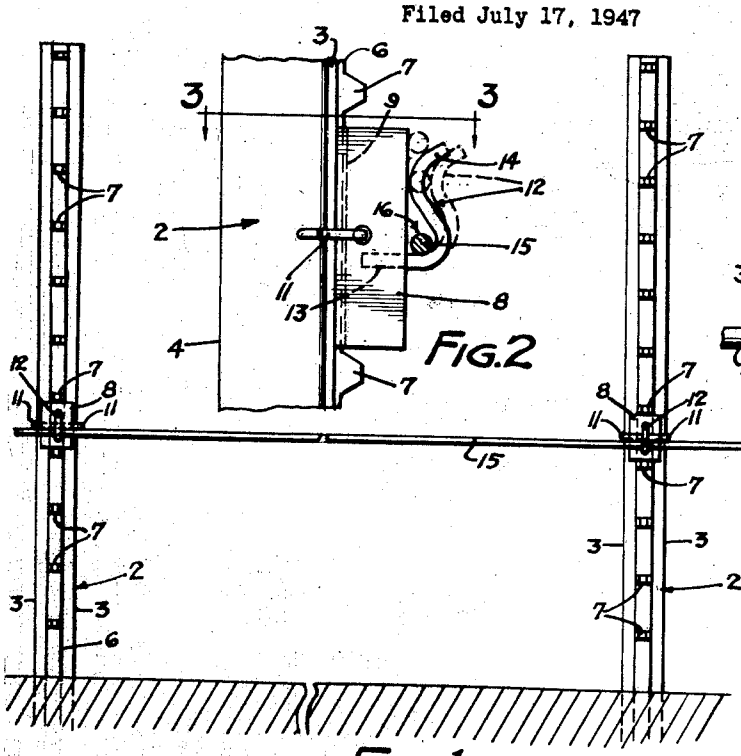


FIG. 1

FIG. 2

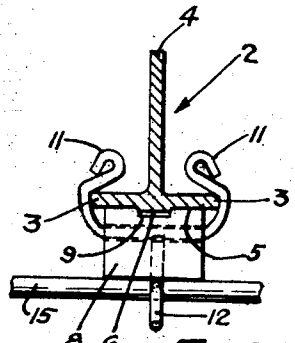


FIG. 3

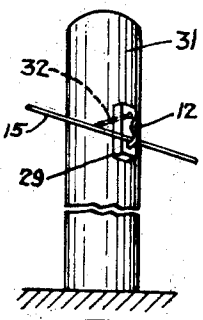


FIG. 9

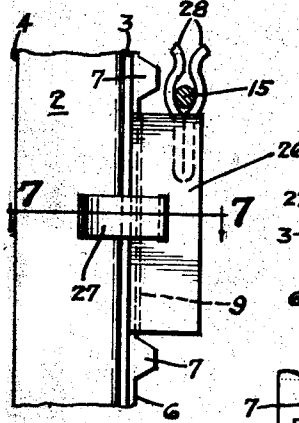


FIG. 6

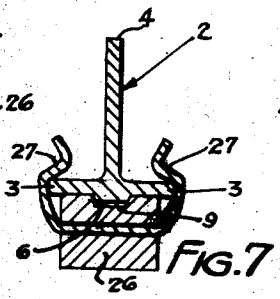


FIG. 7

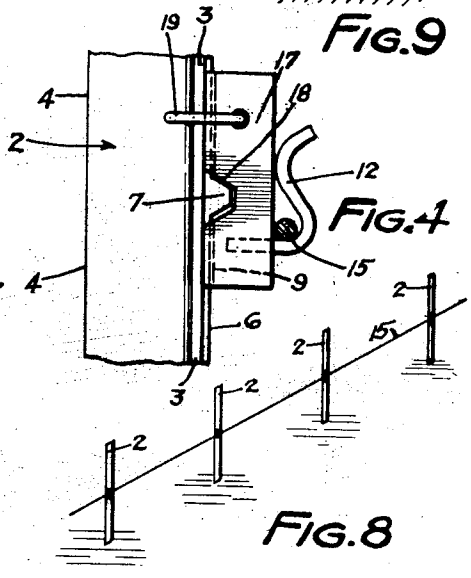


FIG. 4

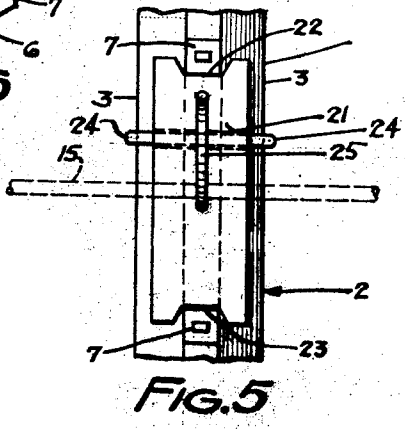


FIG. 5

FIG. 8

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WIRE SUPPORTING DEVICE

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7 Claims. (Cl. 174—161)

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This invention relates to new and useful improvements in wire supporting devices, and more particularly to such a device adapted to support an electric wire upon a metal post in insulated relation thereto.

