Aug. 25, 1942. C. E. IVES 2,294,235

SUPPORT FOR ELECTRIC FENCE WIRES

Filed Sept. 16, 1939 2 Sheets-Sheet 1

Fig. 1.

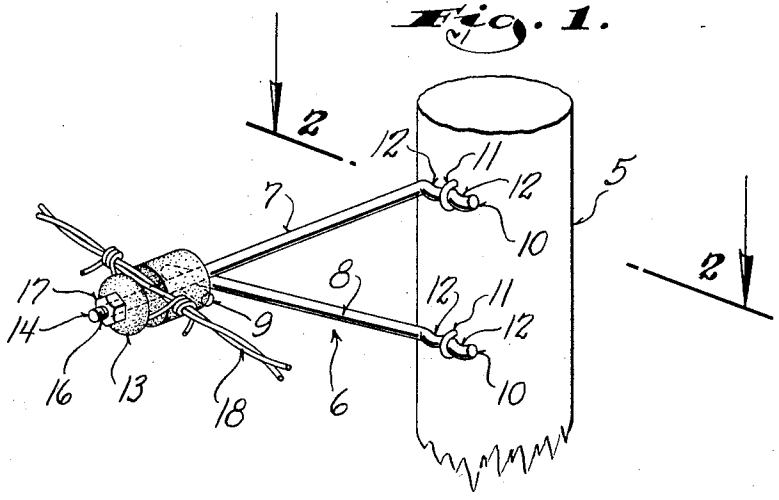



Fig. 2.

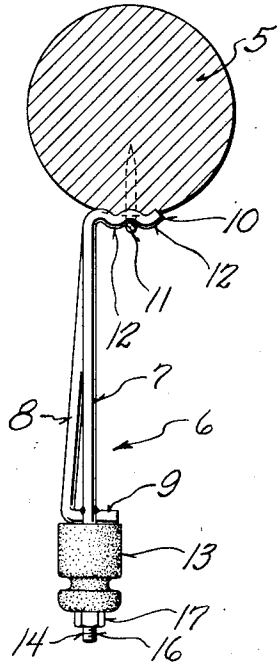
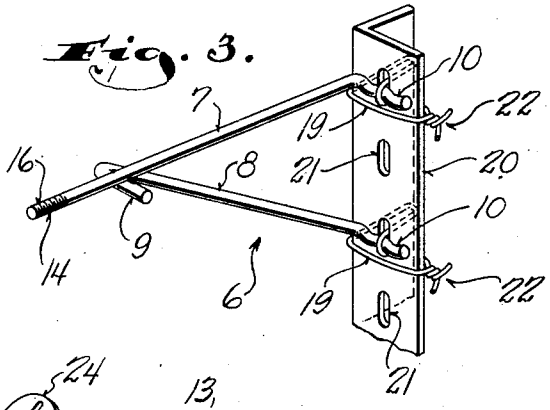



Fig. 3.



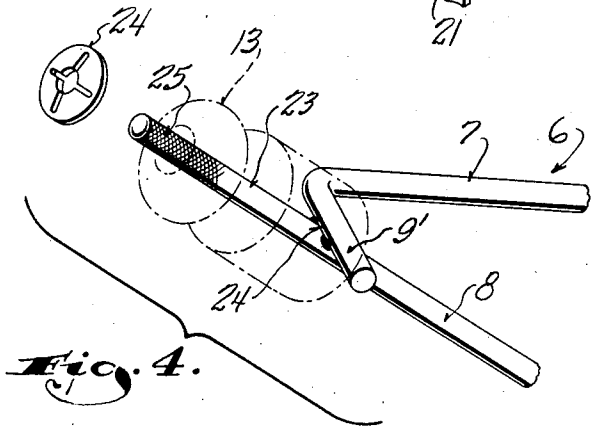




Fig. 4.

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Filed Sept. 16, 1939 2 Sheets-Sheet 2

Fig. 5.

