

F. SCHAUB.
CROSSOVER INSULATOR FOR ELECTRICAL CONDUCTORS.
APPLICATION FILED MAR. 17, 1911.

1,056,711.

Patented Mar. 18, 1913.

2 SHEETS-SHEET 1.

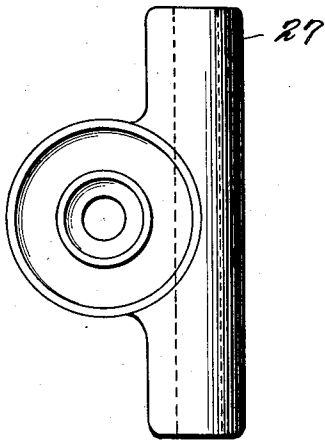


Fig. 9

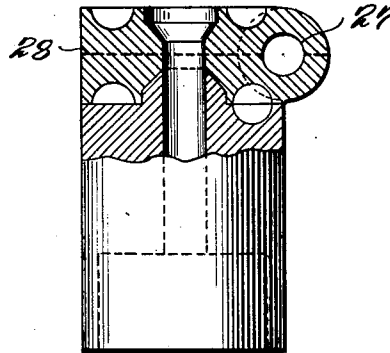


Fig. 8

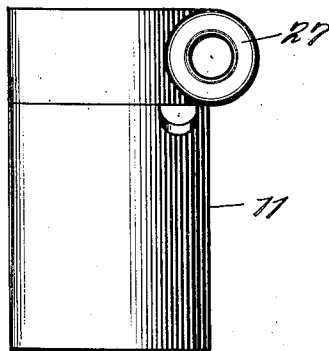


Fig. 7.

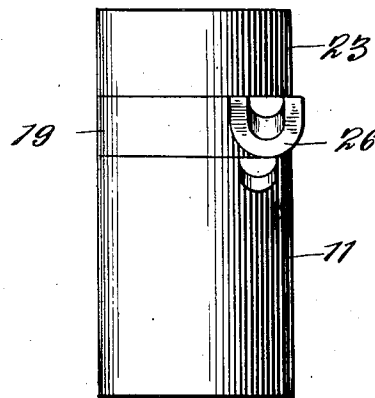


Fig. 1

Witnesses:
Hamp. Hebig
Chas. Lynd Russell.

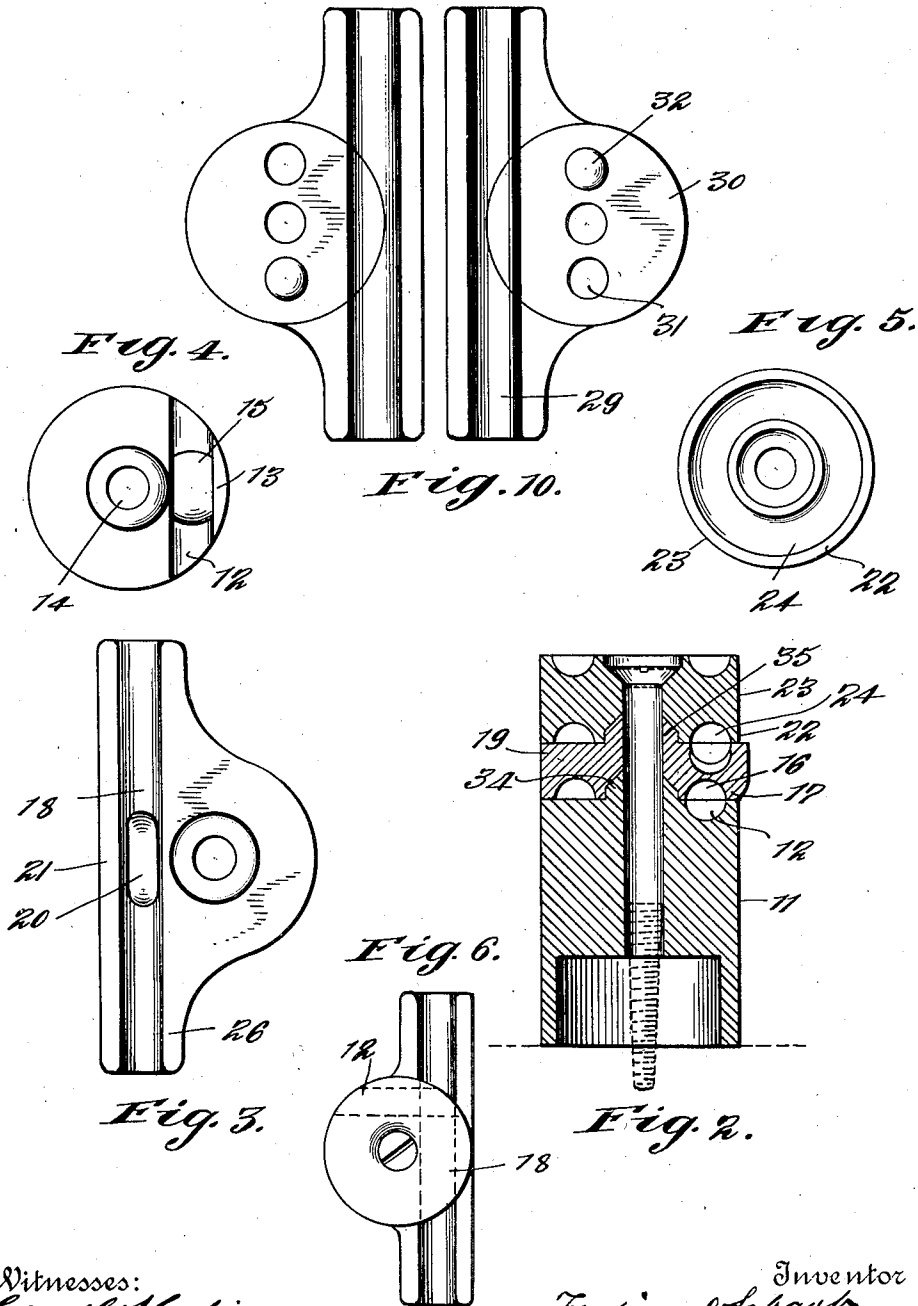
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

