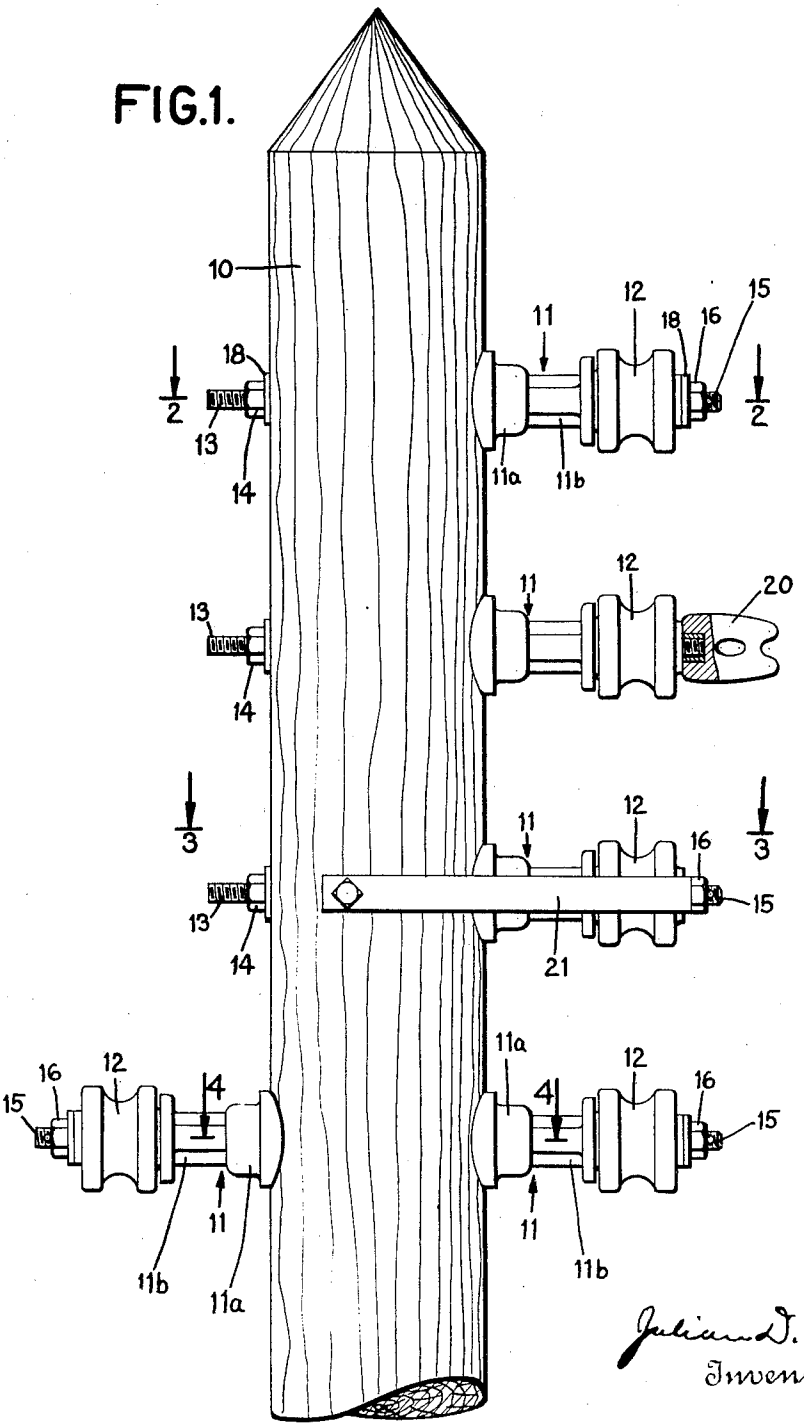
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INSULATOR SUPPORT

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FIG.1.



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FIG. 2.

