

S. E. STEELE.
ELECTRICAL FLOOR OR WALL CONNECTOR.
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982,544.

Patented Jan. 24, 1911.

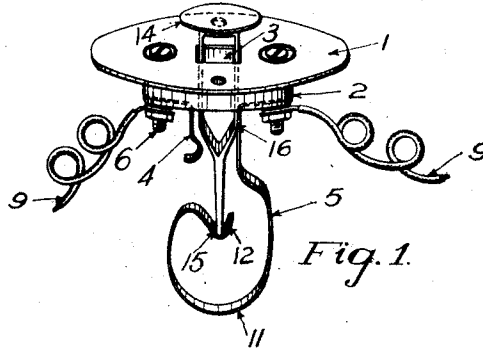


Fig. 1.

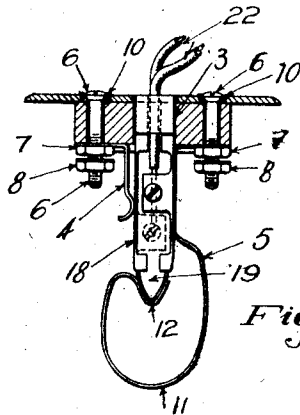


Fig. 3.

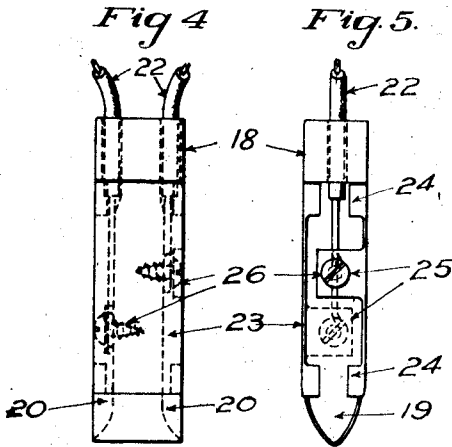


Fig. 4.

Fig. 5.

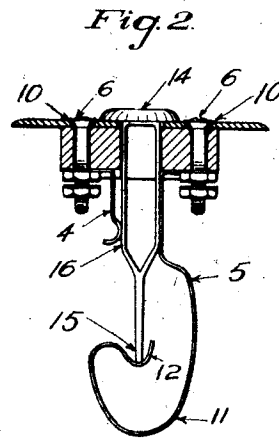


Fig. 2.

WITNESSES
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Aug 7 1910

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UNITED STATES PATENT OFFICE.

SAMUEL E. STEELE, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO ROBERT A. M. STEELE, OF PITTSBURG, PENNSYLVANIA.

ELECTRICAL FLOOR OR WALL CONNECTOR.

982,544.

Specification of Letters Patent.

Patented Jan. 24, 1911.

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To all whom it may concern:

Be it known that I, SAMUEL E. STEELE, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Electrical Floor or Wall Connectors, of which the following is a specification.

This invention relates to sockets and plugs for electric bells or similar signaling devices, such as are usually placed in the floors of dining rooms and the like.

The ordinary form of floor socket and plug for dining rooms comprises a socket including the terminals of a signal circuit and arranged to receive either a push plug for closing the circuit between the terminals, or a plug for connecting to the socket an extension provided with a push button or similar circuit closer. Practically all forms of such device on the market have the connecting plug so arranged that it projects above the floor, and is liable to be hit by the casters of the table when the latter is moved, and either broken or injured. Furthermore, the pushing plug for closing the circuit by foot pressure is usually lifted or held up by means of a spiral spring.

The object of the present invention is to provide a floor socket and plugs coöperating therewith, which are much simpler than devices of the same character heretofore used, and in which the extension plug is flush with the top or face plate of the socket, so that the table can be moved freely without liability of striking or injuring the plug, and in which the spiral springs which are a feature of the old form of socket are entirely dispensed with.

The invention comprises the construction and arrangement of parts hereinafter described and claimed.

In the accompanying drawing, Figure 1 is a perspective view illustrating the improved connection with the push plug in the socket and the circuit open; Fig. 2 is a vertical sectional view showing the push plug in the socket and the circuit closed; Fig. 3 is a similar view showing the extension plug in the socket; Fig. 4 is a side view of the extension plug on an enlarged scale; and Fig. 5 is an edge view of the same.

The socket comprises the usual floor or face plate 1 having secured to its lower face the rubber, fiber, or other insulating disk 2. The face plate and disk 2 are provided with

a rectangular opening or socket 3 there-through. Secured to the insulating disk 2 on opposite sides of the opening 3 are the terminals 4 and 5 of the bell or signal circuit. These terminals are shown in the form of flat springs projecting downwardly from the disk 2. Screws 6 pass through openings in the face plate 1, disk 2, and spring terminals 4 and 5, respectively, and are provided on their lower ends with a plurality of nuts 7 and 8, the upper one of each pair serving to clamp the face plate, insulating disk, and spring terminals together, and the lower one serving as a binding post for the connection of the wires 9 of the signaling circuit. Where the screws pass through the face plate, they are surrounded by the insulating sleeves 10.