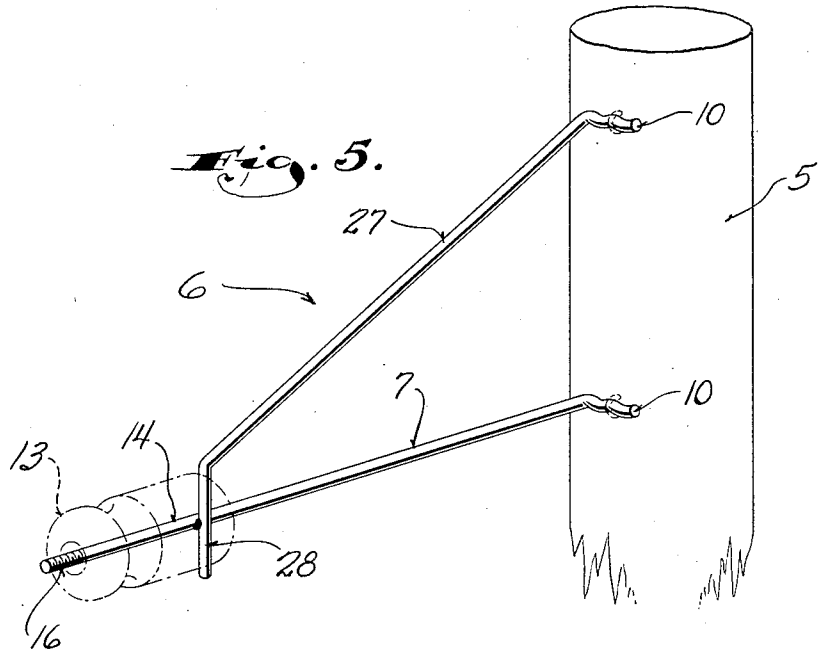
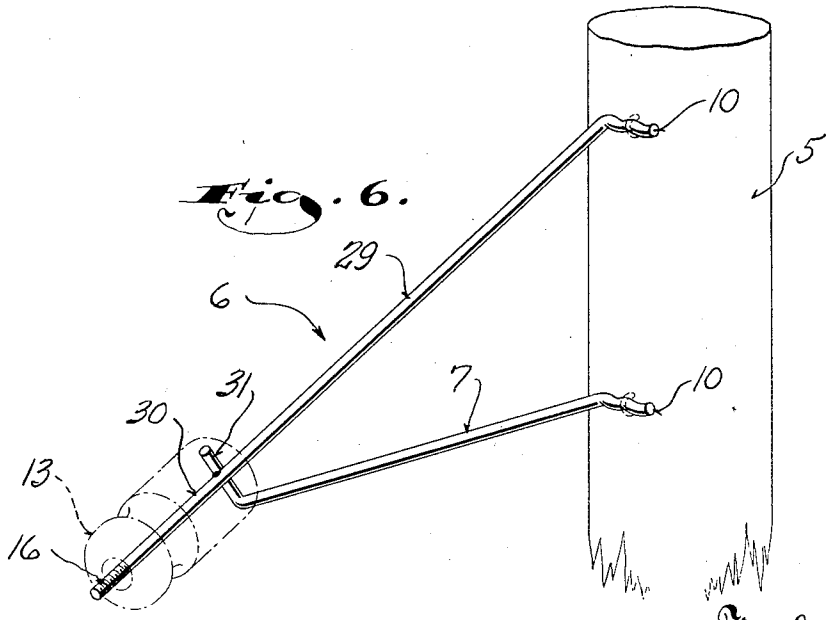



Fig. 6.




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## SUPPORT FOR ELECTRIC FENCE WIRES

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Application September 16, 1939, Serial No. 295,169

6 Claims. (Cl. 248—66)

This invention relates to improvements in electric fences used for livestock barriers and enclosures.

