

C. McL. GRAHAM.
 REINFORCED WOODEN SUPPORT FOR INSULATORS.
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930,751.

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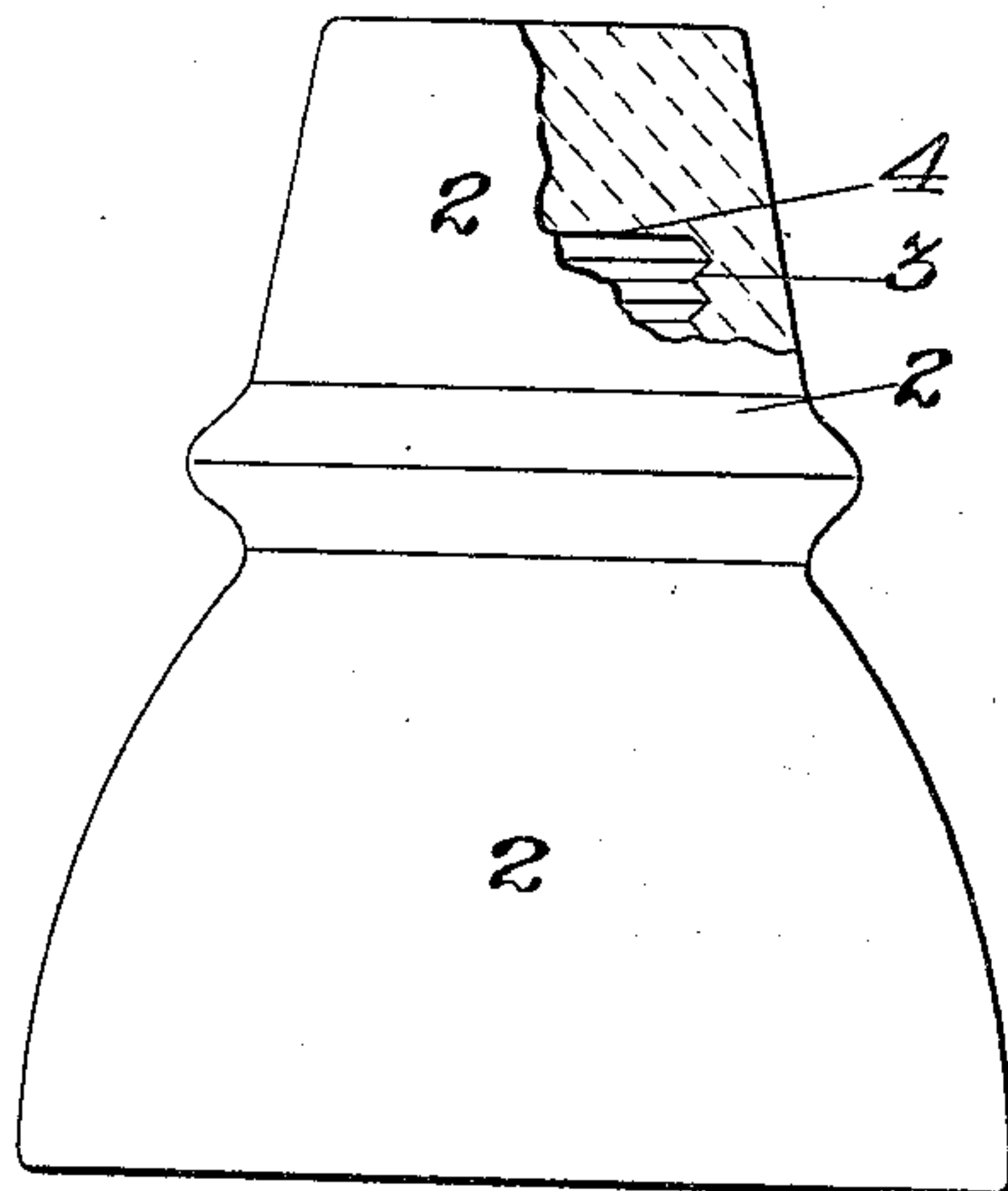


Fig. 1.