In recent years it has become quite common to electrify fences or enclosures utilized for keeping a herd of cattle or other animals within a confined area. A single electric wire is usually employed which is connected to a source of electric energy of sufficient power to impart to an animal contacting the charged wire a jolt or shock of sufficient intensity to cause the animal to quickly step back out of contact with the wire, it being understood that the electric charge induced in the wire is not of sufficient power to injure the animal. It is quite customary in rural districts to utilize metal fence posts of more or less standard construction, which are adapted to be driven into the ground to a suitable depth to support the posts in upright position.

It is an object of the present invention, therefore, to provide a wire supporting device which is so constructed that it may be quickly secured to a metallic post by a snap-on action, and whereby the element is frictionally retained in position on the post.

A further object of the invention is to provide wire supporting devices comprising an insulating block having opposed resilient arms secured thereto adapted to embrace a portion of a metallic fence post, thereby to frictionally secure the device in position upon the post, and a suitable wire supporting hook being secured to the insulating block in insulated relation to the resilient arms, whereby an electric wire may be quickly strung on a row of posts without the use of tools, said wire supporting devices being so constructed that they may be quickly snapped onto the posts at the proper elevation, whereby the wire-receiving hooks provided thereon will be in proper position to receive the wire.

Other objects of the invention reside in the simple and inexpensive construction of the device, whereby it may readily be manufactured in quantity production at low cost; in the provision of such a device comprising an elongated body of insulating material having means for removably supporting it upon a metal fence post, and whereby it will be retained on said post in adjusted position, and said body having a spring actuated hook or clip thereon for releasably receiving an electric wire and whereby the wire is not likely to accidentally become detached from the wire supporting device.

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Other objects of the invention will appear from the following description and the accompanying drawings and will be pointed out in the annexed claims.

In the accompanying drawings there has been disclosed a structure designed to carry out the various objects of the invention, but it is to be understood that the invention is not confined to the exact features shown, as various changes may be made within the scope of the claims which follow.

In the drawings:

Figure 1 is a view showing an electric wire supported on two fence posts by the novel wire supporting device herein disclosed;

Figure 2 is an enlarged detail view of a portion of a conventional metal fence post showing the invention applied thereto;

Figure 3 is a sectional plan view on the line 3—3 of Figure 2;

Figure 4 is a view similar to Figure 2, but showing a device of slightly different construction;

Figure 5 is a view showing a device having its ends notched to receive spaced projections on the fence posts;

Figure 6 is a view showing a wire supporting device of slightly modified construction;

Figure 7 is a sectional plan view on the line 7—7 of Figure 6;

Figure 8 is a perspective view showing a series of fence posts with a wire secured thereto by the novel wire supporting device herein disclosed; and

Figure 9 is a perspective view showing the invention applied to a conventional wooden fence post.

In the selected embodiment of the invention herein disclosed, there is illustrated in Figure 1, for purposes of disclosure, a section of fencing comprising the usual upright metallic fence posts 2, having their lower ends suitably anchored in the ground in the usual manner. Metallic fence posts such as are commonly utilized in the erection of rural fences, are usually

T-shaped in cross-section, as shown in Figure 3, whereby each post comprises opposed flanges 3—3 and a central web 4.

The posts 2 are usually formed with a longitudinally extending rib 6, having a plurality of outwardly projecting lugs 7 thereon which are spaced apart lengthwise of the posts and serve to prevent fence wires secured to the posts from sliding down on the posts when wired thereto. This is a common and well-known practice, and therefore need not be further described in detail.

A fence composed of two or more wires stretched along in vertically spaced relation upon the fence posts 2 may serve to keep certain animals within an enclosure. There are many animals, however, as for example cattle, which often exert considerable strain on the wires of a fence as a result of reaching under or over the wires for fresh vegetation.

To prevent the cattle from thus stretching and straining the wires, it has been found that by stringing an electric wire along the fence where it may readily be contacted by cattle and other animals tending to reach under or over the wires, that the slight jolt or shock imparted to the animals when they contact the live wire will cause them to quickly jump back away from the fence, into the enclosure, and as a result of such jolts and shocks the cattle may soon learn to stay clear of the fence wires.

An electric wire to be used for the above purpose, must be insulated from the upright metallic supporting posts, and the present invention makes it possible to quickly string an elecric wire along a fence composed of metallic supporting posts with a minimum of effort and without the use of tools.