Inasmuch as fences of this type are usually installed by the farmer himself, it has been customary to support the wire on insulators attached directly to a wooden fence post or the like. This was obviously the simplest way of supporting the wire; but inasmuch as grass or hay could not be removed from under the fence wire due to its proximity to the fence posts, the efficiency of the fence was oftentimes seriously impaired by partial grounding through such hay or weeds contacting the wire.

Various attempts have been made in the past to provide a manner of mounting the fence wire so as to be spaced from the fence posts to permit removal of this source of trouble. Invariably, these past expedients have been of a complicated nature, requiring too much of the farmer's time to install, or they have been too expensive.

This invention, therefore, has as one of its objects the provision of an effective, yet simple and inexpensive bracket for supporting a fence wire in spaced relationship with the fence post.

Another object of this invention is to provide a fence bracket so designed that no special equipment, other than common staples of a type required for ordinary stringing of fence wire, is necessary to fasten the bracket to the post.

Another objection to past devices of the type heretofore in use was the danger of the fence wire becoming grounded through the bracket during rainy weather, at which time water would collect about the wire and its insulator and about the metal brackets usually employed to secure the insulator. Obviously, the effects of thus partially grounding the wire seriously reduced the efficiency of the fence.

In this respect, this invention has as a further object the provision of a fence bracket so designed that water is prevented from collecting and forming a circuit between the fence wire and its metal bracket.

More specifically, it is an object of this invention to provide a bracket which will hold an insulator for an electric fence wire at an angle to allow rain to run freely therefrom and thereby prevent partial grounding of the fence wire.

With the above and other objects in view which will appear as the description proceeds, this invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the hereindisclosed invention may be made as come within the scope of the claims.

The accompanying drawings illustrate several complete examples of the physical embodiment of the invention constructed according to the best modes so far devised for the practical application of the principles thereof, and in which:

Figure 1 illustrates the application of the bracket of this invention to a conventional wooden fence post;

Figure 2 is a sectional view taken through Figure 1 on the plane of the line **2—2**;

Figure 3 illustrates a slightly modified form of the invention in which the fence bracket is secured to a metal fence post;

Figure 4 illustrates a further modified form of the invention showing the manner in which the insulator is mounted so as to readily shed water;

Figure 5 is a view similar to Figure 1 illustrating a modified arrangement of the bracket arms; and

Figure 6 is a view similar to Figure 4 illustrating a further modified arrangement of the bracket arms.

Referring now particularly to the accompanying drawings, in which like numerals indicate like parts, the numeral **5** designates an upright wooden fence post to which the bracket of this invention, indicated generally by the numeral **6**, is secured. The bracket **6** comprises a substantially horizontal arm **7** and an inclined arm **8** having a right angularly bent end portion **9** at one end which overlies the arm **7** at a point medially of its ends and is rigidly secured thereto as by welding or other suitable means. Each arm is preferably of substantially stiff heavy wire, and has an attaching portion **10** bent angularly with respect to the arm. These attaching portions engage the sides of the posts transversely and are clamped thereto by staples **11**.

Thus, it will be seen that merely by the use of two staples, the bracket is rigidly secured to the fence post. However, to prevent the bracket becoming detached in the direction in which the wire is strung, the attaching ends **10** are kinked as at **12** at either side of the staple as clearly shown in Figure 2. Inasmuch as the kinks or bumps may be forced into the wood as the staples are driven home, it is apparent that the bracket is held against wobbling.

An insulator **13** of the spool type is carried by that portion **14** of the arm which overhangs the arm **8**. Attention is directed to the fact that the

arm 8, through its connection with the arm 7, cooperates to properly locate the insulator on the bracket, as it will be seen that the angularly bent end portion 9, which is welded or otherwise secured to the arm 7 and overlies the arm, forms a shoulder with which the insulator is engageable.

The outer end of the portion 14 is preferably threaded as at 16 to receive a nut 17 for removably securing the insulator in position.