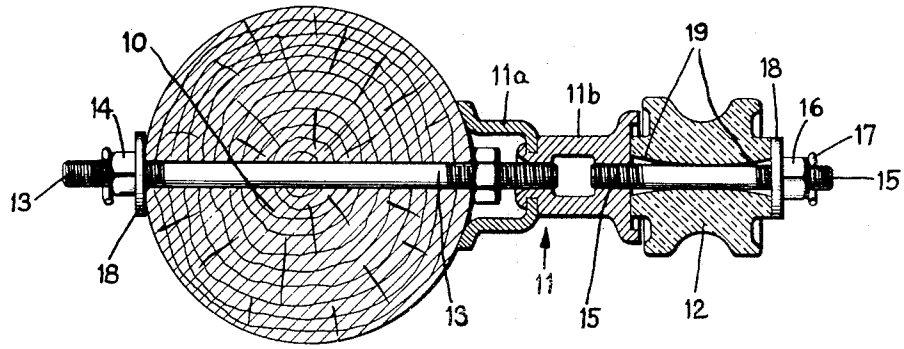


FIG. 3.

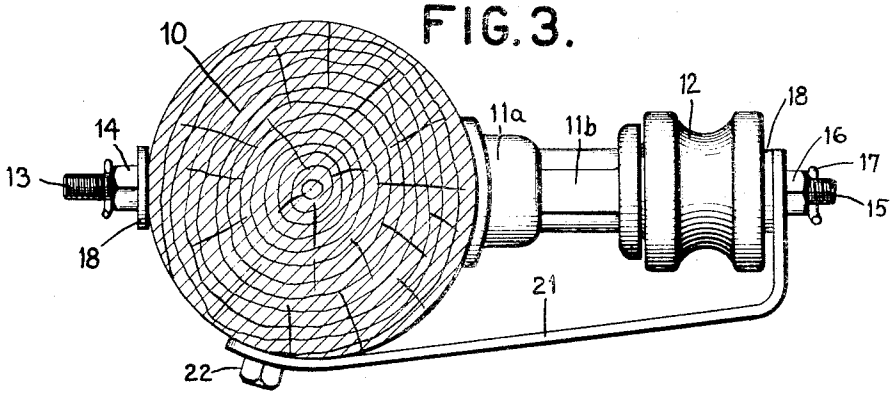
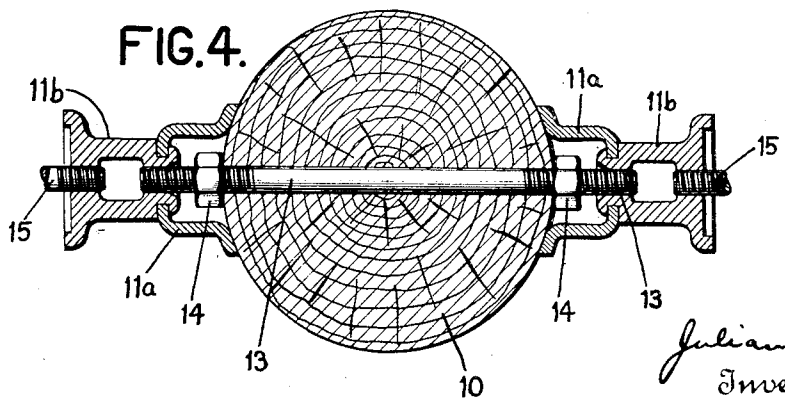


FIG. 4.



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INSULATOR SUPPORT

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Application July 25, 1929. Serial No. 380,856

4 Claims. (Cl. 173—321)

This invention relates to insulator supports and more particularly to the provision of insulator supports which are suitable for outdoor or pole line constructions.

One object of the present invention resides in the provision of an improved insulator support which is readily adapted for variability and flexibility in installation so that insulator locations can be varied as easily as desired and not be tied down to a particular location which is determined by the character of the supporting parts.

A further object of the present invention resides in the provision of an insulator supporting structure which is easily changeable in application both for single and multiple supports.

Another object of the present invention resides in the provision of an insulator support construction which will readily provide for desirable variable individual spacings of the insulators in order to meet the varying conditions encountered in construction work.

