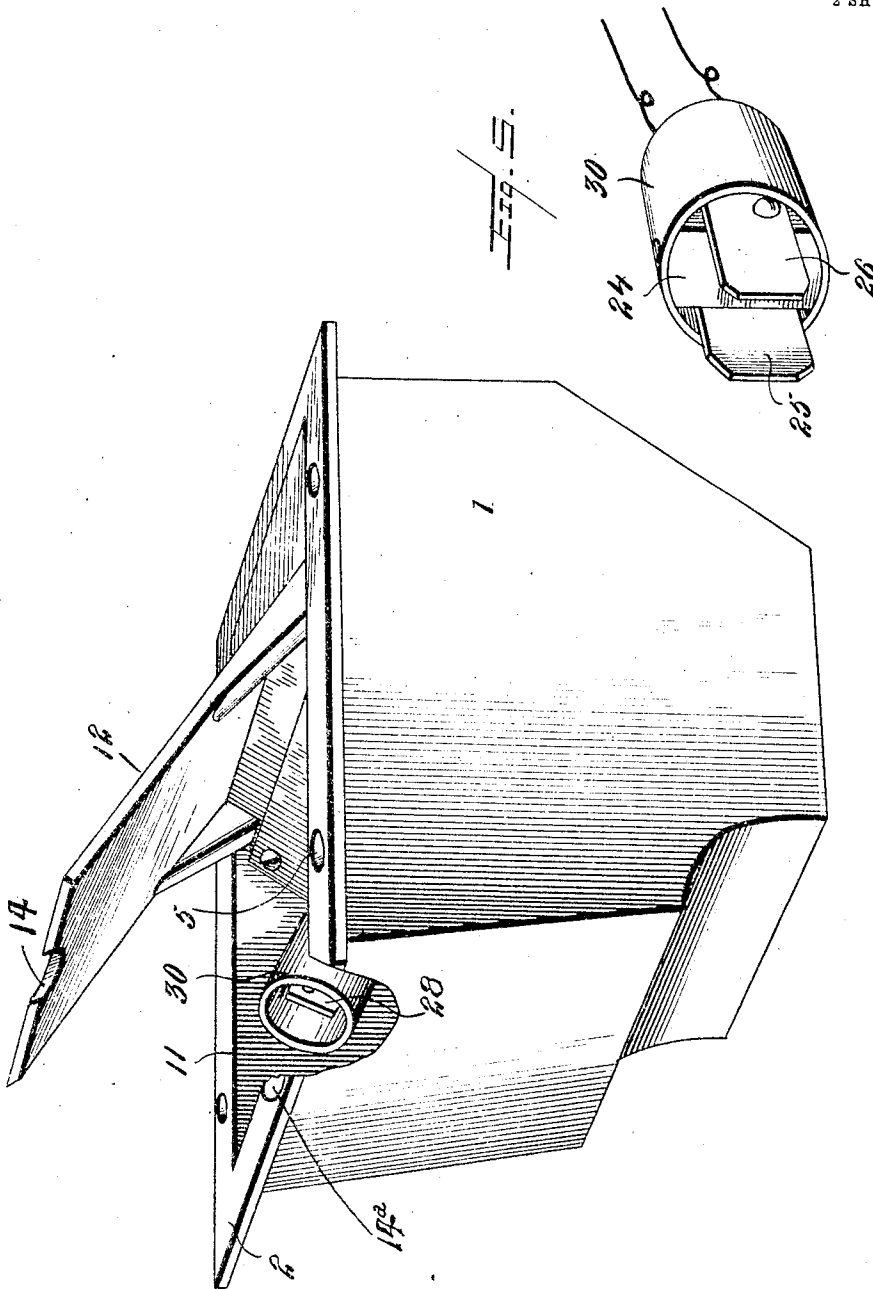


F. J. RUSSELL.
FLOOR POCKET RECEPTACLE AND PLUG.
APPLICATION FILED JUNE 7, 1907.

Patented Nov. 24, 1908.
2 SHEETS—SHEET 1.

904,898.



WITNESSES:

W. F. Kyle
N. J. Fox and Dayle

FIG. 2.

INVENTOR

Frank J. Russell.