As is apparent, the fence wire 18 may be readily secured to the insulator either by being looped thereabout or by being secured with an extra length of wire. The wire being thus supported at the outer end of the bracket, is spaced from the posts so that weeds, hay or other grass may be easily removed from under the wire to prevent possible grounding thereof through such weeds, grass or hay.

This type of bracket is also adaptable for use with steel posts, as shown in Figure 3. In this instance, the bracket is identical in every respect with that shown in Figure 1 with the exception that a length of wire 19 is used to secure the bracket to the post 20. Inasmuch as posts of this type are usually provided with spaced slots 21 along the length of one flange, it has been found convenient to locate the laterally bent end portions 10 of the arms 7 and 8 directly in line with a pair of slots 21, the distance between which corresponds to the distance between the ends 10 of the bracket. Merely by looping the wire 19 around the end portions 10, through the slots 21 and by twisting the ends of the wire together as at 22, the bracket may be firmly and rigidly secured to the post.

Figure 4 illustrates a slightly modified form of the invention in which the insulator 13 is carried by the outer overhanging end 23 of the arm 8 so as to be on an angle to the horizontal. In this form of the invention, the arm 7 has a bent portion 9' overlying the arm 8 and secured thereto in a manner similar to that described in connection with Figure 1.

The shoulder 24 thus formed defines the position of the insulator on the extending portion 23 and if desired, a spring washer 24 may be used in place of a nut to secure the insulator in place. While the spring washer 24 may engage a threaded portion on the outer end 23 of the arm 8, it is not necessary that this portion be actually threaded. Knurling or roughening, as at 25, is sufficient.

Mounting the insulator in this manner has the advantage of insuring proper drainage of water therefrom during rains, which if allowed to collect, as when the insulator is mounted vertically or horizontally, may cause shorting or grounding of the fence wire.

As thus far described, the horizontal arm 7 of the bracket has been the topmost arm; but to insure greater strength and rigidity, the arms may be arranged so that the horizontal arm is lowermost, as illustrated in Figures 5 and 6.

In Figure 5, the horizontal arm 7 is extended, as at 14, to carry the insulator 13 at its outer end, while an angularly disposed arm 27 which corresponds to the arm 8 of Figure 1, has a bent end portion 28 secured to the arm 7 medially of its ends. As in the previous embodiments of the invention, the end portion 28 of the arm 27 forms a shoulder or stop against which the insulator is engageable for proper positioning on the bracket.

It is to be noted that the arm 27 is placed in tension during normal use of the bracket, which insures a considerably stronger construction; and if desired, enables the bracket to be formed of lighter weight wire without sacrificing strength and rigidity.

This manner of arranging the bracket arms is also shown in Figure 6 which, however, has the downwardly extending angularly disposed arm 29 extended, as at 30, to receive the insulator 13. In this form of the invention, the horizontal arm 7 has a bent end portion 31 permanently secured to the arm 29 near its outer end to form the shoulder with which the insulator is engageable.

Like the bracket shown in Figure 4, the purpose of so mounting the insulator is to insure drainage of water therefrom during rains to guard against the possibility of water collecting at the insulator.

As clearly illustrated in Figure 6, the downward angle at which the insulator is mounted on the bracket enables rain to freely flow off the outer end of the insulator and the bracket and insures against the possibility of water collecting at the insulator.

From the foregoing description taken in connection with the accompanying drawings, it will be readily apparent to those skilled in the art that this invention provides a substantial improvement in electrical fence brackets and that in view of its extreme simplicity and inexpensiveness presents advantages over other devices of this type.

What I claim as my invention is:

1. A bracket for supporting an electric fence wire comprising: two lengths of stiff wire, one of said wires having an end portion bent at right angles thereto; a joint rigidly securing said bent end portion to the side of the other wire medially of its ends to rigidly connect the wires in such a manner that they form an acute angle and with their diverging ends of such length that upon attachment thereof to a substantially vertical support one of said wires is substantially horizontal and the other extends at an upwardly inclined angle, said angularly bent end portion in crossing the adjacent portion of the other wire forming an abrupt shoulder beyond which the free end portion of said other wire projects to provide a spindle for a spool insulator, said shoulder defining the position of the insulator on the spindle; and means at the extremity of said free end portion for holding an insulator in position against the shoulder.