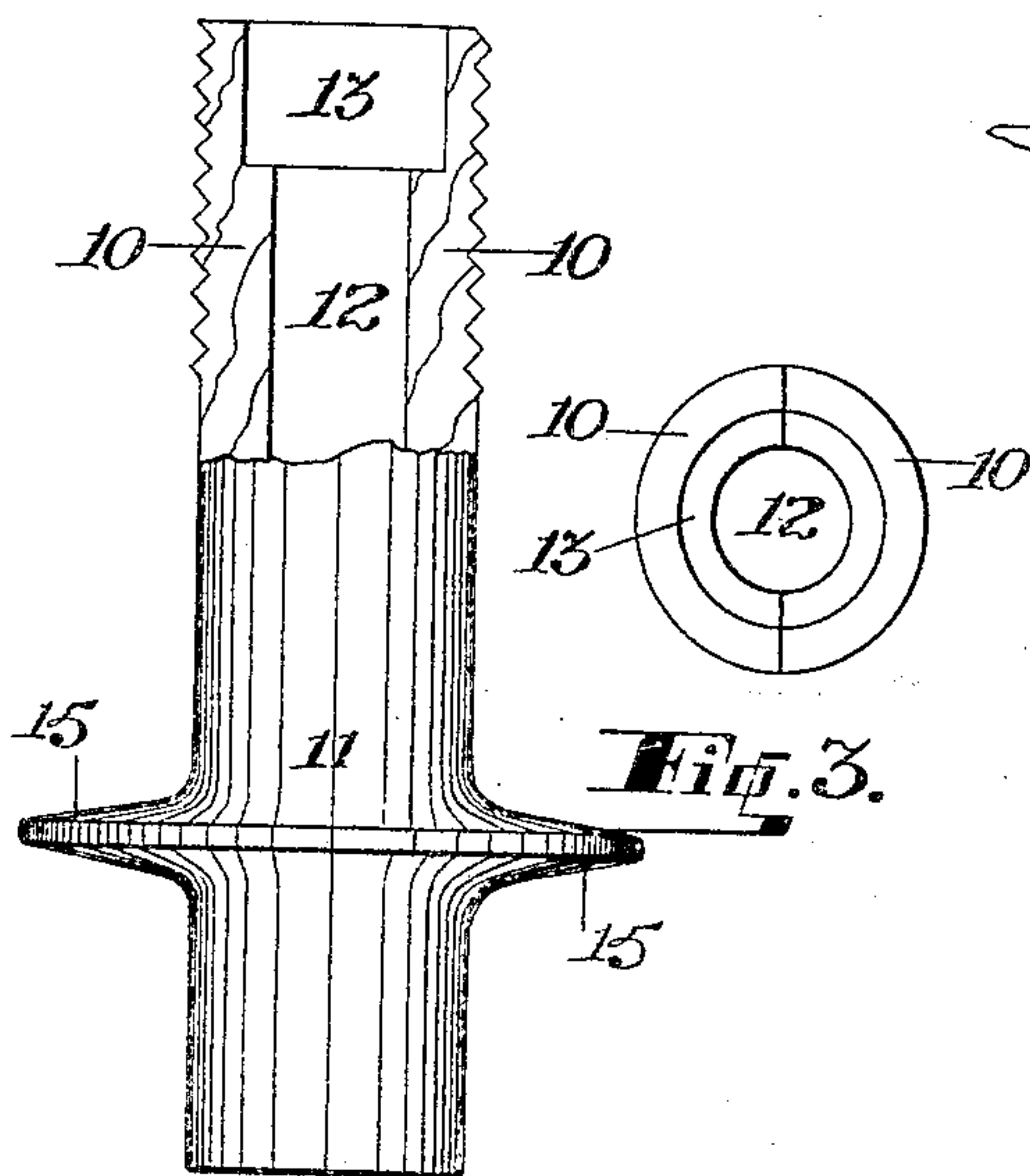