Another object of the present invention resides in the provision of a support which is not only cheap to manufacture but which possesses superior strength over supports now in use.

Another object of the present invention resides in the provision of a support construction and cooperating insulator of such character that the insulator may be utilized as a pulley over which the cables may ride while they are being drawn in place over the poles whereby the installations of overhead cables and wires may be facilitated.

Another object of the present invention resides in the provision of a construction which when employed, will enable the complete insulator installations to have a higher insulating value than heretofore.

Another object of the present invention resides in the provision of an insulator support of such character that additional insulators can be readily applied when desired.

Further and other objects and advantages of the present invention will be hereinafter pointed out in the accompanying specification and claims and shown in the drawings which by way of illustration show what I now consider to be preferred embodiments of the invention.

In the drawings:

Figure 1 shows a fragment of a wooden pole with several of my insulator supports attached thereto and showing the manner in which a variety of mountings of insulators may be secured with my improved insulator supporting structure;

Figs. 2, 3 and 4 are enlarged detailed sectional views taken respectively on lines 2—2, 3—3 and 4—4 of Fig. 1.

Referring to the drawings in more detail 10 designates the wooden pole, 11 generally designates the metal base upon which the insulators are mounted, 12 designates a porcelain insulator and 13 is a retaining bolt which is passed through a hole in the pole and secured thereto by nuts 14 or by the head of a machine bolt.

In the application of the improved insulator support to the pole, holes are drilled through the pole at convenient locations. The numbers of these holes are determined by the number of insulators required for the installation and the workman has the opportunity to space the holes in accordance with convenience and requirements. For instance, in passing wires through locations where trees are encountered, it is often desirable to avoid cutting limbs out of valuable trees in order that the wires may pass. With an inflexible system of insulator supports as used heretofore where the spacing of the insulators is predetermined and inflexible very often it is necessary to cut trees in order to have the wires escape the limbs, whereas with the improved insulator support herein disclosed, the spacings can be made to suit these and other conditions as they arise.

The supporting metal base 11 is preferably made in two parts, one part or portion being designated 11*a* (see Fig. 2) and such part may be provided with a curved base to properly seat against a round pole as shown or it may have a flat base to fit flat surfaces. This part 11*a* is loosely connected to the main part or portion 11*b* which is threaded to receive the bolt 13 and also threaded to receive a stud 15. In the application of the support 11 to a pole, the portion 11*b* is screwed upon the end of a bolt 13 and during this operation, when part 11*b* rotates with respect to and is maintained in alignment with respect to part 11*a*, the flanged base part 11*a* can remain stationary. The stud 15 may then be screwed in position by threading it into the metal base portion 11*b* and then the insulator 12 is secured in position upon the stud 15 by means of nuts 16 and cotter pin 17. Obviously the insulator is easily removable from its supporting stud 15.

It will be understood that suitable washers 18 can be used or not as desired.

Referring to Fig. 2, it will be noted that preferably the insulator 12 is provided with a central hole which is tapered as shown at 19 so that the contact between the insulator and the stud 15 is approximately in the middle of the insulator. This construction tends to prevent the breakage

of the insulator under bending movement of stud 15.

If desired, the insulator 12 and the base 11 can be completely assembled and attached to the bolt 13 as a complete unit. Also if desired, the nut 16 may be arranged to jam at the end of the thread upon the stud 15 before tightening up upon the insulator 12, thus allowing the insulator to "float" and be free to revolve.

If desired, an additional insulator 20 (see Fig. 1) can be employed serving in lieu of the nut 16. By employing such an extra insulator 20 additional service connections can be made to buildings or other current consuming locations with a minimum of extra materials, labor and preparation. If a new building is to be served from an existing line it is only necessary to remove the cotter pin 17 and the nut 16 and screw on the additional insulator 20 which thus at the same time performs the functions of the nut 16 and provides an extra insulator. Heretofore, it has been necessary to install additional insulator racks or insulators at some nearby location upon the pole.