2. A bracket for an electric fence wire comprising: a pair of substantially rigid arms joined together to substantially form an acute angle, one of the arms projecting axially outwardly a distance beyond the apex of the angle to provide a spindle for a spool type insulator of greater length than the insulator; a shoulder formed by the joint between said arms and engaged by an insulator on the spindle so as to define the position of the insulator thereon; means on the outer end of the spindle at the side of the insulator opposite the shoulder providing for securing an insulator in place on said spindle and against the shoulder; and means on the diverging ends of the arms at the portion of the bracket opposite the spindle providing for the attachment of the bracket to a support.

3. A bracket for supporting an electric fence wire in spaced relation to a fence post or similar support comprising: a pair of arms formed of heavy wire, one of said arms having an end por-

tion disposed substantially perpendicular to said other arm and joined thereto a distance inwardly of one end of said other arm so as to provide a spindle for an insulator of the spool type at said end of said other arm with the joint between the arms forming a stop on the spindle substantially normal to the center line of said other arm and with which an insulator on the spindle engages to be properly positioned thereby; means on the outer end of the spindle providing for maintaining an insulator in place on the spindle against said stop, said first designated arm being bent adjacent to its junction with said other arm so that the free length of said first designated arm substantially forms an acute angle with the end portion of said other arm opposite the spindle; and means at the diverging ends of the arms providing for the attachment of the bracket to a support such as a fence post.

4. A bracket for supporting an electric fence wire in spaced relation to a fence post or similar support comprising: a pair of arms formed of heavy wire, one of said arms having an end portion disposed substantially perpendicular to said other arm and joined thereto a distance inwardly of one end of said other arm so as to provide a spindle for an insulator of the spool type at said end of said other arm with the joint between the arms forming a stop on the spindle substantially normal to the center line of said other arm and with which an insulator on the spindle engages to be properly positioned thereby, the ends of the arms opposite the spindle substantially forming an acute angle and means at the diverging ends of the arms providing for the attachment of the bracket to a support such as a fence post, said last named means including an attaching portion on each arm bent angularly with respect to said arms and crimped to prevent slippage between the bracket and the support.

5. A supporting bracket for electric fence wires comprising: two arms of substantially heavy wire, one of said arms having an end portion disposed substantially perpendicular to the other arm and joined to the side of the other arm a distance inwardly of one end of said other arm so as to provide a spindle for an insulator of the spool type at said end of said other arm and a shoulder substantially normal to the axis of the spindle at said joint and with which an insulator on the spindle engages to be properly positioned thereby, the ends of the arms opposite the spindle substantially forming an acute angle, said arms being of such length that attachment of their diverging ends to a substantially vertical support with the arms lying in a common vertical plane disposes the first designated arm substantially horizontally and said other arm with its spindle at an angle to the horizontal; and means at the outer end of the spindle providing for holding a spool insulator in place on the spindle and against said shoulder formed by the joint between the arms.

6. A supporting bracket for electric fence wires comprising: two arms of substantially heavy wire, one of said arms having an end portion disposed substantially perpendicular to the other arm and joined to the side of the other arm a distance inwardly of one end of said other arm so as to provide a spindle for an insulator of the spool type at said end of said other arm and a shoulder substantially normal to the axis of the spindle at said joint and with which an insulator on the spindle engages to be properly positioned thereby, the ends of the arms opposite the spindle substantially forming an acute angle, said arms being of such length that attachment of their diverging ends to a substantially vertical support with the arms lying in a common vertical plane disposes the lowermost arm substantially horizontally and the uppermost arm at an angle to the horizontal so that the application of downward force at the spindle portion of the bracket places the inclined arm in tension.

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