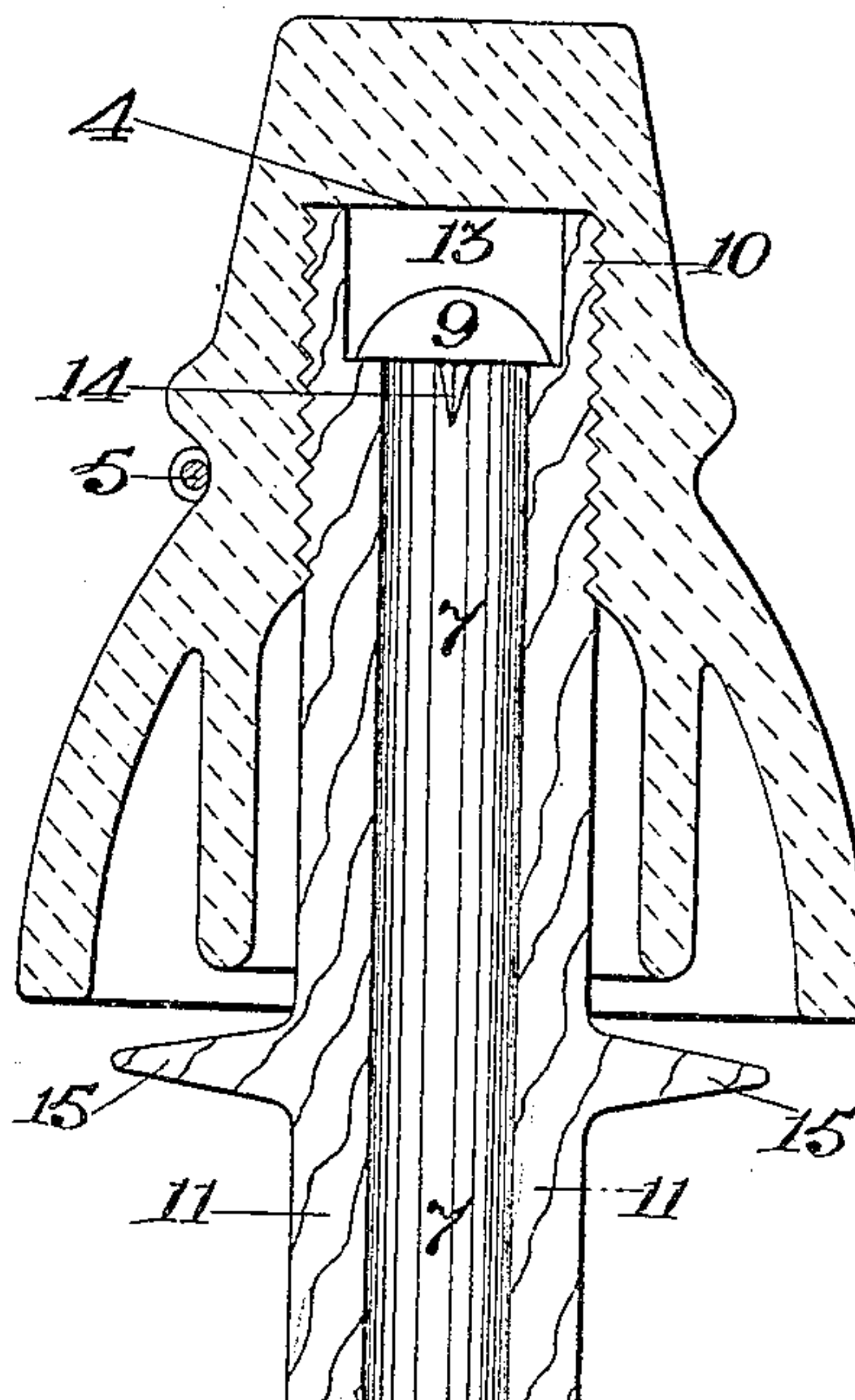


