

No. 670,547.

Patented Mar. 26, 1901.

J. S. SCHENCK.
ELECTRICAL CONNECTING DEVICE.

(Application filed Jan. 20, 1900.)

(No Model.)

FIG. 1.

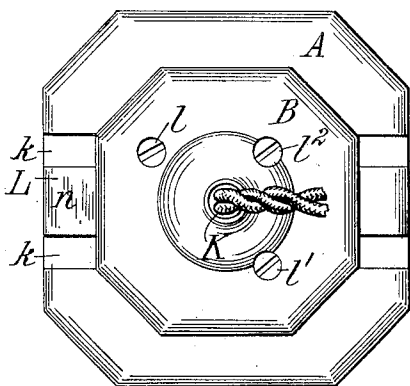
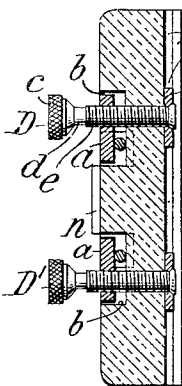


FIG. 4.



IV FIG. 3.

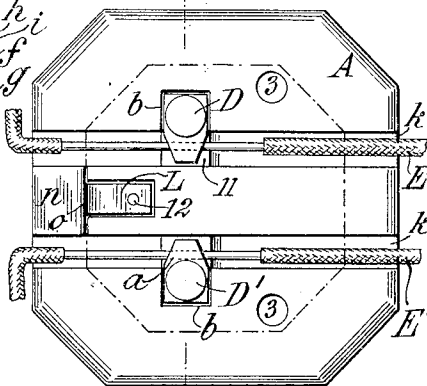


FIG. 2.

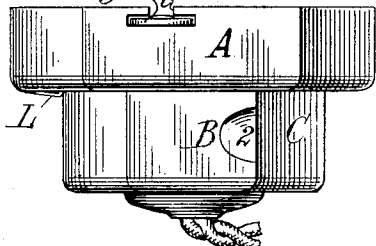


FIG. 9

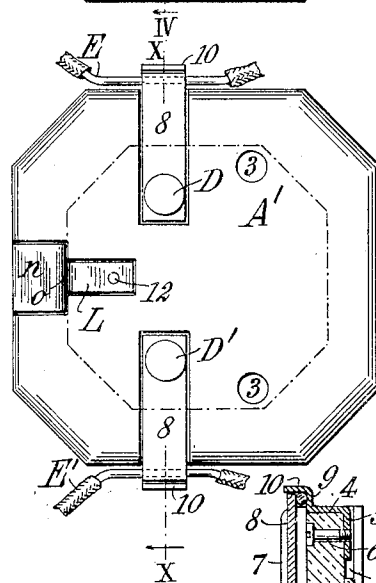


FIG. 7.

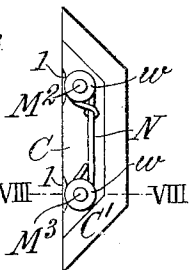


FIG. 5.

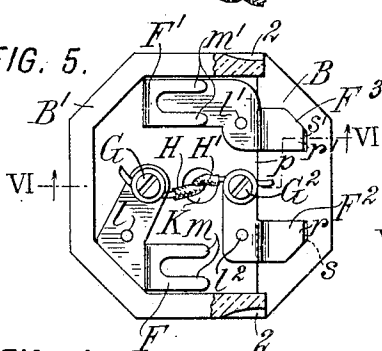


FIG. 6.

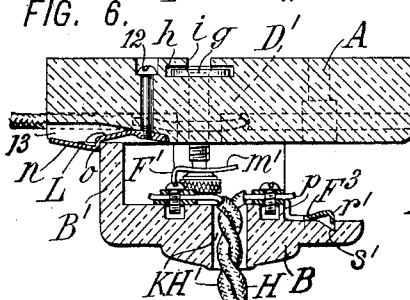


FIG. 8.

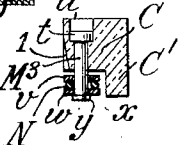


FIG. 11.

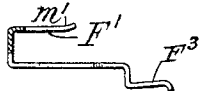
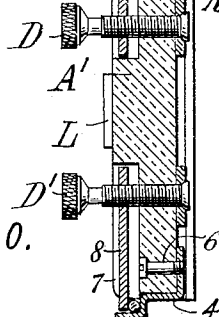


FIG. 10.