As shown in Figs. 1 and 3 a strap or brace 21 is provided which may be connected to the outer end of stud 15 and secured at its opposite end to the pole by means of a lag screw 22. This enables the insulator and support to be installed in a uniform position and at the same time to be used for "dead ending" in which case the strain is taken by the strap or brace 21. If the cable service is extended to a further point, the insulators and supports are in proper position to permit the wires to be extended on to other poles and in this case the brace 21 may or may not be removed.

As shown in Fig. 1 and in Fig. 4 insulators and their cooperating supports can be added to the opposite side of the pole by merely connecting one of the bases 11 with the opposite end of bolt 13. This can be done at any time without interfering with the existing installations. It is only necessary that the bolts 13 be long enough to enter and be received by the threaded portion 11b of the base 11.

It is obvious that due to the favorable location and position of the insulators 12 on the supports, the same being disposed on a horizontal axis that such insulators can be used as pulleys over which the wires or cables may be drawn and this enables the wires or cables to be drawn over many poles at once. Heretofore it has been necessary to draw the wires by frictional engagement with the metal posts attached to or forming part of the insulator assembled rack. According to the present invention this frictional engagement is dispensed with and accordingly much less labor is required for the installation of wires.

Numerous advantages accrue from the use of this insulator support, some of which will be briefly enumerated.

Inasmuch as the insulator supports are in single units they are particularly adapted for a variety of installations and greater flexibility of installation can be obtained than heretofore. The support can also be attached to existing bolts which are installed. On present systems where two insulators are used, a third can be added without changing the present construction, or similarly present systems using three conductors can add a fourth one if desired and so on indefinitely.

If an insulator is accidently broken the broken insulator can be removed and replaced by a new one without in any way interfering with the other insulators. Additional take off or service insulators 20 can be added at any time without interruption or interference with the existing installation. In stringing wires, they may be handled in groups or singly as desired. Each wire may pass over its own insulator which acts as a pulley and reduces the pulling friction to a minimum or if desired, several wires in a group may pass over one insulator which also serves as a pulley.

The construction permits the increasing of the distance between the wire and the pole with the same spacing from the pole to the center of the insulator as compared with the conventional insulator rack wherein the insulators are mounted vertically. The insulation characteristics are increased because there are no electrical connections between the metal support of each insulator. The construction is also cheap and inexpensive to manufacture and enables a heavier construction to be provided at no increased expense.

While according to the present invention independent insulator supports are preferably intended to be provided, it is obvious that where it is desired to establish a predetermined spacing that the supporting parts 11 can be mounted on a metal sub-base if desired.

What I claim is:

1. An insulator support adapted for attachment to the end of a bolt comprising a base portion fitting over the bolt and abutting a surface from which the end of the bolt projects, a supplementary base portion loosely connected to the first mentioned base portion and provided with a threaded portion to receive the aforesaid bolt, an insulator supporting stud threaded to engage threads in the aforesaid supplementary base portion and having a threaded portion to receive a securing means for the insulator.

2. An insulator support and insulator assembly comprising a two-part base portion, one part being shaped to straddle a supporting bolt, the other part being connected to the first mentioned part but rotatable with respect thereto and provided with threads to secure both parts to a support bolt upon rotating the second part, said second part also having threads to receive an insulator supporting and securing stud, and an insulator secured upon the aforesaid stud.

3. An insulator support adapted for attachment to the end of a bolt comprising a base portion fitting over the bolt and abutting a surface from which the end of the bolt projects, a supplementary base portion loosely connected to the first mentioned base portion and provided with a threaded portion to receive the aforesaid bolt, and means for supporting and securing an insulator to the aforesaid supplementary base portion.

4. An insulator support adapted for attachment to the end of a bolt having a nut in place thereon, comprising a base portion with a part adapted to straddle over the nut when the latter is in place on the bolt and to abut a surface from which the end of the bolt projects, and a supplemental base portion having provisions for receiving and securing an insulator thereto, said supplemental base portion being loosely connected to the first mentioned base portion and threaded to receive the threaded end of the aforesaid bolt for securing the assemblage of parts thereto.

JULIAN D. HOIT.