July 5, 1932. W. M. HEIM 1,866,104

INSULATOR BRACKET

Filed Sept. 21, 1927

Fig. 1.

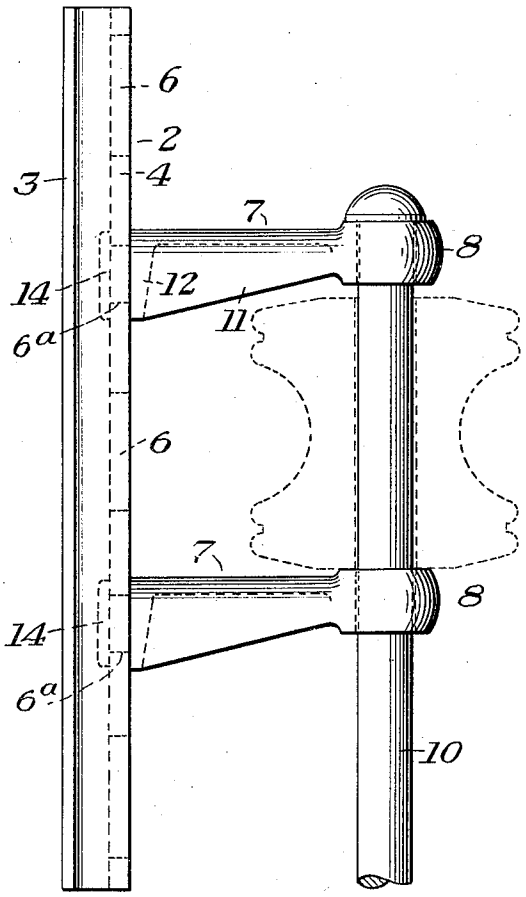


Fig. 2.

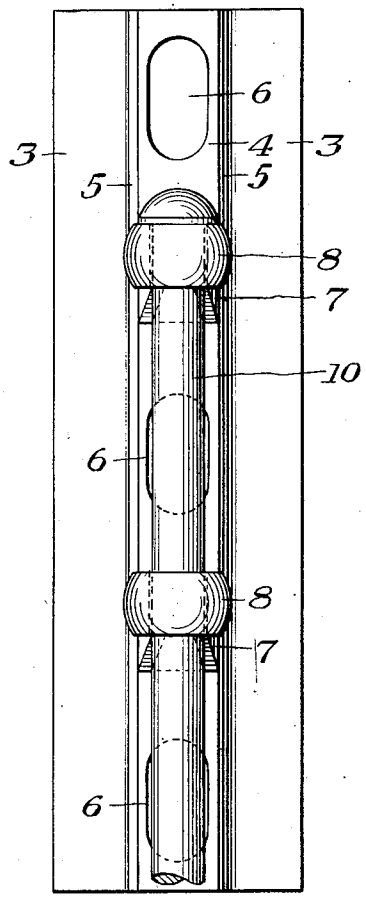


Fig. 3.

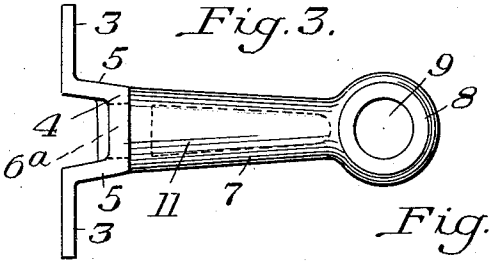


Fig. 4.

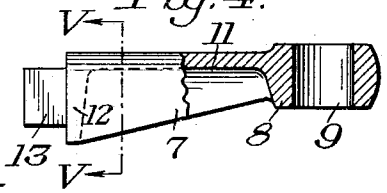
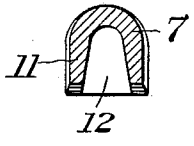


Fig. 5.



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UNITED STATES PATENT OFFICE

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INSULATOR BRACKET

Application filed September 21, 1927. Serial No. 220,969.

This invention relates to what is generally termed pole line hardware, and particularly to an insulator bracket.

Various types of insulator brackets have been devised which are fabricated from a combination of rolled and pressed metal parts. The fabrication of insulator brackets from rolled and pressed metal parts as heretofore practiced requires, ordinarily, the use of a large number of rivets and spacers to secure the several parts together. Such insulator brackets have a plurality of joints between the parts into which the acid used in cleaning the metal prior to galvanizing the same collects. This acid can not be thoroughly removed prior to galvanizing and after galvanizing this acid is present in the joints, causing corrosion of the metal and causing the galvanizing to break down, allowing the insulator bracket to rust at these joints. A further difficulty encountered in insulator brackets wherein the parts are all made of rolled metal and pressed sheet metal parts, resides in the fact that it is difficult to provide a bracket arm having the necessary rigidity and which at the same time provides a wide bearing surface for the insulator pin.