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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONNECTING DEVICE.

SPECIFICATION forming part of Letters Patent No. 670,547, dated March 26, 1901.

Application filed January 20, 1900. Serial No. 2,218. (No model.)

To all whom it may concern:

Be it known that I, JOHN S. SCHENCK, a citizen of the United States, residing in the borough of Brooklyn, county of Kings, city and State of New York, have invented certain new and useful Improvements in Electrical Connecting Devices, of which the following is a specification.

The object of my invention is to provide a device for use wherever it is necessary to establish an electrical connection which is easily set up, conveniently accessible for repair, simple, and at the same time avoids the danger of short-circuiting during repair, which is present in most of the connecting devices at present in use.

Figure 1 is a face view of a rosette embodying my invention; Fig. 2, a side view thereof; Fig. 3, a face view of the base of such a rosette with dotted lines showing the position of the casing; Fig. 4, a cross-section of the same on the line IV IV; Fig. 5, an underside view of the main portion of the casing in such a rosette, partly in section; Fig. 6, a section of the same on the line VI VI, showing the base attached thereto; Fig. 7, an under side view of the fuse-carrying portion of the casing in such a rosette; Fig. 8, a cross-section of the same on the line VIII VIII; Figs. 9 and 10, views similar to Figs. 3 and 4 of a form of base-plate which may be substituted for that of Figs. 3 and 4. Fig. 11 is a detail of a pair of terminals, the upper one being in section.

As a practical embodiment of my invention I have shown an octagonal rosette of the kind generally in use for connecting incandescent lamps into a circuit. The base of the rosette may be attached to the wall, ceiling, or other support on which the line-wires are strung and has binding-posts for connection to the line-wires, or it may be supported from said line-wires alone where no other support is convenient, the term "base" being used to indicate that portion of the device which carries the line-wire binding-posts regardless of the manner of support. Carrying the wires which are to be connected to the main line—for example, the loop in which a lamp is situated in the rosette described—is a portion of the device which I call the "main casing" and which is attached to the base in opera-

tion, but is easily and quickly detachable therefrom when necessary. A third member is a fuse-casing, which is normally attached to the other two, but easily and quickly detachable therefrom when it is necessary for any reason to have access to the fuse.

Referring to the drawings, A is the base, B the main casing, and C the fuse-casing, these parts being of insulating material, such as porcelain. The base is provided with binding-posts D D', preferably of the kind shown in Fig. 4, in which a laterally-projecting nut *a* is adjustable in a recess *b*, being moved up and down the shank of a screw passing through the base and having a milled head *c*, said shank having a reduced upper portion *d* and a screw-threaded portion *e* and being upset at the end, so as to retain a plate *g* on said shank. The plate *g* is held in place preferably by means of a recess *h* in the back of the plate A of sufficient width to accommodate the plate and having a narrower portion *i* for obtaining access to the end of the shank. By this arrangement the screw-head *c* is maintained at a constant distance from the face of the base. Grooves *k* in the face of the base carry the wires E E' to points beneath the lateral extensions of the nuts, whereby they may be clamped between these portions of the nuts and the base of the grooves with sufficient pressure to make good contact with the nuts. For use on a circuit in which the lamps or other electroreceptive devices are in parallel it is most convenient to extend the grooves across the entire face of the block, as shown. In connecting the base to the line the screw-heads *c* are turned until the nut is out of the recess, when it becomes free to turn the projection of the nut aside from the groove *k* and to lay the bight of the wire in said groove, when the nut is turned again to its original position and clamped down upon the wire. If the end only of the line-wire is to be used, it may obviously be more quickly connected by being pushed under the nut endwise without lifting the latter entirely out of the recess. The depth of the recess *b*, as shown in Fig. 4, is less than that of the groove *k*, except that the portion of the groove immediately under the nut extension is raised, as shown at 11, Fig. 3,

so as to avoid having to bend down the naked wire as a consequence of the thickness of the insulation in the end portions of the groove.

