MICROCOPY RESOLUTION TEST CHART
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APPLICATION FOR A PATENT

INSTRUCTIONS

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Title of Invention.

"IMPROVED INSULATOR MEANS"

which is described in the accompanying provisional specification.

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Dated this 4th day of December 1974

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By their Patent Attorneys
 COLLISON & CO.

To: The Commissioner of Patents,
Commonwealth of Australia.
TO BE COMPLETED BY APPLICANT

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Complete Specification for the invention entitled: "IMPROVED INSULATOR MEANS"

The following statement is a full description of this invention, including the best method of performing it known to us:-

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1.
This invention relates to improved insulator means.

In the supporting of wires which are required to carry electric current it is customary to use insulators which have resistivity sufficiently high to prevent leakage across the insulator, to ensure that the current is not dissipated to the supports.

Porcelain and other insulators are well known for this purpose and are generally effective in their operation, but there are instances such as in the use of electric fences as used for instance to keep cattle within certain limits, where large numbers of insulators are required to support the wires from the posts or droppers as they are commonly known and the normal type of insulator is generally too expensive for this purpose so that it has been customary to provide plastic members which support the current carrying wires from the posts or droppers.

It is well known however that plastics are relatively unstable over lengthy periods and this is particularly so when the plastic is subjected to ultraviolet light or sunlight, when deterioration can be quite rapid.

Electric fences of course are generally charged with a relatively high voltage but low amperage current so that an animal touching the wires will receive a sufficient shock to discourage any attempts at getting through the fence and because of the high voltage
required for this purpose it is essential that relatively good insulation is provided or otherwise the leakage problems become critical.

An object of the present invention therefore is to provide a form of insulator and support therefor for electric fences, but also of use in other applications, which will be effective in insulating value, will be easily mounted, will be readily adaptable in their mounting to what are known for instance as star posts, that is metal posts having projecting webs as commonly now used in fencing, and are mechanically stable in their attachment by means inexpensive enough to allow them to be used in large numbers such as in fencing.

According to this invention insulators of good insulating value such as those for instance known as button insulators which are made of porcelain and have an aperture therethrough, are mounted by means of securing members which hook to the web of a support post, preferably the wider web, or the like in such a manner that they can be simply supported without having to use special brackets or preferably do more than use one of the existing holes where wires would have been threaded through the support.

While as said the main purpose of the invention is in electric fencing and its use is preferred with star posts or like webbed supports, the invention need not necessarily be limited to this as it will
be realised that a very stable form of attachment is proposed by this invention which is both cheap but effective and can use the relatively cheap but again effective porcelain button insulators.

To enable the invention to be fully understood, an embodiment will now be described with reference to the accompanying drawings in which:

Figure 1 is a side elevation of part of a support post with the invention attached,

Figure 2 is a plan of same.

Figure 3 is a horizontal section of same,

Figure 4 is a detailed perspective view of the invention.

In the embodiment shown the button insulator 1 which comprises a cylindrical porcelain member having an aperture 2 to take a central axial holding member in the form of a hooked bolt 3 and provided with a circumferential groove 4 to axially locate the wire on the periphery of the insulator, are attached to a webbed support by simply engaging the hooked bolt 3, which is of a length sufficient to pass through the insulator 1 to take a nut 5 or wing nut or clip on its outer end, while its hooked end 6 passes through an aperture 7 in the web 8 of a support 9, an essential feature however being a stabilising member 10 in the form of a bent washer which engages both the holding member 3 and the edge of the web 8 of the support 9, as well as the insulator 1.
As shown in the drawings, the stabilising member 10 comprises a washer bent substantially to a "U" shape but so that its one bent portion 11 lies flat against the web 8 of the support 9 while the bend 12 has an aperture 13 to encircle the bolt 3 and its other bent portion 14 engages the other side of the web 8 but is distorted outwardly at 15, to allow the bolt to pass between the web 8 and that side of the washer formed by the bent portion 14.

Thus the hardware for holding the button insulator 1 so that it projects outwardly from the web 8 of a support simply comprises a bolt 3 having tensioning means such as a nut 5 at one end and having its other end of hook shape or formed to engage an aperture in the web to which it is to be attached, has on it a stabilising member 10 in the form of a loose washer of "U" shape with the opening of the "U" facing and engaging the member so that when the bolt 3 is hooked into the aperture, the bolt is held relatively parallel to the web 8. This allows the insulator to be placed over the holding member and the whole assembly tightened by either screwing a nut onto the thread on the bolt or using clip means or the like for this purpose.