The invention herein disclosed comprises an elongated body 8 of a suitable insulating material which is formed with a longitudinally disposed central groove 9 adapted to receive the rib 6 provided upon the front face 5 of the supporting posts 2. Secured to the insulating block 8 is a pair of opposed resilient arms 11, which, as shown in Figures 2 and 3, may be made from a single piece of wire having its central portion fixed in an aperture in the insulating block 8 with its opposed ends bent to form the arms 11 as shown in Figures 2 and 3.

The arms 11 are so shaped that the insulating block may readily be secured in position upon the front face of the supporting post 2 at any desired elevation by simply engaging the resilient arms 11 with the flanges 3, as shown in Figures 2 and 3, whereby the insulating block will be firmly secured to the post, but in such a manner that it may readily be detached therefrom without tools whenever desired.

Secured to the outer or front face of the insulating block 8 in spaced relation to the intermediate portion of the wire forming the arms 11 is a spring hook, generally designated by the numeral 12. The hook has one end anchored in the insulating block, as shown at 13, and its opposite end 14 is bent as shown in Figure 2, whereby the free end portion 14 of the hook normally substantially engages the front face of the insulating block, but in such a manner that an electric wire 15 may readily be forced between the yieldable end 14 of the hook and the adjacent face of the insulating block 8, into the closed hook, as shown at 16 in Figure 2.

When a wire is thus engaged with the hook 12 of the wire holding device, the electric wire will be insulated from the metallic supporting posts 2 as well as from the supporting arms 11 of the device, as may readily be noted by reference to Figure 2. The longitudinally extending recess or groove 9 in the insulating block 8 cooperates with the rib 6 on the front face of the post to prevent the device, as a whole, from relatively rotating upon the post, as will be understood. In Figure 1 of the application drawing there is shown a wire 15 mounted on two spaced metallic fence posts by means of the novel wire supporting device herein disclosed.

In Figure 4 there is shown a wire supporting device of slightly different construction, comprising an elongated insulating body 17 having a transverse notch or recess 18 therein adapted to receive one of the vertically spaced lugs 7 usually provided on the posts, as shown in the application drawing. A pair of spring actuated legs 19 are secured to the upper portion of the insulating block 17 and are adapted to frictionally engage the opposed flanges 3 of the post in a manner similar to the device shown in Figure 3.

A suitable hook 12, similar to the one shown in the previous figures, is secured to the insulating block 17 and serves in the same capacity.

In Figure 5 there is illustrated a holder comprising an insulation block 21 having its upper and lower ends formed with notches or recesses 22 and 23, respectively, adapted to receive adjacently disposed spaced projecting lugs 7 of the supporting post 2, thereby to prevent the insulation block 21 from relatively rotating upon the post, and also whereby the block 21 cannot shift vertically thereon.

Spring actuated legs 24 are secured to the insulating block 21 in a manner similar to the legs 11—11 shown in Figures 2 and 4, and are adapted to embrace the flanges 3 of the post to secure the wire holder thereto.

A suitable hook 25, similar to the hook 12 shown in Figure 2 is provided on the insulating block 21 for receiving and supporting the wire 15, indicated by dotted lines in Figure 5.

In Figures 6 and 7 there is illustrated a device comprising an insulating block 26 similar to the one shown in Figures 2 and 3, having spring-actuated legs or clips 27—27 secured thereto for embracing the post flanges 3 of the fence post 2, as clearly illustrated in Figure 7.

In the form shown in Figures 6 and 7, the spring-actuated legs 27 are made of flat strap-like metal; otherwise they are similar to the wire-like legs illustrated in the previous figures.

Resilient clips 28 are shown secured to the upper end of the insulating block 26 in spaced relation to the arms 27. The clips 28 co-act to receive and secure the electric wire 15 to the wire holding device.

In Figure 9 there is shown an insulating block 29 adapted to be secured to a conventional wooden fence post 31 by means of a nail or screw 32. To thus secure the insulating block to a fence post, the body of the insulating block is provided with a suitable aperture which may be counterbored as shown, to secure the nail or screw head.

While the wire supporting device herein disclosed has been shown and described as being utilized for supporting an electrified wire in position to be engaged by cattle or other animals for the purpose of retaining them within a confined area, it is to be understood that it may be utilized for detachably supporting other wires on poles or suitable uprights without departing from the scope of the invention.

The novel wire holding device herein disclosed has been found extremely practical and efficient in actual use. Its construction is such that it may be quickly snapped onto a conventional fence post at any desired elevation, and the resilient legs thereof will retain the member in its selected position without danger of ever becoming accidentally detached from the post. The resilient legs secured to the insulating block make it possible to snap the device onto a fence post with one hand after which the wire may be quickly snapped into position in the hook secured to the insulating block, it being understood that the hook 12 is preferably of resilient material whereby it may readily flex, as indicated by the dotted lines in Figure 2, to permit the wire to be passed between the free end of the hook and the adjacent face of the insulating block 8.