Fig. 2.

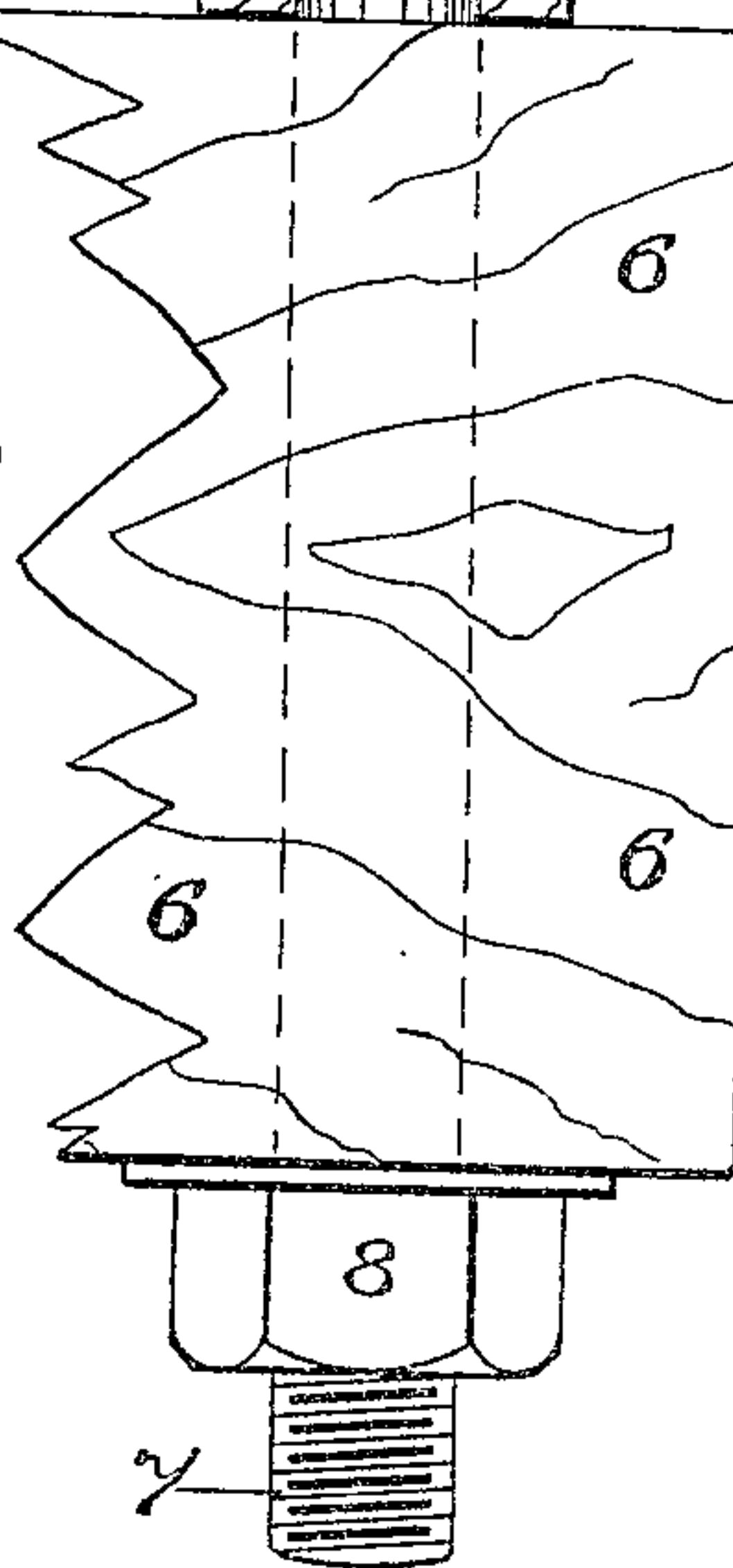


Fig. 3.

