May 19, 1931. S. W. LAW ET AL 1,806,170

BRACKET AND DEAD END INSULATOR

Filed Aug. 22, 1927

Fig. 1

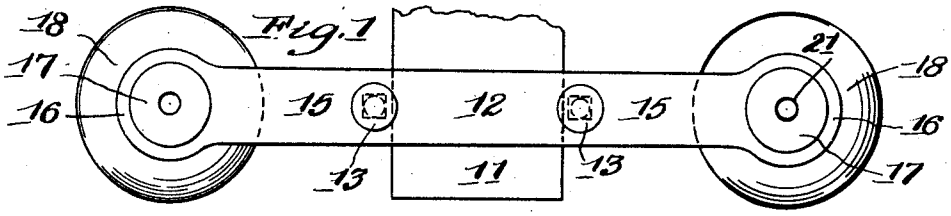


Fig. 2

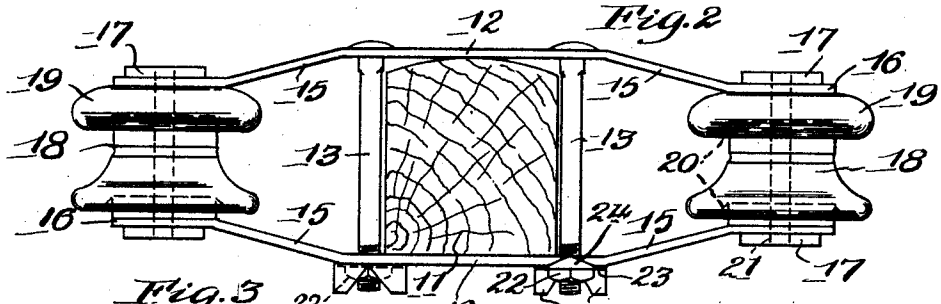


Fig. 3

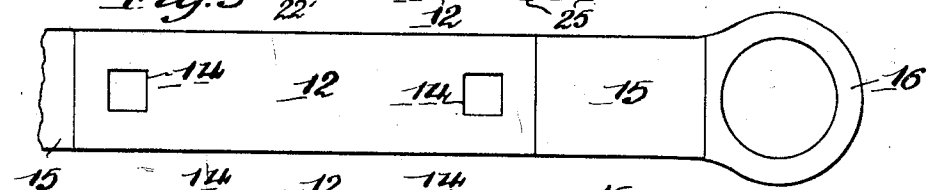
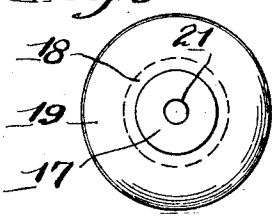


Fig. 4

Fig. 5



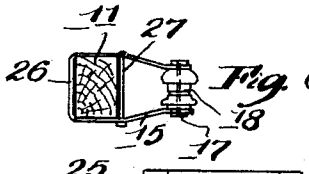


Fig. 6.

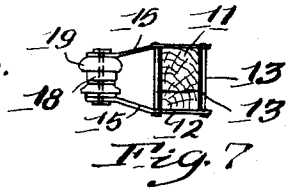


Fig. 7

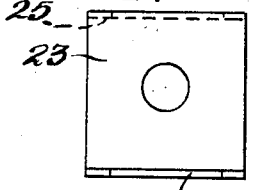


Fig. 8.

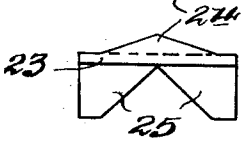


Fig. 9.

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UNITED STATES PATENT OFFICE

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BRACKET AND DEAD-END INSULATOR

Application filed August 22, 1927. Serial No. 214,496.

This invention relates to an insulator and bracket, particularly, although not exclusively, adapted for dead ending signal and telegraph wires.

It is our object to provide a novel, inexpensive and unusually efficient insulator and supporting bracket of this class. The invention also includes certain novel features of construction which will be more fully pointed out in the following specification and claims.

Referring to the drawings, Figure 1 is a plan view of our improved insulator and bracket in the form adapted to support a double dead end; Fig. 2 is a side elevation of the same; Fig. 3 is an enlarged plan view of one of the bracket arms, one end being broken away; Fig. 4 is a side view of the same; Fig. 5 is a plan view of one of the insulators, separated from the bracket; Figs. 6 and 7 show modifications of the device, adapted to serve as single dead end insulators and Figs. 8 and 9 are plan and side views respectively of a suitable lock washer for the bracket bolts.