One of the spring terminals, such as terminal 5, is extended downwardly and bent in a wide curve 11 and then bent horizontally and provided with a downwardly curved portion 12 to form a substantially V-shaped seat. This terminal is made of good spring metal. The foot or push circuit closing plug is shown at 14, and has a thin lower end 15 which is seated in the V-shaped seat 12 of the terminal 5 and is held elevated by the latter so as to keep the circuit open. When said plug is depressed, the curved portion 11 of the terminal 5 yields, as shown in Fig. 2, permitting the wide portion 16 of the push plug to contact with the spring terminal 4, and thereby close the circuit. As soon as pressure is relieved, the plug is raised by the curved spring portion 11, and the circuit broken. This curved spring portion takes the place of the usual spiral spring for lifting the push plug to break the circuit, and makes a much simpler device than those usually used.

The extension plug is indicated at 18. This comprises a body 19 of fiber, hard rubber, or other suitable insulating material, having its lower end of U or V shape to fit into the seat 12 in the terminal 5 so as to limit the downward movement of the plug. This plug is grooved on opposite side edges, at 20, and the upper portion thereof is provided with vertical holes leading into these grooves and serving for the passage of the extension wires 22. The two opposite broad faces of the plug are covered with the metallic contact plates 23 for contact with the terminals 4 and 5. These plates may be se-

cured to the insulating body in any suitable way. As shown, they are provided with edge extensions or tongues 24, which are bent over into the grooves 20 and serve to hold the contact plates in place. Each of these plates is provided on one edge with a projecting portion 25, which also is bent down into a groove 20 and provided with an opening for receiving a screw 26 for clamping said projection to the end of a wire 22 and serving in effect as a binding post. The extension on one of the plates 23 is bent down into one of the grooves 20, and that on the other plate is bent into the opposite groove 20. When this plug is in the socket the contact plates 23 are in pressure contact with the terminals 4 and 5 so that the circuit is extended through the wires 22 to a suitable push button or like circuit closer, as will be readily understood. Plug 18 is of such length that its upper end is substantially flush with the face plate 1 of the socket. Consequently, there is no projection to be hit by the casters of the table when moved and no liability of injuring the device. The curved spring portion 11 of the terminal 5 forms a yielding seat for the lower end of the plug, prevents the plug from being pushed too far down, and permits the plug to move downwardly in case it protrudes slightly above the face plate.

The socket and plugs described are of simple construction, cannot easily get out of repair, cannot be readily injured in use, can be applied with facility, and are cheaper to manufacture than the devices for the same purpose now on the market.

What I claim is,

1. In a floor bell connection, a socket adapted to receive a plug and comprising spaced spring contacts one of which is extended downwardly and has its end projecting into the axis of the plug opening in the socket in position to form a support for the end of the plug, and a plane-face plug arranged to seat with its end on said contact.
2. In a floor bell-connection, a socket adapted to receive a plug and comprising a pair of spaced spring contacts or terminals,

one of said contacts being formed of flat spring metal and extending downwardly and bent into a curve with the end provided with a V-shaped seat located underneath the socket in position to form a support for the end of the plug.

3. The combination of a socket and a plug cooperating therewith, said socket comprising spaced contacts, and said plug comprising a rectangular insulating body provided with longitudinal grooves on two opposite sides thereof and contact plates on the two remaining side faces of said plug, said plates being provided with extensions projecting into said grooves and provided with binding screws for the extension wires.

4. The combination of a socket and a plug cooperating therewith, said socket comprising spaced contacts, and said plug comprising a body of insulating material provided on two opposite side faces with grooves to receive the ends of the extension wires, contact plates covering the two remaining faces of said plug, said plates being provided with edge extensions which are bent down into said grooves to secure the plates to the body and provided with other extensions also bent down into the grooves and receiving screws for connecting the extension wires thereto.

5. The combination of a socket and a plug cooperating therewith, said socket comprising a face plate, an insulating body beneath the same, said face plate and insulating body being provided with an opening therethrough, spring terminals or contacts located on the opposite sides of said opening, and screws extending through the face plate, said body and said spring terminal and insulated from the face plate and serving to secure the terminals, the face plate, and insulating body together, and having their lower ends forming connectors for the circuit wires.

In testimony whereof, I have hereunto set my hand.

SAMUEL E. STEELE.

Witnesses:

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