Dec. 4, 1934. W. A. HILLEBRAND ET AL 1,983,369

FITTING FOR STRAIN INSULATORS

Filed March 16, 1932

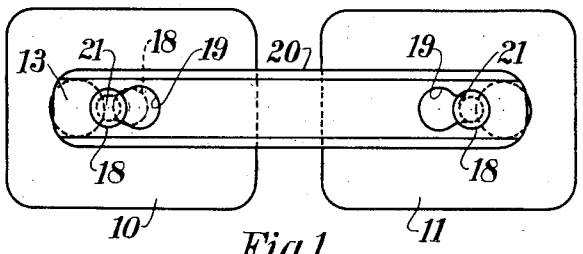


Fig. 1

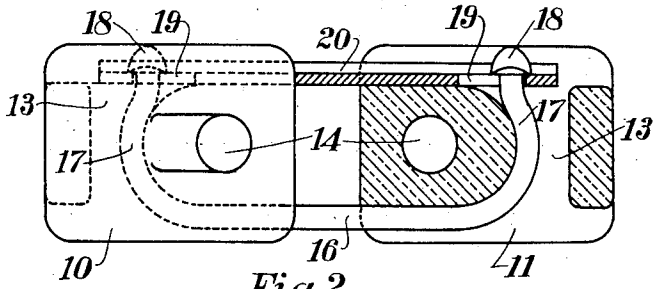


Fig. 2

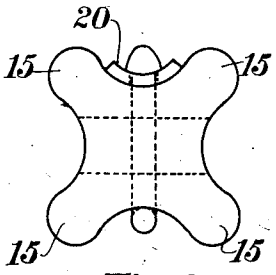


Fig. 3

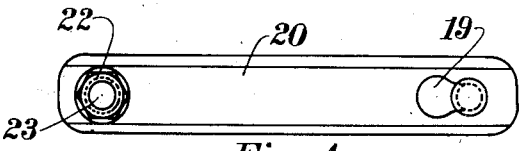


Fig. 4

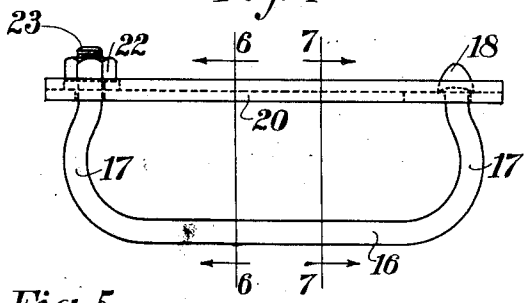


Fig. 5

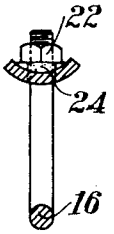


Fig. 6

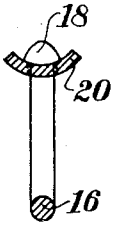


Fig. 7

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FITTING FOR STRAIN INSULATORS

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3 Claims. (Cl. 173—366)

This invention relates to a device for connecting electrical insulators of a type in which the insulators are provided with perforations through which connecting links are passed to hold the insulators together.

One object of the invention is to provide connectors for insulators of the class named which shall be economical to manufacture, easy to install and to remove but which will not become detached accidentally.

A further object of the invention is to provide a device of the class named which shall be of improved construction and operation.

Other objects and advantages will appear from the following description.

The invention is exemplified by the combination and arrangement of parts shown in the accompanying drawing and described in the following specification, and it is more particularly pointed out in the appended claims.

In the drawing:

Fig. 1 is a plan view of two insulator units having one embodiment of the present invention applied thereto.

Fig. 2 is an elevation of the insulators shown in Fig. 1; one of the insulators being shown in section.

Fig. 3 is an end view of the insulators shown in Figs. 1 and 2.

Fig. 4 is a plan view of a modified form of fitting.

Fig. 5 is an elevation of the fitting shown in Fig. 4.

Fig. 6 is a section on line 6—6 of Fig. 5.

Fig. 7 is a section on line 7—7 of Fig. 5.

In the drawing, the numerals 10 and 11 designate respectively two insulators of a well-known form having crossing openings 13 and 14 for receiving the fittings to connect the insulators together in a string. The insulators are provided with projecting ribs or flanges 15 which separate the fittings applied to each insulator and restrict discharge and leakage currents between the fittings.