As illustrated, our device is primarily adapted to be secured to a cross arm 11 of the common or standard type in use upon signal and telegraph poles. A pair of bracket members 12 are arranged to be secured to the supporting arm 11 by a pair of bolts 13. One of these bolts 13 is placed on each side of the arm 11 and extends through a perforation 14 in the bracket member 12. At each end of the bracket member 14 (shown in Figs. 1 to 4) an arm 15 projects and is formed with a ring 16 at its extremity. These rings are arranged in pairs and in spaced parallel relation to receive hubs or projections 17, which are formed integral with the insulator 18. Each insulator 18 has a projection 17 at each end and the wires to be supported and insulated are secured to the central or waist portions thereof between the supporting arms 15. Above and below the central portion of the insulator, annular flanges 19 are formed to project outward and downward. Thus, the flanges 17 form dry zones or areas 20 to protect against short circuits when the insulator is wet. An axial opening 21 extends longitudinally through the insulator. This axial opening is adapted to receive a bolt for suspending other insulator brackets if desired in a particular location or otherwise to receive a supporting bolt. The insulators 18 are preferably formed from glazed porcelain.

The bolts 13 are preferably of the carriage bolt type having square portions 15 fitting square openings 14 in the members 12 and provided with nuts 22 on their threaded ends. These nuts may be locked in place by means of lock washers 23, each having a flange 24 at one edge, adapted to engage one of the members 12 and a pair of ears 25 on the opposite edge, adapted to be bent into engagement with the nut 22. As shown in Fig. 6, the bracket for securing the insulator to the arm 11, may be formed from a single band of metal 26 of U shape, secured in place by a single bolt 27 and having projecting arms for supporting the insulator, similar to the arms 15. Otherwise, for use where a single insulator is required, one pair of the arms 15 may be omitted, as shown in Fig. 7.

As will now be readily understood, the wires to be insulated and supported are secured around the central portions of the insulators 18, which are held at their upper and lower ends by rings 16 encircling the projections 17. Obviously, by merely loosening the nuts 22 on the bolts 13, the arms 13 may be separated sufficiently to permit insertion of the projections 17 into the rings 16. Thus, the operation of replacing insulators may be accomplished quickly and easily. The wires are efficiently protected against short circuits by reason of the dry areas 20, both above and below the central part of the insulator and between the same and the supporting arms 15. By reason of the absence of any conducting material extending through the insulator, the protection is greatly increased. Thus, if an insulator is broken, the supported wires are freed but not allowed to make contact with the brackets. If the insulator is broken to such an extent that the attached wires are dropped, the fact can be readily detected and the necessary repair effected. By making the brackets from bracket members which are

interchangeable or identical, the cost of the device is minimized and the work of installing and repairing the same is facilitated.

It will be evident that the flanges 19 forming the annular dry areas 20 greatly increase the efficiency of the device as compared with the common type of spool insulator.

Having described our invention what we claim as new and desire to protect by Letters Patent is:

1. In an insulator of the class described, the combination with a bracket adapted to be secured to a support, a pair of rigid arms projecting from said bracket, portions of said arms disposed in spaced relation, means on said portions for engaging an insulator between them and an insulator formed to be supported at its ends by said engaging means and to positively interlock therewith, whereby separation of the arms and insulator is prevented without breakage when in use, said arms being without a connecting member extending through said insulator.

2. In an insulator of the class described, the combination with a bracket adapted to be secured to a support, a pair of rigid arms projecting from said bracket, portions of said arms disposed in spaced relation and having openings therein to support an insulator, an insulator provided with projections on its ends, adapted to positively interlock with said openings to prevent separation of the insulator and arms without breakage when in use and a protective flange on said insulator, adjacent to the inner side of each of said arms.

3. In an insulator of the class described, the combination with a bracket formed from two substantially parallel and identical members adapted to be secured to opposite sides of a support, a pair of bolts connecting said members adjacent to opposite sides of said support, and a rigid arm projecting from each of said bracket members, the extremities of said arms being disposed in spaced, parallel relation, one above the other, and having openings to support an insulator, an insulator formed with cylindrical projections on its upper and lower ends, adapted to positively interlock with said openings, said insulator having a central portion arranged for attachment to a wire and protective flanges on said insulator between said arms and central portion, said flanges extending downward to form annular dry areas between said arms and central portion of the insulator.

In testimony whereof, we have hereunto signed our names to this specification.

STANLEY W. LAW.
WILLIAM J. EAMES.