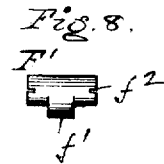
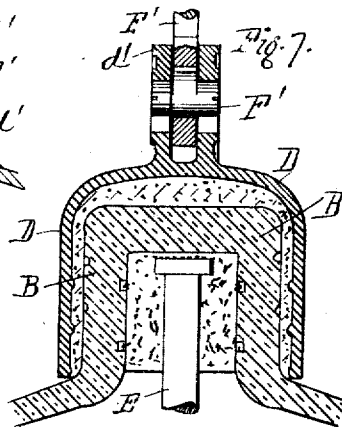
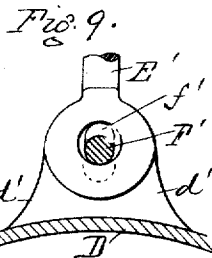
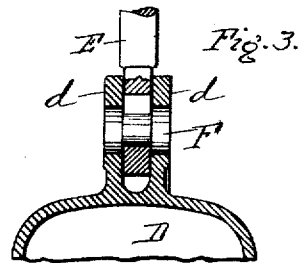
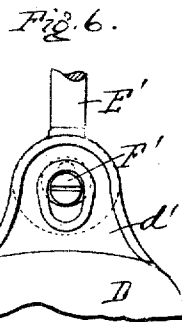
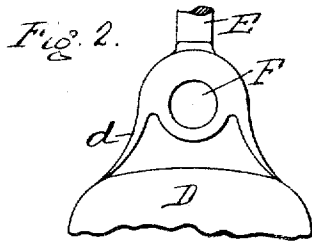
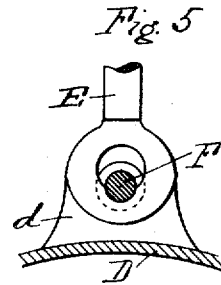
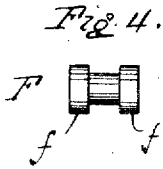
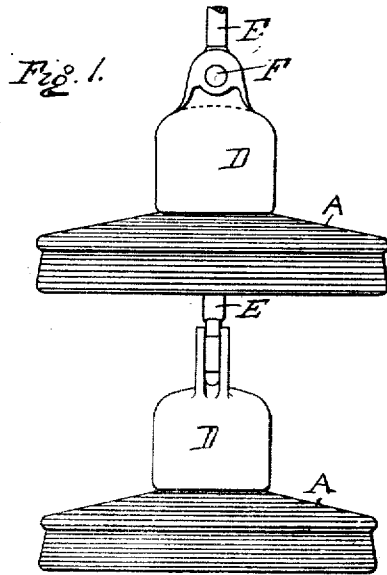


B. D. KENNEY.
HIGH TENSION INSULATOR.
APPLICATION FILED JUNE 29, 1911.

1,010,920.

Patented Dec. 5, 1911



WITNESSES:
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UNITED STATES PATENT OFFICE.

BENJAMIN D. KENNEY, OF EAST LIVERPOOL, OHIO, ASSIGNOR TO THE R. THOMAS AND SONS COMPANY, OF EAST LIVERPOOL, OHIO, A CORPORATION OF OHIO.

HIGH-TENSION INSULATOR.

1,010,920.

Specification of Letters Patent.

Patented Dec. 5, 1911.

Application filed June 29, 1911. Serial No. 635,969.

To all whom it may concern:

Be it known that I, BENJAMIN D. KENNEY, a citizen of the United States of America, residing in the city of East Liverpool, county of Columbiana, State of Ohio, have invented certain new and useful Improvements in High-Tension Insulators, of which the following is a specification.

My invention relates to the construction of insulators for high tension transmission lines, and more particularly insulators which are adapted for the connection or suspension of the electrical conductors to or from the supporting posts or towers.

My improvements are also applicable to strain insulators.

The main object of my invention is to provide a series of insulator units which can be quickly and easily coupled together, and yet leave no danger of their accidentally becoming uncoupled, although allowing a sufficient freedom of motion between the units.

A further object is to so construct the coupling that there shall be no projecting points to tend to cause arcing or electrical discharges.

These objects I attain by the construction which I will now describe.

