

L. W. KUTSCH.
ELECTRIC PLUG AND SOCKET.
APPLICATION FILED FEB. 10, 1910.

975,875.

Patented Nov. 15, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

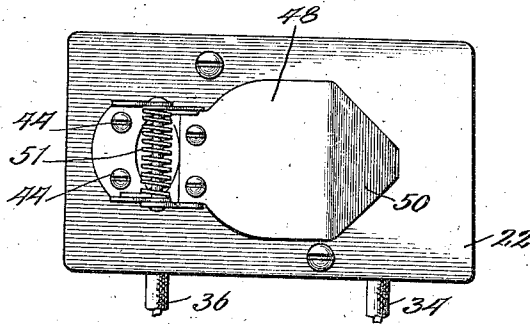


Fig. 2.

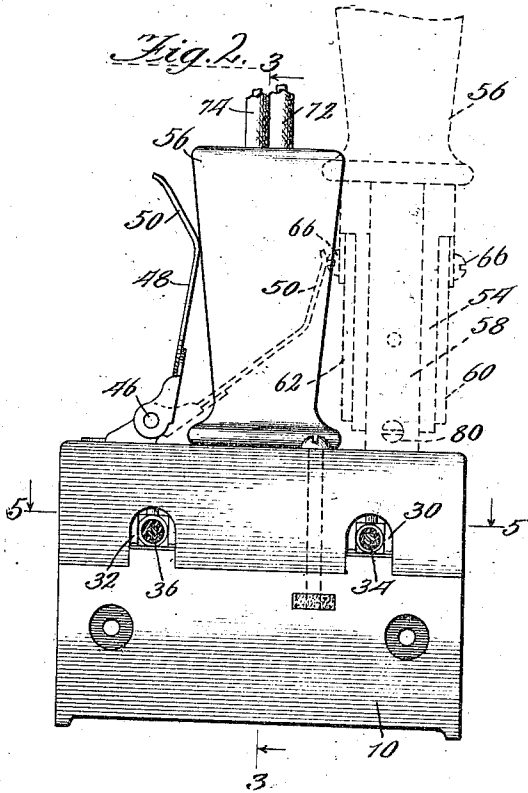
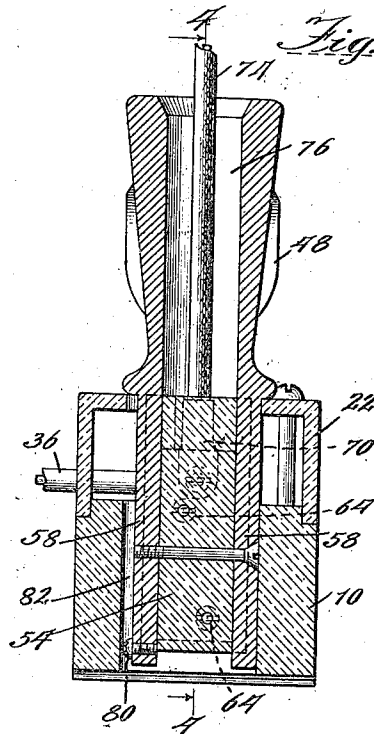


Fig. 3.



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2 SHEETS—SHEET 2.