BY

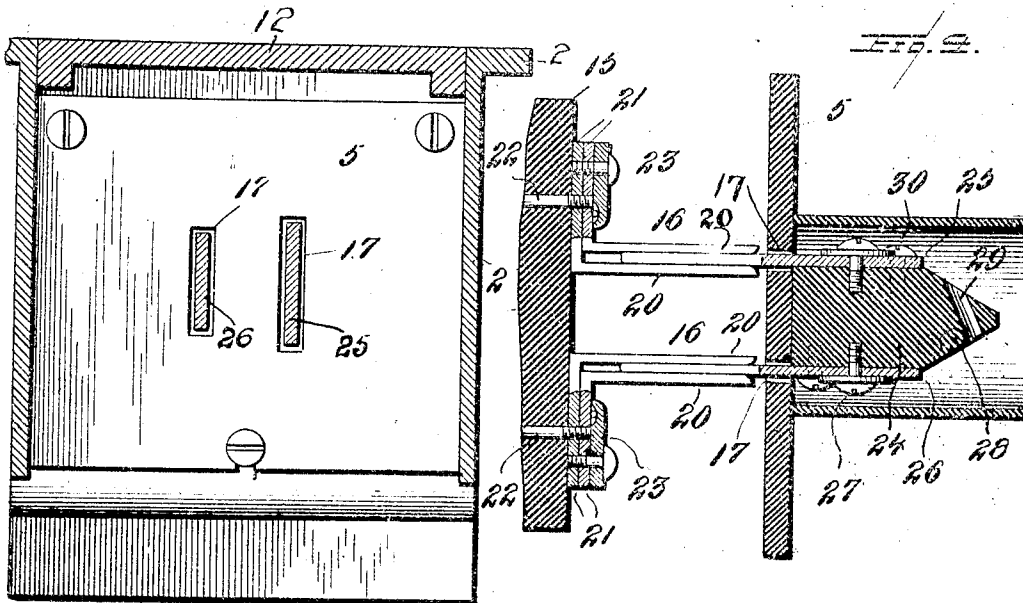
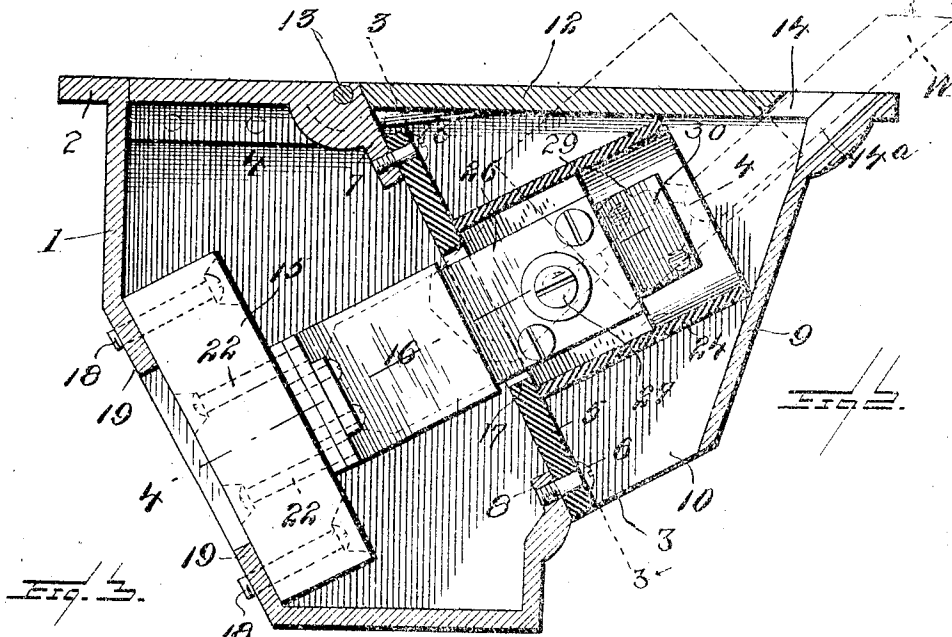
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WITNESSES

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UNITED STATES PATENT OFFICE.

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FLOOR-POCKET RECEPTACLE AND PLUG.

No. 904,898.

Specification of Letters Patent.

Patented Nov. 24, 1908.

Application filed June 7, 1907. Serial No. 377,824.

To all whom it may concern:

Be it known that I, FRANK J. RUSSELL, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Floor-Pocket Receptacles and Plugs, of which the following is a specification.

