M. SIDON.

ELECTRICAL CONNECTING DEVICE.

APPLICATION FILED NOV. 24, 1916. RENEWED FEB. 13, 1920.

1,351,191. Patented Aug. 31, 1920.

Fig. 1.

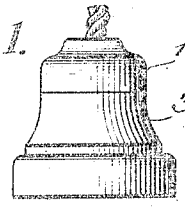


Fig. 2.

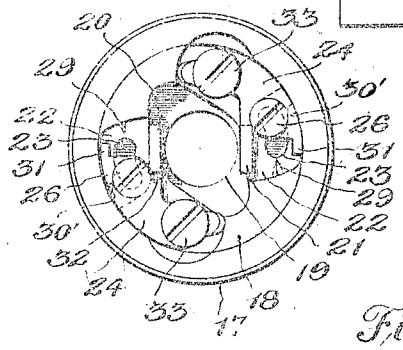


Fig. 3.

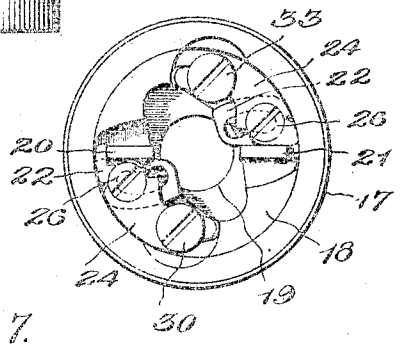


Fig. 7.

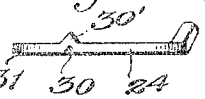


Fig. 4.

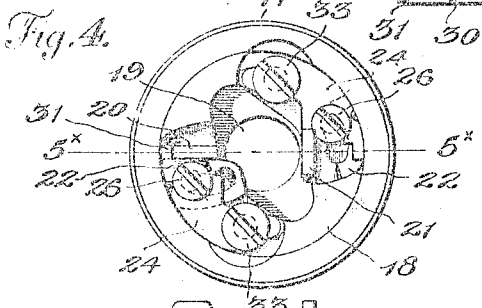


Fig. 5.

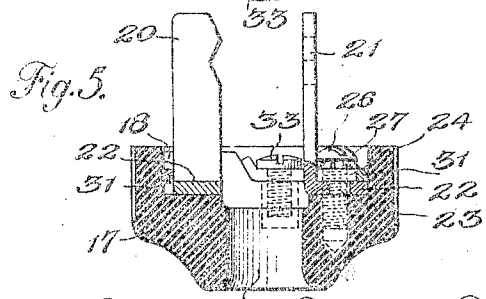


Fig. 6.

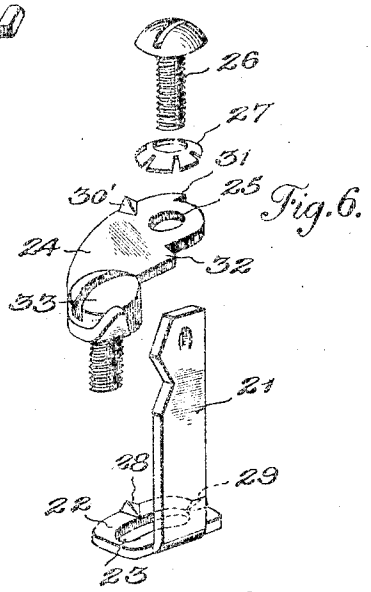


Fig. 8.

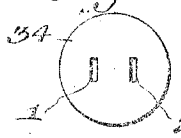


Fig. 9.

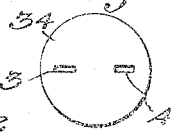


Fig. 10.

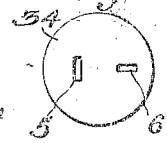


Fig. 11.

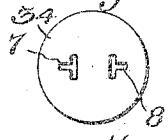


Fig. 12.