Witnesses:
 James Mansfield
 Anna L. Florine.

Inventor:
 Charles McL. Graham
 By:
 Alexander Dowell.
 Attorney

UNITED STATES PATENT OFFICE.

CHARLES McLACHLAN GRAHAM, OF MALVERN, VICTORIA, AUSTRALIA.

REINFORCED WOODEN SUPPORT FOR INSULATORS.

No. 930,751.

Specification of Letters Patent.

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Application filed August 4, 1908, Serial No. 446,872. Renewed April 22, 1909. Serial No. 491,605.

To all whom it may concern:

Be it known that I, CHARLES McLACHLAN GRAHAM, a subject of the King of Great Britain and Ireland, residing at 16 Isabella street, Malvern, in the county of Bourke, State of Victoria, and Commonwealth of Australia, civil servant, have invented a certain new and useful Improved Reinforced Wooden Support for Insulators, of which the following is a specification.

This invention relates to what are commonly known as double-shed or inverted cup insulators, generally used for supporting telephone aerial lines or such like electrified bodies. Insulators of this class are extensively manufactured from porcelain on account of its well known advantages, but other materials may be used dependent upon climatic conditions. In the past these insulators have been supported in a variety of ways, sometimes by wooden supports, sometimes by those of metal. If the support was made of metal the insulation sometimes suffered, if made of wood the necessarily increased diameter thereof called for a larger hole to accommodate the support bottom and incurred greater cost for installation. Metallic supports have therefore been largely used because of their convenience in application and saving, although a wooden support is preferable from an insulating point of view. The cost of installing insulators having wooden supports has been of particular importance when application to post arms has been necessary the arms having to be of a broader and heavier character in consequence thereof. In insulators of the kind mentioned another defect has been that although the outer surface is unavoidably exposed to rain, and serves to protect the inner cup greatly, the said inner cup is affected by upsplashing water and not, in many instances, kept in a dry state during wet weather. The object of the double-shed is in a measure defeated, further, by the accumulation of dust and foreign substances within the insulator. This is aggravated by upsplashing in wet weather. The inner cup consequently does not offer the considerable resistance to the escape of current it is capable of doing when dry and unencumbered.

Among the objects of this invention is the retention and utilization of the good qualities of combination wood and metal supports, the prevention of any possible diversion of the current (passing through an electric wire

or other body attached to an insulator) and the exclusion of upsplashes in wet weather and also to a great extent other foreign substances, from the interior of the insulator.

According to this invention the chamber wall, and the chamber top within said insulator are supported on a non-conductor such as wood. This may be whole or divided as preferred and is reinforced by a central member of metal by which it is secured in position. The contact between the insulator and the wooden support is of a comparatively flexible nature as is also the contact between the bottom of the central reinforcing member and the body to which it is secured. Protruding from the wooden support, below the insulator, is an upsplash preventer to exclude the entrance of splashes and retain the inner cup always in a dry state.

Various advantages present themselves in connection with this invention, among which are the following:—The insulator is not so liable to rupture when being threaded upon its support, a more perfect degree of insulation is effected than when the insulator makes contact with metal, should the insulator break and the wire rub against its support it will rub against wood, (a non-conducting material) and not against metal, (a good conductor,) the said support presents a wooden contact to the chamber wall and the chamber top of the insulator, the wood is strengthened by the metallic central reinforcement, on account of the comparatively small diameter of the central member, when installing insulators upon post arms, a post arm which is narrower in width is sufficient, rather than one which is wide and costly, upsplashing of rain is prevented in wet weather and the inner cup maintained in a dry state, dust and other like foreign matters are also in the main excluded from the interior of the insulator.

Other objects and advantages will be in part obvious and in part pointed out hereafter.