FERDINAND SCHAUB, OF JERSEY CITY, NEW JERSEY.

CROSSOVER-INSULATOR FOR ELECTRICAL CONDUCTORS.

1,056,711.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Original application filed July 9, 1908, Serial No. 442,648. Divided and this application filed March 17, 1911. Serial No. 614,981.

To all whom it may concern:

Be it known that I, FERDINAND SCHAUB, a citizen of the United States, residing at Jersey City, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Crossover-Insulators for Electrical Conductors, of which the following is a full, clear, and exact specification.

10 This invention relates to cross-over insulators for electrical conductors.

The present improvement is especially adapted for use in that specie of device wherein electrical wires crossing one another will be securely clamped between the respective members of the insulator and so held apart.

20 The present application is a division of my application Serial No. 442,648, filed July 9, 1908, for insulators. In the application above referred to there is illustrated a two-part electrical insulator wherein the wire-seat comprises recesses formed in the meeting faces of the two members. In the showing of such application the wire is clamped in a wire-seat formed in a special manner therein referred to between two members of an insulator. Such special formation of wire-seat may be employed in connection with an insulator for a single wire or in connection with an insulator for separating a pair of crossed wires. The present improvement is a part of a general insulating scheme set forth in part in such parent application.

35 In one form of the present improvement the base member and cap member will remain substantially as shown in the parent application and the crossover member will be inserted between these. Or the cap for the base portion may be provided with a wire-seat constituting a cross-over, which seat may be complete in the cap, or it may be completed by a cap similar to that employed upon the base for a one-wire insulator. When the cap carries a cross-over wire-seat complete in itself, this may be so formed that the wire will reeve freely through the seat. If, however, the wire is to be clamped in the cross-over seat, a two-part construction for the seat is preferable.

45 For commercial reasons it will probably be found desirable to permit the two-part insulator to remain intact, or the parts may be paired when the cross-over feature is

added. It also will be convenient, in installing wires, to employ the cap to hold the wire going in one direction, and then when it is desired to add the cross-over, this element will be added to the structure without the necessity of throwing away some part of the insulator which has previously been installed.

In the drawings accompanying and forming a part of this specification, Figure 1 is an elevation of a practicable embodiment of an insulator cross-over illustrating my present improvement. In this view, as in some of the others, the two wire-seats are illustrated disposed in substantially parallel lines. This is done for the purpose of more clearly illustrating the formation of the parts rather than their exact relative positions when in use, since the angular position of one wire relative to the other and of the various parts of the device is immaterial so far as the formation of the insulator itself is concerned. Fig. 2 is a central longitudinal section of the device illustrated in Fig. 1. Fig. 3 is a top plan view of the cross-over illustrated in Figs. 1 and 2. Fig. 4 is a top plan view of the base illustrated in Fig. 2. Fig. 5 is a view of the cap member illustrated in Fig. 2, and is either the top or bottom of the same, since this cap member is shown reversible. Fig. 6 is a top plan view of the assembled insulator of Figs. 1 and 2, shown on a reduced scale and with the wire-seat of the cross-over disposed transversely to the wire-seat of the base portion. Fig. 7 is an elevation of another form of my invention, wherein the cross-over wire-seat is made complete in the cap member. Fig. 8 illustrates the insulator shown in Fig. 7, with a portion of it shown in central longitudinal section. Fig. 9 is a plan view, either top or bottom, of the cross-over cap illustrated in Figs. 7 and 8; and Fig. 10 is an illustration of a two-part cap member, the plane of cleavage being substantially that indicated by the dotted line in Fig. 8.