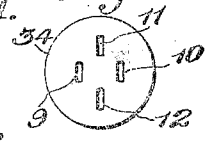


Fig. 13.

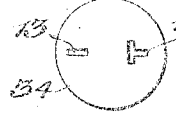


Fig. 14.



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MAXIMILIAN SIDON, OF BRIDGEPORT, CONNECTICUT, ASSIGNOR TO BENJAMIN ELECTRIC MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

ELECTRICAL CONNECTING DEVICE.

1,351,191. Specification of Letters Patent. Patented Aug. 31, 1920.

Application filed November 24, 1916, Serial No. 133,110. Renewed February 13, 1920. Serial No. 358,409.

To all whom it may concern:

Be it known that I, MAXIMILIAN SIDON, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented certain new and useful Improvements in Electrical Connecting Devices, of which the following is a specification.

This invention relates more especially to that class of electrical connecting devices known as "Current Tape", which consists of a socket member usually known as the "receptacle", and a plug member usually known as the "cap". The plug member in these devices comprises a cap proper of insulating material to which is secured a number of contact blades, generally two, which are adapted to engage with sockets in the receptacle, and make electrical connection with terminals therein. The present invention is directed to the "cap" or plug portion of the connector, and its object is to provide a cap, the contact blades of which are adapted to be used interchangeably with receptacles having variously disposed sockets.

In order to more fully describe my invention, reference will be had to the accompanying drawings wherein:

Figure 1, represents in side elevation, on a reduced scale, a connecting device of the class herein referred to, showing the cap and receptacle connected together;

Figs. 2, 3 and 4, bottom plan views of my improved cap, showing the contact blades in variously adjusted positions;

Fig. 5, a sectional elevation on line 5ˣ—5ˣ, Fig. 4;

Fig. 6, a perspective view of one of the contact blades, together with parts associated therewith for permitting its adjustment, and holding the same in adjusted positions, the parts being shown separated in the order of assembling;

Fig. 7, a side elevation of one of the binding plates, and

Figs. 8 to 14, represent in top plan receptacles having variously disposed sockets.

In all of the caps hitherto manufactured, as far as I am aware, the contact blades have been fixed with their sides (the more extended faces of the blades as distinguished from the narrow edges thereof) either parallel (in different planes) or in alinement (in the same plane) or at right angles. The receptacles, on the other hand, have the slots or sockets 1, 2 for receiving these blades arranged either parallel, as in Fig. 8; with sockets 3, 4, in alinement as in Fig. 9; with one socket 5 extending in a direction at right angles to the other socket 6, as in Fig. 10; with two T-shaped sockets 7 and 8, as in Fig. 11; with two separate sets of sockets 9, 10, and 11, 12, arranged both parallel and in alinement, as in Fig. 12; with one straight socket 13, and one T-shaped 14, as in Fig. 13, or with one straight socket 15, and one socket 16, in the form of a plus mark to indicate the plus and minus sides of the circuit, as in Fig. 14. A receptacle having slots or sockets arranged as in Fig. 8 could therefore be used only with caps having parallel blades; the receptacle shown in Fig. 9 could be used only with caps having blades in alinement; the receptacles shown in Fig. 10 could be used only with caps having blades arranged at right angles, and since these caps as hitherto constructed have invariably been provided with fixed blades, it has been necessary to procure a cap having its blades disposed in the same way as the sockets in any of these receptacles (Figs. 8 to 10, inclusive) in order to use these caps with the receptacles. In order to provide a receptacle which could be used with either a cap having its blades parallel, or with a cap having its blades in alinement, receptacles having sockets or slots disposed as shown in Figs. 11 and 12 have heretofore been provided. Likewise, receptacles having their sockets or slots disposed as in Figs. 13 and 14, have been provided which will accommodate caps with their blades either in alinement or at right angles. The receptacle illustrated in Fig. 11 shows a form which has heretofore been provided wherein the sockets will accommodate caps with contact blades arranged either parallel, in alinement, or at right angles. The practice heretofore has been to secure interchangeability between caps and receptacles by the particular arrangement of slots or sockets in the receptacle. My invention is designed to effect this interchangeability by the adjustment of the blades of the cap.