It will be realised that a hooked bolt is a relatively cheap commodity and is a preferred form of attachment because the bolt can simply have its hook engaged in a normal aperture formed in the web
of a support post through which the wire would otherwise pass, and because the bent washer engages the edges of one web of the support, the bolt is held to project outwardly from this edge and the washer then forms the seat for the button insulator.

A nut engaged in a thread at the end of the hook bolt tightens the assembly.

The hook bolt can have a head (not shown in the embodiment) which can be on the opposite side of the web to the bolt extension but a simple hook generally suffices. In this way a very cheap but highly effective attachment of the insulator results because it is firmly locked to project outwardly from a web and because of the use of the bent washer can take substantial strain in any direction.

The stabilizing member, in the form of a bent washer, can of course be of any required form but preferably is of "U" shape as described therein with an off set hole through it so that while one leg of the washer engages one side of the web of a support, the other leg of the "U" shaped washer bears against the hooked bolt to force it against the web and thus form a rigid lock for the bolt in the plane of the web, and also as the washer has lengthwise extension on the web, it ensures that the hooked bolt remains at right angles to the edge of the web in the plane of the web to give, as stated earlier, a firm support for the insulator in all required directions.
The washer should preferably conform to the shape of the bolt as shown, guiding same for added stability.

It must be stressed again that the actual hardware used can be varied, and also the application of the device, but the general principle involved is the attachment of insulators to webs or similar members of supports with the insulator projecting outwardly from the web through the use of a member which engages the web, is stabilised on the web by a bent washer or the like, and has the insulator locked onto it by any form of fixing means such as a nut or friction member or clip or the like, the device being attached to supports such as fencing posts or droppers, particularly of the type known as "star" droppers or posts which have one web apertured to take the line of wires, the holding member being engaged in one of such apertures to project outwards to bring the wire supported by the insulator outside of the line of posts or droppers.
CLAIMS
The Claims defining the invention are as follows:

1. Improved insulator means adapted to be secured to a support for carrying wires arranged to carry electrical current comprising, a holding member adapted to engage said support to project outwards from said support, an insulator adapted to be engaged on said holding member to encircle portion of the projecting part of said holding member, a stabilising member arranged to be interposed between said support and said insulator arranged to engage said insulator and said support in such a manner that it holds the said holding member to project outwardly from said support, and means to engage the said holding member to force said insulator into contact with said stabilising member and said stabilising member into engagement with said support when said means are engaged on a support.

2. Improved insulator means adapted to be secured to a support for carrying wires arranged to carry electrical current comprising, a holding member having a hook shaped end adapted to engage a web on said support to project outwards from said web, an insulator adapted to be engaged on said bolt holding member to encircle portion of the projecting part of said member, a stabilising member arranged to be interposed between said support and said insulator arranged to engage said web of said support and shaped to position said holding member to extend
from said web, and means to engage said holding member to force said insulator into contact with said stabilising member and said stabilising member into engagement with said web when said holding member is engaged in a support.

3. Improved insulator means according to claim 1 or claim 2 characterised in that the holding member is a bolt having one end hook shaped and a thread at the other end.

4. Improved insulator means according to either claim 1, claim 2 or claim 3 characterised in that the holding member is in the form of a washer of "U" shape with the opening of the "U" shape facing and engaging the said support, said stabilising member having an aperture adapted to accommodate the said holding member, said stabilising washer being adapted to have its one leg engaged against a web of the said support and its other leg adapted to bear against the holding member to locate the said holding member against the said web of the support on the opposite side to that engaged by the first said leg of the said stabilising member.

5. Improved insulator means according to any preceeding claim characterised in that the insulator is a button insulator having a central aperture therethrough and having on its periphery a circumferential channel adapted to locate a wire supported by the said insulator.
6. Improved insulator means according to any preceding claim when mounted on a support having a web having apertures arranged to engage the wires of a fence, by engaging one end of said holding member through one of the apertures of said support.

5. Improved insulator means constructed and operating substantially as described.

Dated this 4th day of December, 1974.

NOEL JAMES BONNIN and ROLAND ARTHUR BEAUFoy By their Patent Attorneys COLLISON & CO.
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