It will also be noted that the device, as a whole, is extremely simple and inexpensive in construction, and readily lends itself to manufacture in quantity production at low cost. It is also small and compact whereby a number of such devices may readily be carried in a pocket, if so desired, when installing or stringing an electric wire on a row of fenceposts.

It will be apparent to those skilled in the art that I have accomplished at least the principal objects of my invention, and it will also be apparent to those skilled in the art that the embodiments herein described may be variously changed and modified without departing from the spirit of the invention, and that the invention is capable of uses and has advantages not herein specifically described; hence it will be appreciated that the herein disclosed embodiments are illustrative only, and that my invention is not limited thereto.

I claim as my invention:

1. A handy electrical insulator for ready attachment and detachment of an electric fence wire to and from steel posts of T-cross-section having a face flange and mid-flange and in which the mid-flange has a row of spaced lugs on the face thereof opposite the mid-flange, said insulator comprising a rectangular block of insulating material having a width slightly less than the width of the mid-flange, said rectangular block being recessed on one face so as to embrace at least one lug when the insulating block is placed against the face flange of the post, said insulating block having an aperture transversely therethrough, a metal clip extending through said aperture and being bent to provide resilient ends for embracing opposite edges of the face flange, and a metal hook supported on the insulating block and insulated from the metal clip for securing an electric fence wire thereon.

2. A handy electrical insulator for readily mounting an electric fence wire on steel fence posts of T cross-section composed of a face flange and mid-flange and having a row of regularly spaced lugs on the face flange, comprising a generally rectangular shaped insulator having a width approximately equal to the width of the face flange and having a recess in one face thereof for embracing at least one lug when the insulator is placed against that face of the face flange having the lugs thereon, said insulator having an aperture transversely therethrough from side-to-side, a metal clip of resilient metal extending entirely through said insulator, said clip having protruding ends bent towards and beyond the face of the insulator which is shaped to embrace the lugs on the post, said ends being bent so as resiliently to engage the edges of the face flange of the post, and a bent metal hook attached to the insulator and insulated from the clip for holding the fence wire.

3. An insulator for supporting an electric wire on a metallic post whereby the wire is electrically insulated from the post comprising an elongated body of insulating material having one face adapted to be seated against the face of the supporting post, said face having a recess therein adapted to cooperate with a protuberance on the face of said metallic post, resilient elements secured to and extending from opposed sides of said insulator body and having their free ends formed with inwardly turned resilient hooks for grippingly engaging the sides of the supporting post to detachably secure the insulator thereto, and a spring clip secured to a second face of the insulator body for receiving and supporting a wire thereon.

4. An insulator for supporting an electric wire on a metallic post having a vertically extending central supporting web and a face flange at its center disposed at substantially right angles to said web, said face flange having a vertically extending rib therein which is parallel to the opposed side edges of the flange and has spaced projections thereon, said insulator comprising a rectangular elongated body of insulating material having one face adapted to seat against the face of said supporting post, resilient elements on oppositely disposed sides of the insulator body and extending outwardly and inwardly therefrom and having their free ends formed with inwardly turned hooks for grippingly engaging the edges of the face of said supporting post detachably to secure the insulator thereto, and a spring clip having a substantially S-shaped configuration secured to the insulator body in insulated relation to the first clip, said S-shaped clip being secured to a second face of the insulator body oppositely disposed to the face adapted to engage said supporting post face for receiving and supporting a wire thereon.

5. The apparatus of claim 4 further characterized in that said elongated body of insulated material is adapted to be seated between a pair of spaced lugs on said supporting posts.

6. The apparatus of claim 4 further characterized in that said insulator is shaped to embrace one of the projecting lugs on said post when resiliently secured thereon.

7. An insulator for supporting an electric wire on a metallic post having a vertically extending web member and face member extending at right angles thereto, said vertically extending web member being integral with said face member at the center thereof, said face member having a central rib disposed on the opposite side of said face member and a plurality of spaced projections protruding from said central rib, comprising an insulating body, said insulating body having a substantially rectangular block of insulating material with one face thereof grooved to receive said central rib therein, the opposite face thereof having means adapted for securing a resilient spring extension in electrically insulated relationship thereon, said resilient spring extension thereon comprising a substantially S-shaped wire member with one end embedded in said insulating body, the remaining vertical sides of said insulating body having clip means supported thereon, said clip means comprising a pair of resilient wire prongs extending outwardly

and in a direction at right angles to the extension of said S-shaped member and having the outward tips thereof folded back upon themselves whereby said clip means are adapted to retain said insulating body on said supporting post face.

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