The main casing B carries a pair of spring-
 5 loop terminals $F F'$, adapted to coact with line-terminals c on the base, the spring being preferably in the metal of the terminals themselves and said terminals being attached by screws ll' , projecting through from the out-
 10 side of the casing. A third terminal F^2 is attached to the casing by a similar screw l^2 . Connected to the terminals $F F^2$ are binding-posts $G G^2$, preferably consisting each of a screw working in screw-threads in integral
 15 extensions of the terminals, the casing being countersunk to make room for the end of the screw, as shown in Fig. 6, and passing through a washer. The wires H and H' are attached to binding-posts G and G' and carry the lamp
 20 or other electroreceptive device, passing there-through a central perforation K in the casing. The ends of the terminals F and F' are offset a suitable distance from the inner face of the casing, so as to take under the heads of the screws of the binding-posts $D D'$ and bear
 25 strongly against the undersides of said heads by reason of their downward (in the position shown in Fig. 6) spring tendency, thus pressing the base and the casing together and by
 30 their friction tending to prevent lateral movement in the direction to separate them. The ends $m m'$ of said terminals are bent upward to more readily engage the screw-heads. On the base is a spring-catch L , preferably of the
 35 shape shown, over the inclined face n of which the casing B is forced laterally in joining the parts, the terminals F and F' and the catch L yielding to permit this, but the perpendicular face o of which positively prevents the return of the casing unless it be
 40 forcibly lifted over the catch. This catch has a narrow end working in a central groove in the base and fastened by a screw 12 (see Fig. 3) and a wide free end, including the parts
 45 n and o , adapted to be pressed by the thumb into a recess 13 of the base, Fig. 6, to permit withdrawal of the casing laterally. Ordinarily the friction of the parts on each other produced by the springs F and F' is sufficient
 50 to prevent accidental displacement of the casing; but the stops L add but little to the cost and serve as positive stops, thus avoiding the necessity of holding the main casing in place with one hand while the fuse-casing, herein-
 55 after described, is shoved against it with the other.

The wall B' of the casing is cut away at one end, as shown, the head also being rabbeted, as at p , at the same end, whereby a thick head
 60 is obtained through which to pass the screws and a deep space to receive the fuse-carrying portion—a combination of the greatest efficiency with the greatest compactness. A terminal F^3 is connected (to preferably, as shown,
 65 by being integral with) the terminal F' . The terminals F^2 and F^3 are bent down at p and are yieldingly held slightly above the surface

of the casing-head. The yielding action may be produced by an extraneous spring or by the resiliency of the material of which the
 70 terminal is composed. Preferably the ends of the spring are bent upward, as at r and r' , and finally downward into recesses $s s'$, in which they have a slight up-and-down play.

The fuse-casing C has a wall C' extending
 75 partially around the same and adapted when the device is in use to fill the gap in the main-casing wall. In the body of the fuse-casing are two pins M^2 and M^3 , forming fuse-terminals coacting with the intermediate termi-
 80 nals $F^2 F^3$ in the main casing, each having a shank passing through said body and held by a head t in a recess u of said body. Each pin carries a washer v and a washer x thereon, held from outward movement by an enlarge-
 85 ment y on the end of said reduced portion. The parts are of such proportions as to allow a slight longitudinal play of the pins when the fuse-casing is separated from the main casing for more easily inserting the fuse. The
 90 fuse N is wrapped at its ends about the pins M^2 and M^3 , as shown, between the washers v and w . Recesses are shown at 1, which permit of getting the thumb or finger closer to the washer when inserting the fuse. At the
 95 outside of the opposite ends of the main-casing wall B are finger-recesses 2 2' for enabling one more easily to take hold of the ends of the fuse-casing to withdraw the same.

In the use of my device the base-plate is,
 100 if desirable, connected to a support by fastenings of any suitable character—for example, by screws passing through holes 3, placed as shown or in other suitable position—which will avoid the possibility of any accidental
 105 short-circuiting. The wires $E E'$ are then connected, as already explained, the wires $H H'$ being connected to the main casing by means of the binding-screws $G G^2$. The casing is pressed against the face of the base and
 110 pushed laterally—that is to say, crosswise of its axis—so that the yielding terminals $F F'$ take over the screw-heads of $D D'$, not only establishing the connection of the line with the terminals $F F'$, but retaining the casing
 115 mechanically in position against the base. The fuse having been connected to the pins M^2 and M^3 , the fuse-casing is now shoved into the space between the base and the thin end of the main casing. The springs F^2 and F^3
 120 exert a firm but yielding pressure against the ends of the pins sufficient to hold the fuse-casing in position under ordinary circumstances, as well as to make good contact between the fuse-terminals $M^2 M^3$ and the main-
 125 casing terminals $F^2 F^3$. The circuit is now complete through wire E , terminal F , binding-post G , wire H , lamp or other electroreceptive device, wire H' , binding-post G^2 , terminal F^2 , fuse, terminal F^3 , terminal F' , and
 130 wire E' .