One portion of the insulator will preferably be made longer than the other portion for the purpose of raising the wire from the surface upon which it is to be supported, and this portion of the device, for convenience, will be referred to as the base. The base 11, herein illustrated, is shown provided in its upper face, or the face which

will be met by the other member of the device, with a transversely-disposed wire-seat 12, such wire-seat comprising a transverse recess. Outwardly of the recess there is located a flange 13. Between the screw-hole 14 and such flange there is shown an upwardly-curved projection 15, which will direct a kink in the wire into the recess of the other member of the insulator. When the members are assembled in the manner illustrated in Fig. 2, the wire in the recess 12 will be directed upwardly into the annular recess 16, formed in one face of the cross-over member, which recess will be surrounded by an annular flange 17. The flange 13 will be located in position to register with some portion of the flange 17, and the recess 12 to register with some portion of the recess 16, in whatever relative angular position of adjustment the two members may be. This will provide for one of the wires. The other of the wires will be disposed in the wire-seat 18, of the cross-over member 19, which wire-seat will be provided with an upwardly-curved projection 20, and a flange 21, which flange 21 will register with a flange 22, of the cap-member 23, and the recess 18 will register with an annular recess 24, in the cap member, irrespective of the relative angular positions of adjustment of the parts. In the present showing both sides of the cap member are provided with the recesses 24 and flanges 22, so that this part is reversible, which will save time in applying the device.

The cap member is interchangeable with the cross-over member, so that the cap member and base member may be used for constituting a one-wire insulator. When it is desired to cross a wire over the wire which is seated in the insulator, the cross-over member will be added, the bottom face of which corresponds with the bottom face of the cap member, and the upper face of the cross-over member corresponds with the upper face of the base member, so that the cross-over member will constitute the cap for the base member and will itself constitute the base upon which the cap will then be seated. Some suitable fastening device, as for instance a screw 25, will pass through the assembled members and into the surface upon which the insulator is to be mounted for clamping the parts together upon the wires.

To afford greater protection against the contacting of the wires which are crossed, one of the wire-seats may be provided with shields for the wire carried thereby, which shields will be interposed between the two wire-seats. In the present instance a cross-over member is shown provided with a pair of outwardly-directed shields 26, which form a continuation of the wire-seat 18. By this means the crossed wires are securely

prevented from coming into engagement one with the other. When the parts are assembled and the fastening device applied, the projections 15 and 20 will kink the wires and so prevent longitudinal movement thereof, which feature is often desirable in work of the character in which these insulators are intended to be used.

In some instances it may be desirable to prevent one of the wires from moving longitudinally, but to permit longitudinal movement of the other wire, in which case the body member 11 will be provided with some suitable clamping device coöperative with the cap member. In Figs. 7, 8, and 9 the same form of wire kinking and clamping wire-seat is illustrated in the body and cap members. The cap member is shown provided with a wire-seat in the form of a tube 27, through which the wire may be permitted to reeve as occasion may demand. Or the tube may be of such a diameter that the wire will not readily move therethrough.

The cap member illustrated in Fig. 10 is in many respects similar to the cap member illustrated in Figs. 7, 8, and 9, this, however, being separated on a plane of cleavage indicated by the dotted line 28. The cap member in this figure comprises a two-member part, the two members being identical one with the other and reversible and interchangeable. Each is shown comprising half a tube 29, which is carried by the cap 30. One side of the cap has a recess 31, for receiving the pin 32, carried by the other member. This tube may be of sufficient internal diameter relative to the diameter of the wire to permit the wire to move longitudinally through the tube, or the wire may be clamped between the two halves, as for instance, they may be of sufficient diameter to clamp the wire upon the application of power to the fastening device.

It will be apparent that changes may be made without departing from the spirit of my invention.

Having described my invention, I claim:

1. A cross-over insulator comprising a base and a cross-over member, the meeting faces of the said members being respectively provided with wire-receiving recesses located in position to register one with the other and form a wire-seat when these members are assembled, and the cross-over member being provided with a wire-seat independent of the first-mentioned wire-seat.

2. A cross-over insulator comprising three members, a base, a cap, and an intermediate member, the meeting faces of the base and intermediate member being respectively provided with wire-receiving recesses, the recesses in the base and intermediate member being located in position to register one with the other and form a wire-seat when

these members are assembled, and the meeting faces of the intermediate member and cap being respectively provided with wire-receiving recesses, the recesses in the intermediate and cap members being located in position to register one with the other and form a wire-seat when these members are assembled.