According to the present invention there is provided an insulator bracket having a one piece rolled metal base and forged arms which will obviate the disadvantages in the usual combination rolled and pressed sheet metal insulator brackets, and which will be stronger and which, at the same time, can be cheaply manufactured and easily assembled.

The invention may be readily understood by reference to the accompanying drawing, in which

Figure 1 is a side view of an insulator bracket embodying my invention;

Figure 2 is a front view thereof;

Figure 3 is a top or end view of the bracket;

Figure 4 is a detail view showing one of the arms of the bracket, and

Figure 5 is a cross section in the plane of line V—V of Figure 4.

In the drawing 2 designates generally the base member of the insulator bracket. This base member is formed of a single piece of rolled metal which is in the form of a channel or rib having flanges 3 at each side thereof. The bottom of the channel is designated 4 and the sides are designated 5. Part 4 of the channel or rib is preferably thicker than the remaining part of the base and is provided with holes 6 therethrough.

Inserted in other non-circular holes 6^a and secured to the base are arms designated generally as 7. Each arm has an outer terminal portion 8 with a hole 9 therethrough, the portion 8 with its hole providing an eye or sleeve for the reception of the insulator pin 10. The shank of the arm 7 is designated 11, and is preferably substantially channel-like in cross section as clearly shown in Figure 5, the top of the channel being rounded and the sides thereof being flat. The channel is preferably of increasing height and width toward the inner end thereof, the inner end of the arm being substantially as wide as the rib or channel 4 on the base while it tapers toward the eye 8 at its outer end. The inner end of the channel of the arm is closed, as indicated at 12 so that the arm has a solid metal end portion to bear against the outside of the rib or channel 4. Projecting from this solid end 12 of the arm is an extension 13 which is preferably non-circular. This extension passes through the non-circular hole 6^a in the part 4 of the base and is upset or peaned over as indicated at 14 to firmly secure the arm to the base. By reason of the non-circular shape of the extension 13, the arm is more effectively held against rotation, and the upset end 14 of this extension fills the width of the inside of the rib or channel to also prevent rotation of the arm.

Each arm is forged completely from a single piece of metal. The eye 8 for the insulator pin gives a wide bearing surface for the pin which prevents the tendency of the pin when it is under tension to enlarge the opening through which it passes. In the usual insulator bracket wherein the arms are made of pressed sheet metal only a very narrow edge of metal is available as a bearing surface for the pin, and in use the strain of the pin against the narrow edge of the metal distorts the metal, stretches the hole larger, breaks off the galvanizing and exposes the

metal around the eye portion so that it rusts. This possibility is avoided in the present construction. The insulator pin itself is less likely to bend by reason of the wide bearing surface provided for supporting and bracing it. This reduces the breakage of insulators due to the pins bending.

By reason of the part 4 of the channel being thicker than the remaining part of the channel, the weight of the base is reduced to a minimum, while there is a sufficient body of metal supporting the arms to resist bending and pulling strains on the arms. The flanges 3 on the base provide a wide bearing surface for the base. The holes 6 provide openings through which securing bolts or lag screws can be passed. There are no rivets or spacers in the construction, and there is only one joint between the horizontal arm and the base plate and this joint can initially be made so tight as to exclude acid therefrom prior to galvanizing.

Considerable reduction in cost results from the use of a rolled metal base comprising a single piece of metal because it can be cheaply produced and easily cut to the necessary length. By the use of forged horizontal arms, the assembly of the bracket is simplified and greater strength is assured. The preferred channel-like cross section of the horizontal arms combines ample strength with lightness of construction. The rounded tops of these arms prevent damage to the insulation of wires being pulled thereover in wire stringing and also makes the bracket easy to handle and effectively sheds the water.

The assembled article is of neat appearance, especially in that there are no rivet heads or projections on the sides of the base member. The elimination of projections from the sides of the base member also makes the article easier to handle. Projecting parts on the side of the base, common to most devices of this kind, are apt to injure the insulation of wire being pulled over the bracket, and also collect water, ice and dirt which tends to cause rusting at these points.

While I have described one specific embodiment of my invention, it will be understood that various changes and modifications may be made in the detail construction and design of parts within the contemplation of my invention and under the scope of the following claims.

I claim:

1. In an insulator bracket, a base member, a forged metal arm secured to the base member having an eye at the outer end thereof and having a shank portion which is channel-shaped in cross section, the inner end of the arm being solid in cross section and having an extension thereon projecting through the base member and upset against the opposite side of the base member for securing the arm to the base member.

2. In an insulator bracket, an integral arm having a solid inner end portion with a projecting terminal thereon adapted to be riveted over, an intermediate shank portion of channel-shaped cross-section, and an outer terminal portion having an eye therein, the thickness of the outer terminal portion being greater than the thickness of the web portion of the channel.

In testimony whereof I have hereunto set my hand.

WARREN M. HEIM.