May 6, 1930. B. F. MULDOON 1,757,437

PLUG SOCKET

Filed Dec. 8, 1925

Fig. 1.

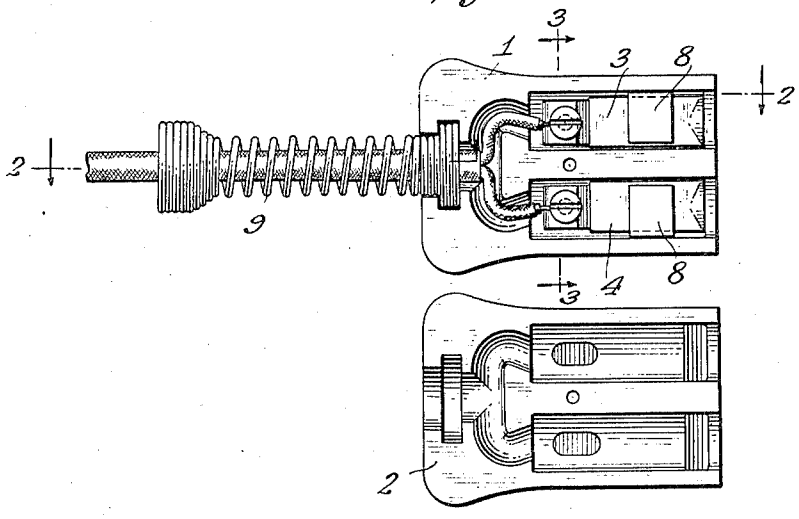


Fig. 2.

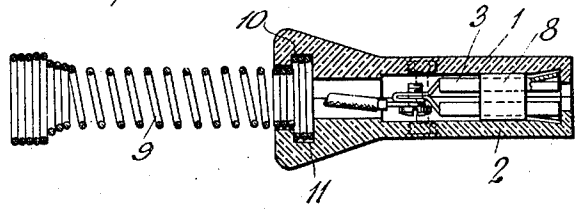


Fig. 3.

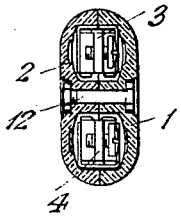


Fig. 4.

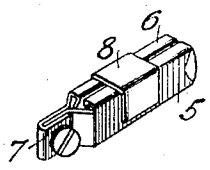
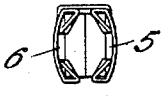


Fig. 5.



INVENTOR
Bernard F. Muldoon
BY Gifford & Bull
His ATTORNEYS.

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UNITED STATES PATENT OFFICE

BERNARD F. MULDOON, OF MOUNTAIN VIEW, NEW JERSEY, ASSIGNOR TO HENRY HYMAN, OF BROOKLYN, NEW YORK

PLUG SOCKET

Application filed December 8, 1925. Serial No. 73,968.

My invention relates to plug sockets and is particularly directed to the provision of such a device which shall be simple and easy of assembly and at the same time will have advantages over articles of like character as heretofore constructed.

My invention will be better understood by reading the following description taken in connection with the accompanying drawings showing an illustrative embodiment of the invention, and in which—

Fig. 1 is a view showing the inside of the casing members with the parts in place in one of them;

Fig. 2 is a longitudinal section on line II—II of Fig. 1;

Fig. 3 is a lateral section on line III—III of Fig. 1 with the two parts of the casing assembled;

Fig. 4 is a perspective view of one of the sockets; and

Fig. 5 is a front end view of the socket shown in Fig. 4.

Referring to the drawings, the article comprises two casing parts 1 and 2 which are substantially identical. Sockets 3 and 4 are placed in suitable chambers in the casing members, there being substantially one-half of the chambers provided in each casing part, as shown in Figs. 2 and 3. The sockets 3 and 4 may be of any well-known construction and per se constitute no part of my invention. Sockets of this character, however, are usually constructed so that they expand upon the introduction of the plug into the socket. In the particular illustration shown in the drawings the sockets consist of two members 5 and 6 which are fastened together at 7 and a spring member 8 is placed around the members 5 and 6 so as to hold them in the position shown in Fig. 4 while at the same time permitting them to expand when the plug is inserted.

A coil spring 9 is placed in the enlarged end 10 of the plug socket, an expanded portion 11 of the spring being placed in a suitable chamber provided in the two casing members. This spring is for the well-known purpose of preventing breakage of the conductors due to continued flexing at the edge of the casing.

Heretofore it has been considered necessary to secure the casing members together by two or more screws. In the usual construction one of these screws is placed through the casing members near the front end thereof and within a short distance of the end of the casing parts. In devices of this character it is desired that there should be as little extra space around the sockets as possible because of the difficulty of inserting the plugs if the sockets are not comparatively fixed. Furthermore, if too much space is provided so that the sockets would be free to move, the continual movement of them is likely to cause the electrical conductors to become broken and therefore disconnected. But because of this necessity for closely confining the sockets and because of certain irregularities in manufacture due to the relative cheapness of the articles and the large volume of production, it frequently happens with devices as heretofore constructed that the front part of the casing members breaks away because of the expansion of the sockets upon the introduction of the plugs. This is a serious defect which has existed for a considerable time in the art. By the use of my invention I have overcome the difficulty of breakage of the casing parts while retaining the desired close confinement of the sockets and in addition have produced an article which is simpler in construction and easier to manufacture and assemble than any device known to me. In fact the device embodying my invention may be, and preferably is, constructed so as to have only one screw 12 for holding the parts together and this screw is placed preferably at about the center of the article and also preferably sufficiently removed from the ends of the casing parts to be outside the zone of expansibility of the sockets. It is not essential that the screw be outside of the zone of expansibility of the sockets so long as it is far enough away from the front end of the device to permit of a certain amount of flexibility of the casing parts. It will be noted that by placing the screw at the relative position shown in the drawings a consider-

able amount of movement may be imparted to the front ends of the casing parts without so straining the parts as to break them, whereas if the screw were near the front ends of the parts the same amount of expansion would cause the parts to break. It is understood of course that as soon as the casing parts break and expose the sockets, the device is no longer safe because of the liability of shock or burning of the user of the article.

Because of the provision of substantially equal spaces in the two parts and the placing of the sockets and the expanded portion 11 of the spring 9 in position relative lateral movement between the parts is avoided and the single screw prevents any movement of the parts away from each other. Because of the substantial identity of the two parts the assembly of the device is rendered easier and the cost of manufacture substantially decreased, and also because of the use of a single fastening means the cost of production and assembly are materially decreased due to the fewer parts to be handled by the assemblers. It will be seen that the two parts are held with their surfaces in normal engagement by means of the screw or bolt 12, and that rotation of the parts about the bolt is avoided by means of the sockets which are received within recesses in both parts and also by means of the expanded portion 11 of the spring 9, which is also received in recesses in the two parts. Not only is rotation about the bolt thus avoided, but when plugs are inserted in the sockets they are expanded, thus causing more intimate engagement of the sockets and the walls of the recesses and avoiding rotation more effectively.

It is believed that my device will be thoroughly understood from the foregoing description and the drawings, and while the drawings show the present preferred embodiment of my invention, I wish to be understood that I am not limited to the exact construction and proportions and arrangements shown in the drawings.

I claim:

In a device of the class described, a socket adapted to receive a plug therein and to be expanded by said plug, casing parts enclosing said socket and tending to be forced apart by the expansion of said socket, a single centrally disposed fastening means holding together said parts against said tendency, and means disposed in recesses in said parts and adapted to prevent rotation of said parts about said fastening means.

BERNARD F. MULDOON.