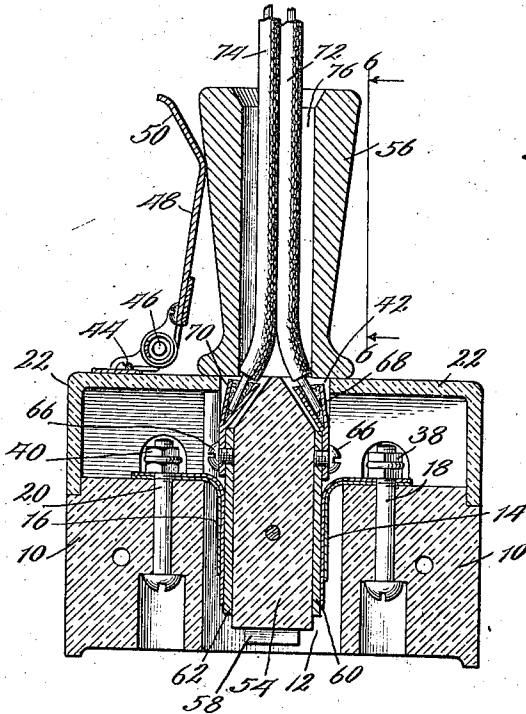


Fig. 4

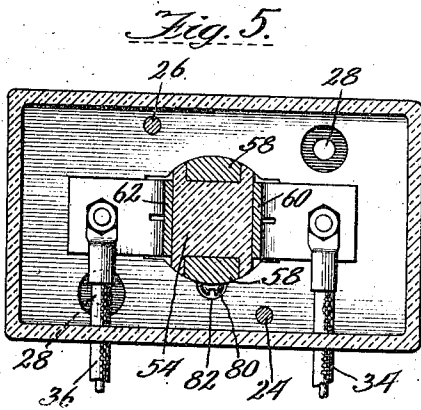


Fig. 5

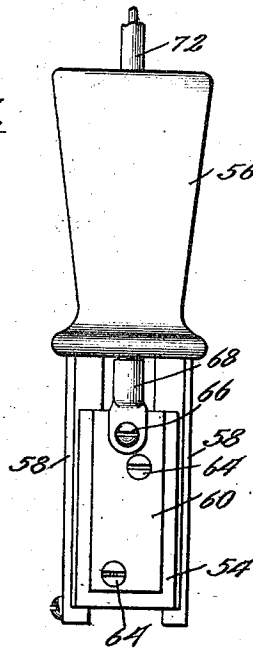


Fig. 6

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UNITED STATES PATENT OFFICE.

LOUIS W. KUTSCH, OF CHICAGO, ILLINOIS.

ELECTRIC PLUG AND SOCKET.

975,875.

Specification of Letters Patent. Patented Nov. 15, 1910.

Application filed February 10, 1910. Serial No. 543,039.

To all whom it may concern:

Be it known that I, LOUIS W. KUTSCH, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Electric Plugs and Sockets, of which the following is a specification.

This invention relates to devices of the class named, and especially to such devices for use in theaters and the like, where large numbers of electric lights have to be thrown into and out of electric circuit at the same moment, and also for use in charging storage batteries.

The object of the invention is to provide a plug and socket for this purpose which occupies small space, can be easily and cheaply made and installed, and which works very satisfactorily, and which possesses some or all of the features hereafter set forth.

The invention consists in a plug and socket in which, when they are in engagement with each other, the electric contacts are entirely inclosed within the block; in which the plug may be made reversible or nonreversible, as desired, with reference to the socket; a cover for the socket box which can only be put on in one position and that position the right one; a spring cover normally closing the opening in the socket but adapted to be lifted by the plug itself as the operator brings it to position for entering the socket; also in such a cover which is so spring mounted that, as it is opened it throws off any dirt which is upon it.

The invention also consists in a construction of the plug proper in which a wooden handle is used carrying a porcelain block on which the contacts are mounted, the whole so arranged as to afford perfect insulation; also in such a construction of wooden handle and porcelain insulating material for the plug that the wood protects the porcelain in case of the handle being dropped or otherwise struck upon something hard which would ordinarily break the porcelain.

The invention also consists in other details of construction to be hereafter described.

Figure 1 is a plan view of the socket box showing the cover for the plug opening in closed position. Fig. 2 is a side view of the box and plug in assembled position. Fig. 3 is a vertical sectional detail view on the

line 3—3 of Fig. 2. Fig. 4 is a corresponding view at right angles to that of Fig. 3 on the line 4—4, Fig. 3. Fig. 5 is a sectional plan view on the line 5—5 of Fig. 2. Fig. 6 is a detail side view of the plug withdrawn from the socket, taken in the direction of the arrows 6—6, Fig. 4.

