Aug. 30, 1927. 1,640,815

H. D. BROOKMAN

INSULATOR

Filed Feb. 17, 1922

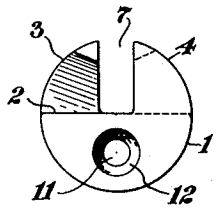


FIG. 1

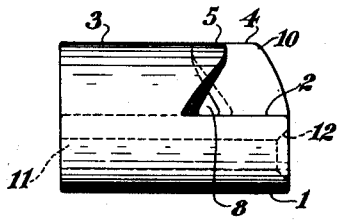


FIG. 2

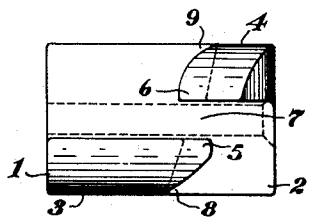


FIG. 3

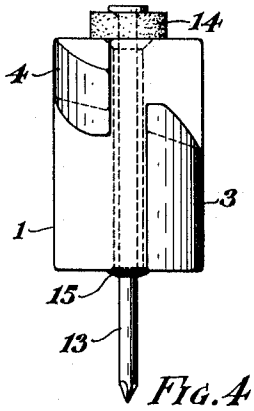


FIG. 4

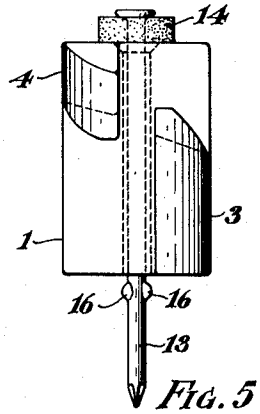


FIG. 5

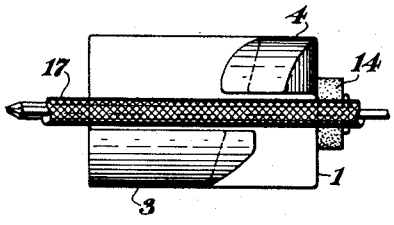


FIG. 6

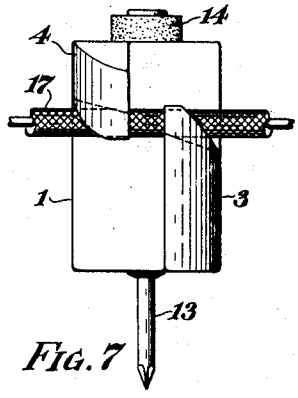


FIG. 7

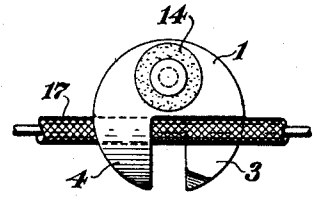


FIG. 8

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UNITED STATES PATENT OFFICE.

HORACE D. BROOKMAN, OF EAST LIVERPOOL, OHIO.

INSULATOR.

Application filed February 17, 1923. Serial No. 537,246.

My invention relates to insulators for supporting electric conductors.

One object of my invention is to provide a single piece insulator that shall be relatively inexpensive to manufacture and that shall support and securely hold an electric conductor in a simple and efficient manner.

Another object of my invention is to provide a single piece insulator that shall be provided with two oppositely disposed lugs so arranged as to be easily positioned to support a stretched electric conductor.

Another object of my invention is to provide an insulator that shall comprise a body portion composed of insulating material and two oppositely disposed lugs projecting from the body portion, the bases of the adjacent end portions of said lugs being cut away for supporting and holding a conductor between them by a wedging action.

Another object of my invention is to provide an insulator that shall comprise a body portion having a hole formed therein, a fastening member inserted in the hole and securely held in position, said body portion having a flat surface formed thereon, and two lugs projecting from the flat surface of the body portion, said lugs having overlapping end portions spaced apart to form a slot and the bases of the overlapping portions being cut away to support and hold a conductor between them by a wedging action.

A further object of my invention is to provide an insulator that shall comprise a cylindrical body portion having a longitudinal flat surface formed thereon and two lugs projecting from the flat surface, said lugs having overlapping end portions forming a slot on the body portion and each of the overlapping end portions being cut away at the base to form a wedge shaped notch with the flat surface on the body portion.

In installing electric conductors it is desirable to first string and stretch a conductor in position and then securely support and hold it in position by means of insulators. At the present time two-piece insulators are extensively used for supporting and holding conductors. Such two-piece insulators are generally assembled on a fastening member comprising a nail or a screw. The fastening member is provided with means for holding the two pieces of the insulator in assembled position. Generally the two pieces of the insulator are held on the fastening member between the head thereof and either a washer slidably fastened thereto or wings stamped thereon. The conductor, which is placed between the two parts of the insulator, is held in position when the fastening member is driven into a support.

An insulator constructed in accordance with my invention consists of a single piece of insulating material which securely holds a conductor in an efficient manner. The single piece insulator is not only cheaper to manufacture but is more easily assembled on a fastening member. The insulator preferably comprises a body portion composed of porcelain or other insulating material. The body portion is preferably cylindrical in form but may be manufactured in other shapes if so desired and has a flat surface formed thereon. Two oppositely disposed lugs, which are preferably formed integral with the body portion, project from the flat surface. The lugs have overlapping end portions which form a slot on the flat surface of the body portion. The base of each of the overlapping end portions of the lugs is cut away to form a wedge shaped notch with the flat surface of the body portion. The conductor is held in position by the wedging action of the notches on the lugs. The insulator is positioned on the conductor in a simple and an efficient manner to be hereinafter set forth.