3. A cross-over insulator comprising three members, a base, a cap, and an intermediate member, one of the said cap and body members being provided with a circular wire-seat and an annular flange surrounding the wire-seat, and the other of the said members being provided with a transverse wire-seat and a flange disposed outwardly thereof, and the intermediate member being provided on one side with a transverse wire-seat and a flange disposed outwardly thereof, said transverse seat and flange being located in position to respectively register with the circular wire-seat and annular flange on one of the other of the said members, and being provided on its other side with a circular wire-seat and an annular flange surrounding the wire-seat, the said circular wire-seat and annular flange being located in position to register with the transverse wire-seat and flange on another of the said members.

4. A cross-over insulator comprising a base and a cross-over member, the said members being respectively provided with wire-receiving recesses located in position to register one with the other and form a wire-seat when these members are assembled, the recess on the base member having a definite angular position thereon and that of the other member being so formed that it will register with the recess in the other member in any position of relative angular adjustment, the cross-over member being provided with a wire-seat independent of the first-mentioned wire-seat and having a definite angular position thereon.

5. A cross-over insulator comprising a base and a cross-over member, the said members being respectively provided with wire-receiving recesses located in position to register one with the other and form a wire-seat when these members are assembled, the recess on the base member having a definite angular position thereon and that of the other member being so formed that it will register with the recess in the other member in any position of relative angular adjustment, the cross-over member being provided with a wire-seat independent of the first-mentioned wire-seat and having a definite angular position thereon, and a member having a wire-receiving recess located in position and formed to register with the independent wire-seat of the cross-over member in any position of relative angular adjustment.

6. A cross-over insulator comprising three

members, a base, a cap, and an intermediate member, the meeting faces of the base and intermediate member being respectively provided with wire-receiving recesses, the recesses in the base and intermediate member being located in position to register one with the other and form a wire-seat when these members are assembled in any position of relative angular adjustment, and the meeting faces of the intermediate member and cap being respectively provided with wire-receiving recesses, the recesses in the intermediate and cap members being located in position to register one with the other and form a wire-seat when these members are assembled in any position of relative angular adjustment.

7. In an insulator, a pair of members, each of said members having a recess located in position to register with the recess in the other member and form a wire-seat when these members are assembled, and a member having in its respective faces recesses located in position to register with the recesses of the members of the pair when assembled between the same.

8. In an insulator, a pair of members, one of said members having in its face an annular recess and the other member having a transverse recess, such transverse recess being located in position to register with some portion of the annular recess when these members are assembled, and a member having upon one face an annular recess and upon an opposite face a transverse recess, said transverse recess being located in position to register with some portion of the annular recess first mentioned when assembled with the member provided with the same, and the annular recess upon said member being located in position to register at some portion with the transverse recess first mentioned when assembled with the member provided with the same.

9. In an insulator, a pair of members, one of said members having in its face an annular recess, and the other member having an upwardly-curved recess, said upwardly-curved recess being located in position to register with some portion of the annular recess when these members are assembled, and a member having an annular recess upon one face and an upwardly-curved recess upon the other face, said annular recess and curved recess upon the last-mentioned member being in position to register with the curved recess and annular recess respectively of the members of the pair when assembled therebetween.

10. A cross-over insulator comprising a base and a cross-over member, the said members being respectively provided with wire-receiving recesses located in position to register one with the other and form a wire-seat when these members are assembled

bled, the recess on the base member having a definite angular position thereon and that of the other member being so formed that it will register with the recess in the other member in any position of relative angular adjustment, the cross-over member being provided with a wire-seat independent of the first-mentioned wire-seat and having a definite angular position thereon, and wire shields carried by the cross-over member and extending outwardly from the wire-seat.

11. In an insulator, a body member provided with a wire-seat, a cross-over member provided with a wire-seat, and wire shields carried by one of the members and located in position to be interposed between wires extending from the respective seats.

12. In an insulator, a body member provided with a wire seat, a cross-over member provided with a wire-seat, and wire shields carried by the cross-over member and located in position to be interposed between wires extending from the respective seats.

13. A cross-over member for an insulator comprising a body-portion having a wire-seat and wire shields extending outwardly from such seat.

14. An insulator member comprising a body portion having a wire-seat and wire shields extending outwardly from such seat and alined therewith.

15. In an insulator, a pair of members, each having a wire seat face located in position to register with the wire seat face of the other and form a wire seat when assembled, and a member having on opposite sides wire seat faces located in position to register with the wire seat faces of the pair and form a pair of wire seats when assembled between the same.

In witness whereof I have hereunto set my hand in the presence of two subscribing witnesses:

FERDINAND SCHAUB.

Witnesses:

EMIL SCHUMANN,
CARL A. H. SCHUMANN.