

No. 848,941.

PATENTED APR. 2, 1907.

F. M. VOGEL & C. E. WHITE.
ELECTRICAL CONNECTING PLUG.

APPLICATION FILED FEB. 25, 1905.

Fig. 1.

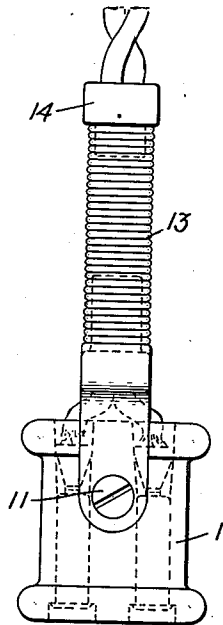


Fig. 2.

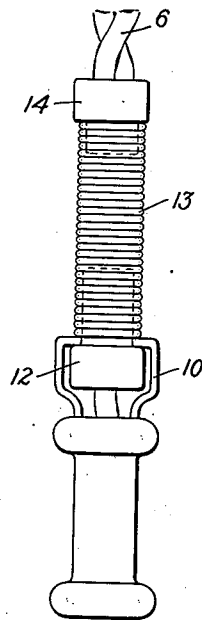


Fig. 6.

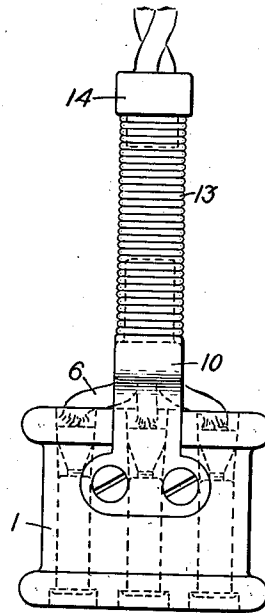


Fig. 3.

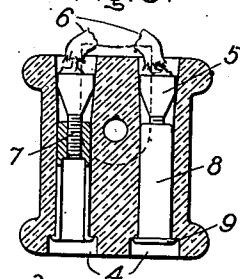


Fig. 4.

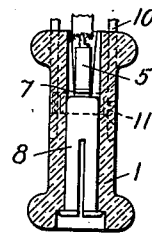
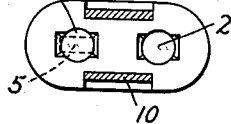


Fig. 5.



Witnesses.

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UNITED STATES PATENT OFFICE.

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ELECTRICAL CONNECTING-PLUG.

No. 848,941.

Specification of Letters Patent.

Patented April 2, 1907.

Application filed February 25, 1905. Serial No. 247,326.

To all whom it may concern:

Be it known that we, FREDERICK M. VOGEL and CHARLES E. WHITE, citizens of the United States, residing, respectively, at Lynn, county of Essex, State of Massachusetts, and at Malden, county of Middlesex, State of Massachusetts, have invented certain new and useful Improvements in Electrical Connecting-Plugs, of which the following is a specification.

This invention relates to means for connecting electrical conductors, and has for its object the provision of an improved coupling which will be cheap and of simple construction, but at the same time durable and perfectly safe even in the hands of the most unskilled.

Referring to the drawings, Figure 1 is an elevation of a coupling embodying our invention. Fig. 2 is an end elevation of the same. Fig. 3 is a longitudinal sectional elevation of the coupling, showing one of the sockets also in section, the cord-terminals being removed. Fig. 4 is a section at right angles to that shown in Fig. 3. Fig. 5 is a plan view of Fig. 4 with socket and terminal removed, and Fig. 6 is a modified form having three sockets.

Referring to the drawings, 1 represents the body of the coupling and consists of some insulating and preferably molded material, as porcelain, although slate, hard rubber, or any good insulating substance will serve the purpose. This block is provided with perforations 2, counterbored at one end, as shown at 4, while the other end is non-circular in shape—as, for instance, rectangular—and tapered, as shown. Terminals 5, to which the conductors 6 are secured in any manner, as by soldering, are provided with heads corresponding in shape to that of the perforations, thereby preventing the terminals from turning. The shank 7 of the terminal is screw-threaded. A socket 8, composed of a split tube solid at one end, is tapped out, so as to screw onto the shank 7, and the outer extremity of the socket is flanged or expanded, as at 9, into the counterbore 4 of the perforation.

In order to prevent the metallic conductors from being flexed back and forth at a sharp angle and eventually being broken, we provide a metallic clip 10, fitting over the

block, which is cut away to receive it, and secured thereto by means of a screw 11. This clip is perforated to receive the button 12, preferably of wood or of some light cheap substance, which button is in turn perforated to receive the conductors 6. A helical spring 13 fits snugly over the extremity of the button 12, protruding through the clip, and is held in that position either by friction or in any desired manner. At the opposite end of the spiral a similar button 14 is arranged between the spring and the conductor.

It will thus be seen that we prevent the flexure of the conductor at a sharp angle, since it cannot be bent at all except at a point within the spring, and since the spring from its nature cannot bend at a sharp angle the conductor cannot, and is therefore protected. It will also be seen that we have produced a coupling which may be quickly assembled by merely inserting the terminals into the perforations and screwing the sockets thereto until the flange at one end and the tapered portion at the opposite end of the terminal hold the entire connector rigidly within the perforation, the shape of the terminal preventing its turning while the socket is being screwed. The terminal therefore provides not only means for attaching the conductor, but also for holding the socket in place.

In Fig. 6 we have shown the coupling so modified as to provide three sockets, which is desirable where the coupling is to be used in connection with an electrical heater for providing different heats. Aside from the different arrangement of sockets in this coupling the construction is substantially the same as that above described.

In accordance with the provisions of the patent statutes we have described the principle of operation of our invention, together with the apparatus which we now consider to represent the best embodiment thereof; but we desire to have it understood that the apparatus shown is only illustrative and that the invention can be carried out by equivalent means.

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

1. A coupling for electrical conductors consisting of an insulating-body having a straight bore therethrough, and a metallic

connector within the same comprising a terminal secured against rotation by engagement with the walls of the said perforation, and a socket screwed to the terminal and engaging the said perforation-walls.

2. A coupling for electrical conductors consisting of an insulating-body having a straight bore therethrough which is non-circular at one end and a metallic connector within the same comprising a terminal having a head engaging said non-circular portion and correspondingly shaped, and a split tube in screw-threaded engagement with said terminal, said tube and terminal being wholly below the surface of the insulating-body.

3. A coupling for electrical conductors consisting of an insulating-block having straight bores therethrough which are non-circular at one end, metallic connectors within said perforations each comprising a terminal having a head engaging said non-circular portion and correspondingly shaped, and a split tube flanged at one extremity and in screw-threaded relation with said terminal at the other, said terminals and tubes being wholly below the surface of said block.

4. The combination with a coupling provided with terminals and an electrical conducting-cord therefor, of means for preventing sharp flexure of the cord comprising a supporting-clip, a bushing extending therefrom for supporting said cord, a flexible tube engaging said clip and mounted upon said bushing, and means for securing said clip to said coupling.

5. The combination with a coupling provided with terminals and an electrical conducting-cord therefor, of means for preventing sharp flexure of the cord comprising an inclosing helical spring, bushings fitting into opposite ends thereof to support said cord, a clip engaging one of said bushings and supporting said spring, and means for attaching said clip to said coupling.

In witness whereof we have hereunto set our hands this 21st day of February, 1905.

FREDERICK M. VOGEL.
CHARLES E. WHITE.

Witnesses:

JOHN A. McMANUS, Jr.,
ROBERT SHAND.