Referring now particularly to Figs. 2 to 7, inclusive, which illustrate a specific form of

my invention, 17 indicates the cap proper, composed of insulating material, and having a countersunk portion or chamber 18 formed in one of its faces, and a central opening 19 for the passage of the wires. Secured to the face of this cap forming the bottom of chamber 18 are two contact blades 20 and 21. Each of these blades has a base or offset 22 extending at right angles therefrom, and provided with an elongated slot 23 extending therethrough, and struck on the arc of a circle. The base or offset 22 of each blade is clamped down upon the cap proper by an individual binding plate 24, having an opening to accommodate a screw 26. The screw 26 clamps the binding plate 24 down on extension 22, and passes through opening 25 and slot 23 into the cap proper 17, and there is inserted between the head of this screw and plate 24 a spring washer 27. Each offset 22 has upon its upper face two raised portions 28 and 29, the function of which will herein later appear. Each plate 24 has on its lower face a depression 30, and is provided with two shoulders 31 and 32, the functions of which will also later more fully appear. The raised portion 30′ performs no function. It is merely a bulge in the metal due to the indented portion 30. Plates 24 are also provided with openings through which pass binding screws 33 for securing the conducting wires to the device.

Each binding plate 24 has one of its edges struck on the arc of a circle, so as to fit against and conform to the contour of the side of chamber 18, and each offset 22 has its outer edge also struck on the arc of a circle for the same purpose.

With this arrangement, it will be seen that the blades may be turned or adjusted vertically so that their elongated sides may be brought into various relations with each other. When the blades are adjusted in the parallel position shown in Fig. 2, they are prevented from accidental displacement by raised portions 28 of each blade engaging with depression 30 of its respective binding plate 24, and also by the engagement of raised portion 29 of each blade with shoulder 32 of its respective binding plate 24. When the blades are turned 90° from the position shown in Fig. 2, so as to be in alinement, as in Fig. 3, they are held in this position against accidental displacement by raised portion 29 engaging depression 30, and also by raised portion 28 engaging shoulder 31.

In Fig. 4, the blades are shown adjusted to a position where their extended sides are at right angles to each other. In this case, the blade 21 would be retained in position or locked, as described with reference to Fig. 2, and the blade 20 would be retained or locked, as described with reference to Fig. 3. The means provided for locking or retaining the blades in the adjusted position is of course auxiliary to the clamping action of plates 24, and I do not wish to be understood as limiting my invention to such auxiliary retaining means.

The spring washers 27 permit of the adjustment of the blades without necessarily loosening screws 26. It should be understood, however, that these washers may be dispensed with if desired. It should also be understood that I do not limit my invention to the particular adjustments of the blades illustrated.

It will be seen from the foregoing description that a cap of this kind may be used with any of the arrangements of sockets illustrated in Figs. 8 to 14, inclusive, or with receptacles having other arrangements of sockets.

In Fig. 1, I have indicated my "cap" as applied to a common form of receptacle 34.

Without limiting my invention to the specific embodiment thereof herein illustrated, what I claim is:—

1. A device of the class described, comprising a cap, a contact blade having an offset or base provided with an elongated slot, a binding plate over said offset, and a screw passing through said binding plate and said offset into said cap.

2. A device of the class described, comprising a cap having a recessed end provided with a curved wall, a contact blade having an offset or base curved to conform to the curvature of said wall, said offset having an elongated slot therein, and having projections forming locking means, a binding plate over said offset, and provided with shoulders to limit the angular movement of said offset, a screw passing through said binding plate and said offset into said cap, and a spring washer inserted between the head of said screw and said binding plate.

In testimony whereof I affix my signature.

MAXIMILIAN SIDON.