In the form of the invention shown in Figs. 1, 2 and 3, a U-shaped yoke 16 is provided with arms 17 arranged to extend through the openings 13 in the insulators 10 and 11. Each of the arms 17 is provided at its end with a head 18 of a size to pass freely through spaced openings 19 in a keeper bar 20. Each of the openings 19 is provided with an outwardly extending restricted portion 21 of a size to fit the upper end of the arm 17 and to retain the head 18. Before the parts are assembled, the arms 17 are spaced relative to the openings 19 so that the heads 18 are somewhat closer together than in the drawing. This enables one of the heads 18 to be inserted through one opening 19 and move to the position shown at the right in Figs. 1 and 2. This will bring the other head 18 into the position shown in broken lines in Fig. 1; the head being slightly out of registration with the opening 19 but in such a position that the edge of the opening rests upon the inclined portion of the head. In this position a comparatively slight force will spring the head inwardly and permit it to pass through the opening 19, whereupon the resiliency in the arms 17 will return the head to the broken line position where it will be retained by the bottom face of the head, which will overlap the edge of the opening 19. A light blow from a hammer will suffice to move the keeper into place over the head 18.

When a load is placed upon the insulator, the arms 17 will then be sprung apart until the neck portions of the arms beneath the heads 18 will be drawn into the restricted extensions 21 so that the link 17 and the keeper 20 will be firmly locked together. If at any time it is desired to disconnect the insulators, a proper tool may be used to spring the heads 18 toward each other until they can be withdrawn through the openings 19. The arms 17 are properly curved so that they will pass readily through the openings 13 and will fit the seats provided by these openings.

The link 20 as shown in Fig. 3 is preferably curved to fit the grooves in the insulators and the lower faces of the heads 18 may be curved to fit the surface of the link 20.

In the form of the invention shown in Figs. 4, 5, 6 and 7, one of the heads 18 is replaced by a nut 22 and one arm is threaded as shown at 23 to receive the nut 22. The link 20 is provided with a round opening for receiving the threaded portion 23. In this form of the invention, the insulators are assembled on the link as in the previously described form, and when the keeper 20 is placed over the link 17 provided with a head 18, the threaded portion 23 will register with the circular opening so that the keeper may be readily moved into place and the nut 22 applied to hold it in position. A suitable shaped washer 24, shown in Fig. 6, may be provided to form a bearing for the nut 22.

We claim:

1. The combination with spaced insulators each having a transverse opening therethrough, of an insulator fitting comprising a yoke having spaced arms fixed thereto and extending therefrom in

approximately parallel relation to each other through said respective openings, a head on the end of one of said arms and a keeper connecting said arms, said keeper having an opening through one end thereof of sufficient size to permit said head to pass through said opening, said opening having a restricted extension for retaining said head in engagement with said keeper, and means for fastening the opposite end of said keeper to the other arm, said head being resiliently held by said yoke and arms in a position displaced from registration with said opening toward the restricted extension thereof when the end of the yoke opposite said head is fastened to said arm, the resiliency of said yoke and arms being sufficient to permit said head to be readily sprung into position to pass through said opening, said head having a bevelled face for guiding said head into said opening.

2. The combination with spaced insulators each having a transverse opening therethrough, of an insulator fitting comprising a yoke having spaced arms fixed thereto and extending therefrom in approximately parallel relation to each other through said respective openings, a head on one of said arms, a keeper connecting said arms, said keeper having an opening therethrough for receiving said head, said opening being provided with a restricted extension for holding said head in engagement with said keeper, and means for securing said keeper to the other arm of said yoke, said head being held by said yoke and arms in registration with said restricted extension when said keeper is secured to said other arm.

3. The combination with spaced insulators each having a transverse opening therethrough, of an insulator fitting comprising a yoke having spaced arms extending through the respective openings in said insulator and provided with heads at the extremities thereof, and a keeper bridging the space between said arms, said keeper having spaced openings therethrough to receive said heads, the spacing of the openings and of said heads being such that the parts must be sprung to assemble said keeper on said arms, said openings having restricted extensions to receive the ends of said arms after said arms have been sprung into position and to retain said heads in engagement with said keeper.

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