Referring to the drawings which form a part of this specification—Figure 1 is a side elevation of an inverted cup insulator, portion of the same being shown in section. Fig. 2 is an elevation of a one-piece support. Portion of this is shown in section for the convenience of illustration and an upsplash preventer clearly seen. Fig. 3 is a plan of a divided support. The longitudinal division

is clearly seen. No upsplash preventer is shown. Fig. 4 is a sectional elevation of this invention comprising the insulator, its support, the metallic central reinforcing member, and part of the post arm upon which a support and insulator rest and also some of the accompaniments of the foregoing including the upsplash preventer.

Similar numerals of reference indicate corresponding or like parts where they occur in the several views.

On reference to the drawings it will be seen that 2 is an insulator. In this insulator is a chamber. The chamber wall 3 is threaded. The chamber top 4 can be flat as shown or of other conformation. To the outside of the said insulator may be secured an electrified wire such as 5. Beneath the insulator is an arm 6. This protrudes from a post, a wall, or any other erection. In a hole formed in the arm 6 is placed the lower end of a metallic central reinforcing member 7. The said member on its lower end is threaded and is provided with a nut 8. At its top is a head 9. This head may be round, as shown, or of other conformation. Inside the chamber in the insulator is placed the top end 10 of a wooden support 11. The said top end is externally threaded. Through the said wooden support is a hole 12. This accommodates the metallic central reinforcing member. In the top of the said wooden support is the recess 13. The height of this, as also its width, will depend upon circumstances. It is of such diameter and height that the head 9 of the metallic central reinforcing member 7 is sunk below the top of the wood. Integral with or attached to the support 11 and below the insulator is a circumferential rib or flange 15 forming an upsplash preventer. This serves to prevent rain from splashing into the interior of the insulator and also excludes the entrance of dust and such like foreign substances in any material quantities. It may be of any suitable conformation and area, but is preferably circular in plan. Beneath the head 9 of the metallic central reinforcing member 7 are depending turn stops 14, the number of which will depend upon conditions. Instead of the wooden support 11 being round on its bottom end it may be square, rectangular or of other section. Or it may be larger in area at its top than at its middle or below the threaded portion of the top 10. In a modification of the foregoing the said

wooden support is divided longitudinally in halves and instead of being in one piece may be composed of two longitudinal pieces as shown in Fig. 3. Each of the said pieces is in the form of a semi-circular channel. They need not necessarily be united by any adhesive or agglutinant.

The parts of this invention are assembled as follows:—The nut is removed from a central member and upon the said member is placed the wooden support with its threaded end uppermost. The insulator is threaded upon the top end 10 of the said wooden support. The lower end of the central reinforcing member is then passed into the hole in the arm 6 and the nut placed on the lower end of the said member and tightened up, thereby drawing downwardly the depending turn stops 14 which sink into the support and prevent circumferential movement of the central reinforcing member when the nut 8 is being operated. The insulator is now in position and is ready for the wire 5 to be attached thereto.

As the controlling features of this invention could be otherwise applied and carried out by various modifications and arrangements without departing from its spirit and scope, it is intended and desired that the matter contained in the foregoing description shall be interpreted as illustrative of an embodiment at present preferred and not in a limiting sense.

Having now described my invention, what I claim as new and desire to secure by Letters Patent is:—

1. In combination with an insulator, a metallic central reinforcing member, and a wooden support interposed between the member and insulator and having an upsplash preventer below the insulator.

2. In an improved reinforced support for insulators, the combination of an insulator, a wooden support therefor to the top of which is threaded said insulator, said support having an upsplash preventer below said insulator, and a metallic central reinforcing member passing through said wooden support.

In testimony whereof I affix my signature in the presence of two subscribing witnesses.

CHARLES McLACHLAN GRAHAM.

Witnesses:

CECIL W. LE PLASTRIER,
GEORGE A. U'REN.