The socket device of this invention consists in a solid porcelain base block 10 having through it a hole 12 of rectangular form sufficiently large to receive the plug. Extending into this hole or opening 12 within the block 10 are metallic electric contact members 14 and 16 secured respectively to the block 10 by the bolts 18 and 20 of ordinary construction. Over this block 10 fits a cover member 22 adapted to be secured to the block by screws 24 and 26. The base block 10 is adapted to be secured to any suitable support by screws placed through holes 28 therein. On one side of this cover 22 are two notches 30 and 32 through which electric wires 34 and 36 pass to the terminal nuts 38 and 40 upon the screws 18 and 20 respectively. As these two wires 34 and 36 are on the same side of the insulating block 10, and as the notches are necessary in the side of the cover which is adjacent to these wires it is impossible to put the cover in place except when the notches 30 and 32 are over these wires, as shown. It, therefore, follows from the foregoing that the cover 22 can only be placed upon the insulating member 10 in one position and that position the correct one.

Through the center of the top of the cover 22 is an opening 42 of sufficient size so that the plug may pass therethrough in between the electric contact members 14 and 16. Adjacent to this opening 42 is a bracket 44 having pivoted thereto at 46 a cover plate 48 adapted to lie flat upon the top of cover 22 and close the opening 42. At the outer extremity of this cover plate 48 is an upwardly turned portion 50, which is, as shown, adapted to be engaged by the plug proper in the manner hereafter described. This cover is normally spring pressed into closed position by a spring 51.

The plug of this device consists in a combination of parts comprising an insulating plug 54 of porcelain or other insulating material, preferably of H shaped form, as is best seen in Fig. 5. This insulating plug 54 is attached to a wooden handle 56, having projecting from it forks 58, which, as best

seen in Figs. 5 and 6, lie between the arms of the H and adjacent to the arms and cross bar of the H shaped porcelain block, thereby affording protection to the porcelain should the device fall upon the floor. Rigidly attached to the sides of the porcelain member 54 are metallic contact plates 60 and 62, each of these plates being secured in position by a set of screws 64. Attached to the upper ends of these metallic plates 60 and 62 by means of screws 66 are metallic socket or lug members 68 and 70 best seen in Fig. 4. Rigidly attached to these lugs by solder or otherwise, as desired, are insulated conducting wires 72 and 74 which pass through a hole 76 in the handle 56. The result of the foregoing construction is that when the plug member is inserted in the position of Fig. 4 electric current supplied to wire 72 will pass through socket member 68 into plate 60, thence into contact member 14 and out through wire 34 or vice versa, and that correspondingly current entering wire 36 will pass out through wire 74 or vice versa. It is also entirely obvious that by taking hold of the handle 56 and withdrawing it from contact with the contact members 14 and 16 or pulling it entirely out of the box it will break these electric connections. Whenever the plug is thus withdrawn the cover plate 48 is thus closed down, thereby closing the box from dust or other impurities.

When the operator desires to reinsert the plug in the box he first brings it to approximately the dotted line position of Fig. 2 and with the lower end of the plug adjacent to the upturned portion 50 of the cover, and then by moving the plug horizontally reaches first the position shown in the dotted line to the full line position of Fig. 2, in

which position the plug may be inserted and contact made, as described. The advantage of this cover construction is that the operator may do this while using only one hand and that the one holding the plug handle.

On one of the foregoing members 58 is a screw or other projection 80 adapted to pass through and into the recess 82 in the cover 22. This insures the plug always being inserted in one position and, therefore, insures proper polarity of contacts and thus insures proper lighting when the device is used. If it is desired to render the plug reversible the screw or projection 80 may be entirely removed.

The claims are:—

1. A plug for a device of the class described consisting of a forked wooden handle, a porcelain insulating member between the forks and electric terminals secured to the porcelain, the whole so arranged that the forks protect the porcelain against injury in case of fall.

2. A plug for a device of the class described consisting of a forked handle made of insulating material not readily broken by blows or jars, a block of relatively fragile insulating material secured between and protected by said forks and metallic electric contacts secured to and protecting the remaining surfaces of the second insulating member.

In witness whereof, I have hereunto subscribed my name in the presence of two witnesses.

LOUIS W. KUTSCH.

Witnesses:

DWIGHT B. CHEEVER,
MARGARET D. ROBB.