In the accompanying drawings, Figure 1 is a side elevation showing two united insulator units; Fig. 2 is a side elevation, drawn to a larger scale, of the joint between the cap of one insulator unit and the shank of the next; Fig. 3 is a view at right angles to Fig. 2, partly in section; Fig. 4 is a detached view of the connecting pin; Fig. 5 is a sectional view showing the connecting pin in the eye of the shank; Figs. 6, 7, 8 and 9 are views of a modification, the views respectively corresponding to Figs. 2, 3, 4 and 5, except that Fig. 7 shows also in section the insulator.

Each insulator unit comprises an insulating body A of any desired shape, provided with a hollow cup-shaped central part B (Fig. 7), into the center of which is cemented the head of a coupling rod E, while to the outside is cemented or otherwise secured a metal cap D, provided with means for coupling it to the rod E of the next insulator unit. In the drawing I have shown the circular insulating body as of a flat single petticoat, but the shape and the number of the petticoats may be varied, as found desirable.

To unite together a cap D of one insulator

unit with the coupling rod E of the next unit, I provide on one of these parts, preferably the cap, a pair of eyed lugs, and on the other, preferably the rod, an eyed end to enter between the lugs, and through the eyes I pass a securing or hinging bolt with a locking projection. In Figs. 1 to 5, the cap D is shown as with two lugs d , d with transverse eyes in them to receive the hinging bolt F, and the end of the next coupling rod E is adapted to enter with some freedom of play between said lugs on the cap, and the bolt passes through this eye in the coupling rod as well as the eyes in the lugs on the cap. The connecting bolt in this instance is made with two locking projections f at opposite ends, Fig. 4, being circular in outline to fit snugly in the circular eyes in the lugs d , d , while the reduced diameter of the body of the bolt lies in the eye of the coupling rod, Figs. 3 and 5. This eye in the coupling rod is at least of sufficient size to permit the enlarged end of the bolt to pass through it, and may be of just that size and shape, but I prefer to make it of the shape shown in Fig. 5, with a notch at the bottom to receive and fit the bolt, when the units have been joined and the strain put on the series, bringing the parts to their normal relative positions. Then the described joint will be as illustrated in Figs. 3 and 5, and the locking bolt will be held by the end of the coupling rod and prevented from lateral escape. But when it is desired to remove a unit for repair or to replace a broken part, all that is necessary is to take the longitudinal strain from the series, and move the end of the coupling rod E toward the cap D of the next unit, to a sufficient extent to permit the collars f of the locking bolt to clear the end of the rod and be pushed or knocked out through the eye of the rod.

In the modification, Figs. 6 to 9, the securing bolt F^1 has a single central locking projection f^1 , Fig. 8, and the eye in the end of the coupling rod E^1 may be made circular, as shown in Fig. 9, of a diameter large enough to receive that part of the bolt which carries the projection f^1 . The eyes in the lugs d^1 are preferably of the oval shape shown in Fig. 6, with the long axis of the oval vertical and suitable to permit the bolt F^1 with its projection f^1 to be passed through one or both of the eyes. It will readily be understood that the bolt F^1 is passed into po-

sition to unite the coupling rod E^1 and cap D when the two are drawn toward each other and when the strain is put on the series of units to bring them to their normal relative positions, the pin F^1 is thereby caused to turn to the position shown in Figs. 7 and 9, with the locking projection f^1 held between the lugs on the cap and its removal thereby prevented. When it is desired to detach the parts thus connected, the bolt F^1 is turned to the position shown in Fig. 8, as by applying a screw driver to the notch f^2 in the end, and then the bolt can be withdrawn laterally.

15 I claim as my invention:—

1. Insulator units, each having an insulating body, cap and coupling rod, in combination with a hinging bolt to hinge the coupling rod of one unit to the cap of the next, said hinging bolt having a locking projection, and said cap and bolt having eyes, through which the bolt with its projection may be passed when the rod and cap are drawn toward each other in abnormal rela-

tive positions but locking the bolt when said parts are in their normal relative positions under strain. 25

2. Insulator units, each consisting of a metallic cap, an insulator secured therein, and a coupling rod secured in the insulator, in combination with a hinging bolt to hinge the coupling rod of one unit to the cap of the next, said hinging bolt having a locking projection, and said cap and bolt having eyes, through which the bolt with its projection may be passed when the rod and cap are drawn toward each other in abnormal relative positions but locking the bolt when said parts are in their normal relative positions under strain. 30 35 40

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

BENJAMIN D. KENNEY.

Witnesses:

J. A. SANDFORD, Jr.,
H. R. HOLMES.