

M. T. A. KUBIERSCHKY & P. E. HERKNER.
INSULATOR.

APPLICATION FILED OCT. 19, 1904.

937,447.

Patented Oct. 19, 1909.

Fig. 1.

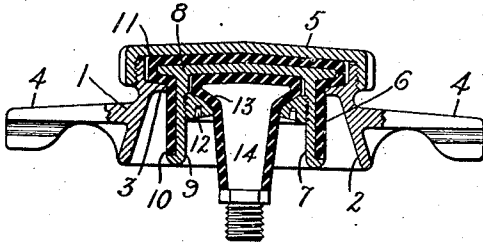


Fig. 2.

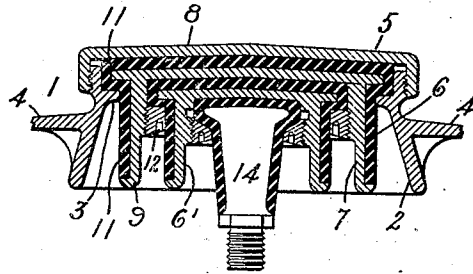


Fig. 3.

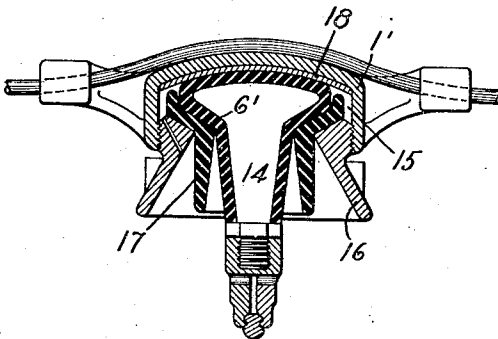


Fig. 4.

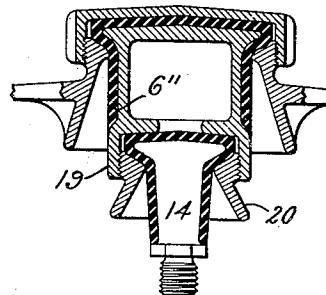
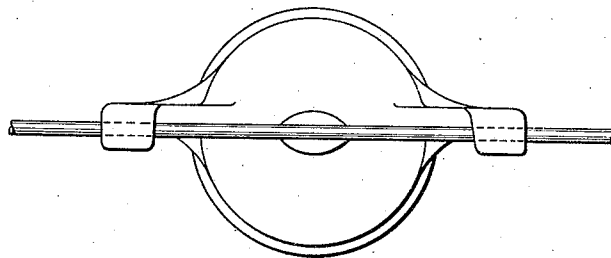


Fig. 5.



Witnesses:

George H. Tilden.
Allen Orford

Inventors:
Martin T. A. Kubierschky,
Paul E. Herkner,
by *Allen B. Dams*
Att'y.

UNITED STATES PATENT OFFICE.

MARTIN T. A. KUBIERSCHKY AND PAUL E. HERKNER, OF BERLIN, GERMANY.

INSULATOR.

937,447.

Specification of Letters Patent.

Patented Oct. 19, 1909.

Application filed October 19, 1904. Serial No. 229,205.

To all whom it may concern:

Be it known that we, MARTIN T. A. KUBIERSCHKY and PAUL E. HERKNER, of Berlin, Germany, have invented certain new and useful Improvements in Insulators, of which the following is a specification.

The present invention relates to the suspension of electric trolley wires, and more particularly to insulating supports.

In the suspension systems heretofore in use, it has been the practice to provide one insulator at the point of connection of the trolley wire to the cross suspender wire and another insulator near each end of the suspender wire in order to obtain the necessary double insulation. The first insulator is usually well protected from injury and against rain by a metallic casing having a circular projection, while the other insulators are not protected from injury nor is there any provision to keep off rain. The consequence is that while the end insulators perform their desired function in dry weather they entirely fail to act as insulators when wet. Moreover, the employment of three insulators to each cross suspender is objectionable both from esthetic and economical stand points.