In the accompanying drawing:

Figure 1 is an end view of an insulator constructed in accordance with my invention.

Figs. 2 and 3 are respectively side elevational and front elevational views of the insulator shown in Fig. 1.

Fig. 4 is a front elevational view of an insulator secured to a fastening member by means of a washer.

Fig. 5 is a front elevational view of an insulator secured to a fastening member by means of wings or fins formed thereon.

Figs. 6, 7 and 8 are views showing the connecting of an insulator to an electric conductor.

Referring to Figs. 1, 2 and 3 of the drawing, my insulator comprises a body portion 1 which is composed of any suitable insulating material and preferably of porcelain. A flat surface 2 is formed on the body portion 1 and two oppositely disposed lugs 3

and 4 project from the flat surface. The lugs 3 and 4 have overlapping end portions 5 and 6 which form a slot 7 on the flat surface 2, as shown in Figs. 1 and 3 of the drawing.

The base of the end portion 5 is cut away to form a wedge shaped notch 8 with the flat surface 2 of the body portion. The base of the end portion 6 is cut away in a similar manner to form a wedge shaped notch 9 with the flat surface 2 of the body portion. The top of the lug 4 is tapered or cut away at 10 for protecting the lug when driving the nail or securing member into a support. Moreover, the tapered portion on the lug 4 serves to prevent the lug 4 being destroyed when the die, in which the insulator is pressed, is released.

A hole 11 is formed in the body portion 1 for the insertion of a securing or fastening member which preferably is either a nail or a screw. The upper end of the hole 11 is countersunk at 12 as shown in Figs. 1 and 2 of the drawing. Preferably, the hole 11 is formed parallel to the flat surface 2. The insulator is formed in any suitable manner and is preferably formed by pressing a porcelain mixture in a die.

Referring to Fig. 4 of the drawing, a securing member in the form of a nail 13 is shown assembled with the insulator. The nail 13 is inserted in the hole 11 with a washer 14, preferably composed of leather, inserted between the top of the insulator and the head of the nail. A suitable washer 15, preferably composed of steel, is inserted on the nail below the insulator. The washer frictionally engages the nail to hold the parts in assembled position. A countersink may be formed for washer 15.

Referring to Fig. 5 of the drawing, an insulator is shown assembled with a nail having fins or projections 16 stamped therein below the insulator. The projections 16 hold the parts in assembled position. A leather washer is positioned between the head of the nail and the insulator, as in the assembled insulator shown in Fig. 4 of the drawing. If so desired a screw or other securing member may be used in place of a nail.

The positioning of my insulator on an electric conductor is illustrated in Figs. 6, 7 and 8 of the drawing. An electric conductor 17 is assumed to be stretched in the position it is to be firmly held. The assembled insulator is placed on the conductor with the conductor in the slot 7 formed by the two lugs 3 and 4, as shown in Fig. 6 of the drawing. The assembled insulator is then moved through 90° to the position shown in Fig. 7 of the drawing. The conductor is held in the wedge shaped notches formed between the lugs 3 and 4 and the flat surface 2 on the body portion 1. The assembled insulator is next rotated through 90° in a plane perpendicular to the conductor 17 to the position shown in Fig. 8 of the drawing. The fastening member 13 is then driven into the support (not shown).

From the above description it is apparent my insulator may be manufactured in a simple manner and will securely hold a conductor to a support or wall in an efficient manner. The wedge shaped notches on the insulator serve to hold a conductor without injuring the insulating covering thereon.

Modifications in the shape and construction of the insulator may be made within the spirit and scope of my invention, and such modifications are intended to be covered by the appended claims.

What I claim is:

1. A porcelain insulator comprising a body portion having a flat surface formed thereon, lugs projecting from the flat surface, and overlapping end portions on said lugs, the base of each overlapping end portion being cut away to form an acute angle with the flat surface on the body portion and also to form an acute angle with a plane perpendicular to said flat surface and parallel to a conductor in normal position between the lugs.

2. An insulator comprising a body portion having a flat surface formed thereon, two lugs projecting from said flat surface, said lugs having overlapping portions which form a slot in the insulator, the base of the overlapping portion of each lug being cut away for forming not only an acute angle with the flat surface on the body portion but also for forming an acute angle with a plane which is perpendicular to the flat surface to hold a conductor against longitudinal movement, and an opening formed in the body portion of the insulator parallel to the flat surface for the insertion of a fastening member.

3. An insulator comprising a cylindrical body portion having a flat longitudinal surface formed thereon, lugs projecting from the flat surface, overlapping end portions on said lugs, the base of each overlapping end portion being cut away to form an acute angle with the flat surface on the body portion and also to form an acute angle with a plane perpendicular not only to the flat surface but also to axis of the cylindrical body portion, and an opening formed in the body portion parallel to said flat surface for the insertion of a fastening member.

In testimony whereof, I hereto affix my signature.

HORACE D. BROOKMAN.