This invention relates to that type of electrical receptacles and plugs embodied in electrical fittings of the character commonly known as floor pocket receptacles and plugs, which class of fittings are particularly employed as floor fittings for theater stages and like places where it is desirable to run extension circuits for various purposes from a distributing point on the floor. To this end the invention contemplates a simple, strong, and thoroughly practical construction of floor pocket receptacle and plug designed to be seated flush in the floor of a stage, or other location, and embodying a novel arrangement of receptacle and plug members wherein the receptacle member is effectually protected and shielded, and accumulations of dirt or trash prevented from reaching the same. Furthermore, the invention provides means whereby the accumulations of dirt and trash are caused to be discharged outside of the floor box containing the receptacle and plug members, and furthermore, means are provided for not only thus protecting or shielding the receptacle member, but also for positively and accurately guiding the plug contacts into contacting relation with the parts of the receptacle member. In this connection, the invention has in view a novel shield for the receptacle member which performs the several functions of an insulated dirt protector for the receptacle member, a deflector for the dirt or trash, and a guide for compelling the plug contacts to move into proper engagement with the receptacle contacts.

A further object of the invention is to provide a novel arrangement of parts whereby the plug is prevented from being inserted more than one way into the receptacle member, and also whereby the plug, after being started into the receptacle member, is carried fully "home" by the closing of the box cover.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts herein-

after more fully described, illustrated, and claimed.

The essential features of the invention are necessarily susceptible to a variety of structural modifications without departing from the scope of the invention, but a preferred embodiment thereof is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a floor pocket receptacle and plug embodying the present invention, and showing the plug in position within the box. Fig. 2 is a vertical central sectional view of the fitting. Fig. 3 is a sectional view on the line 3—3 of Fig. 2. Fig. 4 is a reduced sectional view on the line 4—4 of Fig. 2. Fig. 5 is a detail in perspective of the detachable plug.

Like references designate corresponding parts in the several figures of the drawings.

The invention includes in its organization a floor box designated in its entirety by the numeral 1 and of a general rectangular form. This floor box is surrounded at its top edge by the usual outturned securing flange adapted to receive the screws or equivalent fasteners for securing the box flush within an opening provided in the floor designed for its reception.

In connection with the construction of the floor box 1, a distinctive feature of the invention resides in dividing the interior of the box into separate compartments which may be designated as the front compartment 3 and rear compartment 4, designed respectively for the reception therein of the receptacle and plug members of the fitting. The division or separation of the interior of the box body into the front and rear compartments 3 and 4 is preferably accomplished through the employment of what may be termed an inside shield board 5 preferably consisting of a sheet or board of hard fiber or other insulating material. The said inside shield board 5 is set obliquely or at an angle to the floor line of the fitting and is preferably detachably secured in position by being screwed or otherwise removably fastened, as at 6, to the upper and lower inclined supporting flanges 7 and 8 projecting inwardly within the box body, respectively from the top and bottom portions thereof, as may be plainly seen from Fig. 2 of the drawings.

In addition to the inside inclined shield board 5, the top of the floor box 1 is provided with an inclined front wall 9 which is

downwardly convergent in relation to the said shield board 5 and thereby shapes the front plug compartment 3 of the box into the form of a chute having at the lower end thereof, in the bottom portion of the box body, a bottom clean-out opening 10 through which dirt, trash, or other foreign matter is discharged and thereby prevented from remaining within the floor box, and thereby clogging or otherwise interfering with the proper connection of the electrical parts of the fitting.

The floor box 1 is further provided at the upper side of the front plug compartment 3 with a top opening 11 adapted to be covered and uncovered by the top box cover 12. The said cover 12 has a suitable hinge mounting at one edge, as at 13, on the top portion of the box body, and when closed is adapted to lie flush with said box body, as shown in Fig. 2 of the drawings. Furthermore, at its free or swinging edge the box cover 1 is formed with a clearance notch 14 matching a corresponding notch 14^a in the upper edge of the box body, and forming therewith an outlet opening for the extension cable or wire W having electrical connection with the plug member to be presently referred to.

The rear compartment 4 of the floor box accommodates therein that part of the fitting which may be termed the receptacle member comprising in its make-up a porcelain, slate, or equivalent supporting base 15, and the separate receptacle contacts 16 mounted on the inner side of said base and held in alinement with the guiding openings 17 provided in the inside shield board 5, each of said receptacle contacts 16 being associated with one of the guiding openings 17. The supporting base 15 of the receptacle member is arranged at an inclination, preferably in parallelism to the shield board 5 and is screwed or otherwise detachably fastened, as at 18, upon the inner sides of the rear inclined supporting flanges 19 provided on the back wall of the box body, thus providing an arrangement which holds the receptacle contacts 16 also at an inclination to the floor line of the fitting.