While I have described with great particularity one device embodying my invention, so as to enable others to make and use the

same, I am not to be understood as limiting myself to the details particularly shown and described. Modifications thereof without departing from the principle of the invention are possible to those skilled in the art. For example, Figs. 9 and 10 show a modification of the base, in which instead of grooves in its face the plate carries clips 4, having ends 5 entering the ends of the grooves *h* and fastened by screws 6, entering from the recesses 7 in the face of the plate. These clips are bent outward, as at 9, and then bent upward, as at 10, so as to form a groove in which the line-wire lies and is clamped between the outwardly-projecting nut 8 and the outwardly-extending portion of the clip. The other elements are the same as in the modification shown in Figs. 3 and 4, and the manner of connecting the casing and fuse is identical with that of Figs. 3 and 4. It is obvious also that the detachable fuse-casing is capable of use at any point of a system of wiring without the specific construction of the other parts, as described, or that the main casing and the fuse-casing might be in one and separable as a whole from the base, or that the main casing alone might be separable, the other parts being in one. Any one or the combination of any two of the parts described is capable of independent use in many other combinations than those described.

What I claim, therefore, and desire to secure by Letters Patent, are the following-defined novel features, substantially as set forth:

1. In an electrical connecting device in combination a main casing, line-terminals and loop-terminals therein, a fuse-casing detachable from said main casing, and fuse-terminals attached to and inclosed within said second casing.

2. In an electrical connecting device, in combination a main casing, line-terminals and loop-terminals therein, a fuse-casing and terminals therein and attached thereto and adapted to be detachably attached to the ends of a fuse.

3. In an electrical connecting device in combination a base-plate, a main casing, each detachable from the others, a fuse-casing, and springs for holding said parts together, whereby on being merely placed together they are automatically retained in position.

4. In an electrical connecting device, in combination a base, a main casing, means forming part of the circuit detachably holding the base and main casing together, a fuse-casing, and means detachably holding said fuse-casing in position.

5. In an electrical connecting device, in combination a base, a main casing, a fuse-casing and means forming parts of the circuit de-

tachably holding said base, main casing, and fuse-casing together.

6. In an electrical connecting device in combination a main portion and a fuse-carrying portion, means for joining said parts by a relative lateral movement thereof in one direction, and means for pressing the two portions together so as to resist lateral movement in the opposite direction and additional means for positively preventing lateral movement thereof in said opposite direction.

7. In an electrical connecting device, in combination, a base, a casing, spring mechanism adapted to hold said casing on said base, a second casing, and spring mechanism adapted to hold said second casing between said base and said first casing.

8. In an electrical connecting device, in combination, a base, a casing, means for joining said parts by a relative lateral movement thereof, a second casing, and means for joining the same to the base and the first casing by a lateral movement thereof.

9. In an electrical connecting device, in combination, a base, a casing, means for joining said parts by a relative lateral movement thereof, a second casing, means for joining the same to the first casing and the base by a lateral movement thereof, and a stop on said base for preventing movement of said first casing in a direction to separate it from said second casing.

10. In combination, a plate for the attachment of electric wires having a groove in one face thereof, a nut extended laterally over said groove, and a screw fixed against longitudinal movement and passing through said nut.

11. In combination a casing, spring-terminals F F' F^2 and F^3 therein, binding-screws connected to the terminals F and F^2 , and a connection between the terminals F' and F^3 .

12. In combination a casing, spring-terminals F F' F^2 F^3 therein, binding-screws connected to the terminals F and F^2 , a connection between the terminals F' and F^3 , and means for connecting the opposite ends of a fuse to the terminals F^2 and F^3 .

13. In combination a casing, a pair of terminals therein, each consisting of a pin having a slight longitudinal play and carrying a pair of loose washers adjacent to each other but adapted to be separated to carry the end of a fuse between them.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JOHN S. SCHENCK.

Witnesses:

D. A. USINA,
FRED WHITE.