The object of this invention is to provide an insulating support which will provide the necessary double insulation for the trolley wire, and fill the office of the three insulators heretofore necessarily employed and at less expense.

In carrying out the invention the inclosing shell is made somewhat larger than the shells of prior devices, and between the inner walls of the shell and the suspender bolt are arranged a plurality of thicknesses of insulation.

For a better understanding of the invention reference may be had to the following detailed description and the accompanying drawing forming a part of this specification in which,

Figure 1 is a vertical section of an insulating support embodying one form of the invention; Fig. 2 is a similar view showing an increased number of insulating layers and strengthening forms; Figs. 3 and 4 show modified forms of the insulator; and Fig. 5 is a top plan view of the insulator shown in Fig. 3.

In the construction shown in Figs. 1 and 2, the metallic holder 1 is provided with a downwardly projecting flange or petticoat

2 with a ledge or shoulder 3 projecting from its inner upper end, two wire engaging arms 4 extending radially from its outer surfaces, and at its top edge with a threaded crown flange for the reception of a threaded cap 5. Supported on the ledge or shoulder 3 is an intermediate insulator 6 consisting of a metallic shell 7 having a discoidal top 8 and a ring flange 9 with shoulders 10 near its opposite edges and a layer of insulation 11 surrounding the outer surface of the cap. The object of introducing the metallic shell 7 is to give greater strength and to protect the first layer of insulation, provide a better seat for the second layer of insulation, and to enable the assembled parts to be more readily tested individually by a volt meter. The inner surface of the flange 9 is screw-threaded for the reception of a ring nut 12 having an inwardly projecting shoulder 13 on its upper surface. Upon this shoulder a second intermediate insulator 6' may be placed as in Fig. 2 or the insulated bolt 14 may be seated directly as in Fig. 1.

In the construction shown in Fig. 3 the holder 1' is made with an inverted recess 15 screw-threaded at its lower end for the reception of a removable petticoat 16 having a shoulder at its upper end. Upon this shoulder is seated a molded insulator 6' formed with an intermediate petticoat 17 and provided with a shoulder near its upper end for the reception of the head of the insulated bolt 14. Over the upper end of the bolt a layer 18 of yieldable insulating material is placed.

In the construction shown in Fig. 4 the intermediate insulator 6'' is supported as in the construction shown in Figs. 1 and 2, but instead of supporting the insulated bolt 14 at the upper end thereof the lower end is provided with a depending flange 19 screw-threaded to engage a thread upon the upper end of a shouldered petticoat 20 adapted to support the insulated bolt 14.

We do not desire to restrict ourselves to the particular form or arrangement of parts herein described and shown; since it is apparent that they may be changed and modified without departing from our invention.

What we claim as new and desire to secure by Letters Patent of the United States, is:

1. The combination of a metallic supporting shell having a screw-threaded portion,

an insulated bolt, an independent insulator surrounding said insulated bolt to effect double insulation thereof, and a removable metallic part in engagement with the screw-
5 threaded portion of the shell.

2. The combination of a metallic supporting shell, an insulated bolt, and an independent insulator surrounding said insulated bolt and consisting of a shouldered
10 metallic form with insulating material secured to the surface thereof.

3. The combination of a shouldered metallic shell, an insulated bolt, and an independent insulator consisting of a metallic
15 form surrounded by insulating material and having a removable inner shoulder.

4. The combination of a metallic shell, an insulated bolt, a plurality of independent insulators surrounding each other and the said insulated bolt whereby a multiple in- 20
sulation is interposed between bolt and shell, and means for detachably connecting said parts together.

In witness whereof we have hereunto set our hands this twenty-ninth day of Sep- 25
tember, 1904.

MARTIN T. A. KUBIERSCHKY.
PAUL E. HERKNER.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.