Various kinds of receptacle contacts may be utilized in carrying out the present invention, but a preferable construction is shown in the accompanying drawings which illustrates each element 16 (termed a receptacle contact), as being in the form of a spring socket consisting of a pair of spaced parallel spring contact plates 20 provided with overlapping base flanges 21 rigidly held together and to the supporting base 15 by the fastening screws 22 mounted in said supporting base. Also, the overlapping base flanges 21 of the spring contact plates 20 of each receptacle contact preferably have arranged thereon the binding plate or

equivalent device 23 providing means for connecting the service wire terminal to the receptacle contact, all of which will be well understood by those familiar with electrical fittings of this general character.

With the receptacle member above described, there is associated the removable plug member to which are connected the extension or other circuit wires adapted to carry current from the receptacle. The said plug member includes as the principal parts thereof, the base piece 24 of fiber or other insulating material, and a pair of plug contact blades 25 and 26, respectively secured upon opposite sides of the base piece 24 and preferably of different widths, corresponding to the different widths of the separate guiding openings 17 in the shield board 5 so as to compel the insertion of the plug in only one way into the receptacle, although other expedients may be employed for accomplishing the same result.

In addition to the fastening means for securing the opposite parallel plug contact blades on the base piece 24, each of said contact blades is preferably equipped with a binding screw 27 for the connection of the wire terminal therewith, as indicated in Fig. 2 of the drawings, and to provide for effecting a strong connection between the wire terminals and the contacts of the plug member, the base piece 24 is preferably formed at one end with a tapering wiring head 28 pierced with a pair of reversely inclining wire openings 29 through which the separate wire terminals are respectively threaded, as may also be seen from Fig. 2 of the drawings.

To complete the construction of the plug member, the base piece and the wired parts are housed in an outside cylindrical cover 30 of fiber or other insulating material. This shell or cover also constitutes the hand piece for handling the plug.

In the practical use of the fitting, one of the desirable features thereof resides in the construction which permits the plug, after being started into the receptacle contacts, to be forced entirely "home" and against the shield board 5 by the closing down of the main box cover 12. This action is illustrated in Fig. 2 of the drawings, showing in dotted lines the plug partly inserted and resting at one end against the inclined front wall 9 so that when the cover is forced down on the plug by the operator's foot or hand, the plug is compelled to slip fully into the receptacle member and also into alinement therewith.

Various changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

I claim:

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1. In an electrical fitting of the class described, a floor box provided at the top with a hinged cover, said box being also provided with an inclined front wall, a receptacle member arranged at an inclination within the box, and a detachable plug member insertible into the receptacle member arranged to have directly opposite outer edge portions slidably engaged at the same time with the under side of said cover and with the inner face of said front wall, whereby the forcible closing down of the cover automatically slides the plug to an operative position.

2. In an electrical fitting, a floor box, an inside shield board dividing the box into separate compartments, a receptacle member arranged within one of the compartments at one side of the shield board, and a plug member engaging the receptacle member and arranged for insertion through the other compartment at the side of the shield board opposite the receptacle member.

3. In an electrical fitting, the combination with receptacle and plug members, of a floor box having separate compartments, respectively for said separate members and provided with a clean-out opening at the bottom of the front compartment.

4. In an electrical fitting, the combination with receptacle and plug members, said plug member detachably engaging the receptacle member, of a floor box having an inside insulating shield board dividing the box into separate compartments respectively accommodating said separate members, said floor box being further provided with a bottom clean-out opening at the front side of said board.

5. In an electrical fitting, a floor box hav-

ing an inclined shield board arranged therein at an inclination and dividing the box into separate compartments, a receptacle member set at an inclination within one compartment, and a plug member engaging the receptacle member and arranged for insertion through the other of said compartments.

6. In an electrical fitting, a floor box having an inside insulating shield board provided with guiding openings therein and arranged to divide the interior of the box into separate compartments, a receptacle member arranged within one of said compartments and having contacts opposite the openings in the shield board, and a plug member arranged within the other of said compartments and having plug contacts adapted to be inserted through said guiding openings into engagement with the receptacle contacts.

7. In an electrical fitting, a floor box having an inside shield board provided with guiding openings of different sizes and arranged to divide the interior of the box into separate compartments, a receptacle member arranged within one of said compartments, and a plug member arranged in the other of said compartments and having contact blades of different sizes corresponding to the complementary openings in the shield board, said contact blades being insertible through said guiding openings and detachably engaging the receptacle member.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

F. J. RUSSELL.

Witnesses:

THEO. HALL,
HELEN M. McCUE.