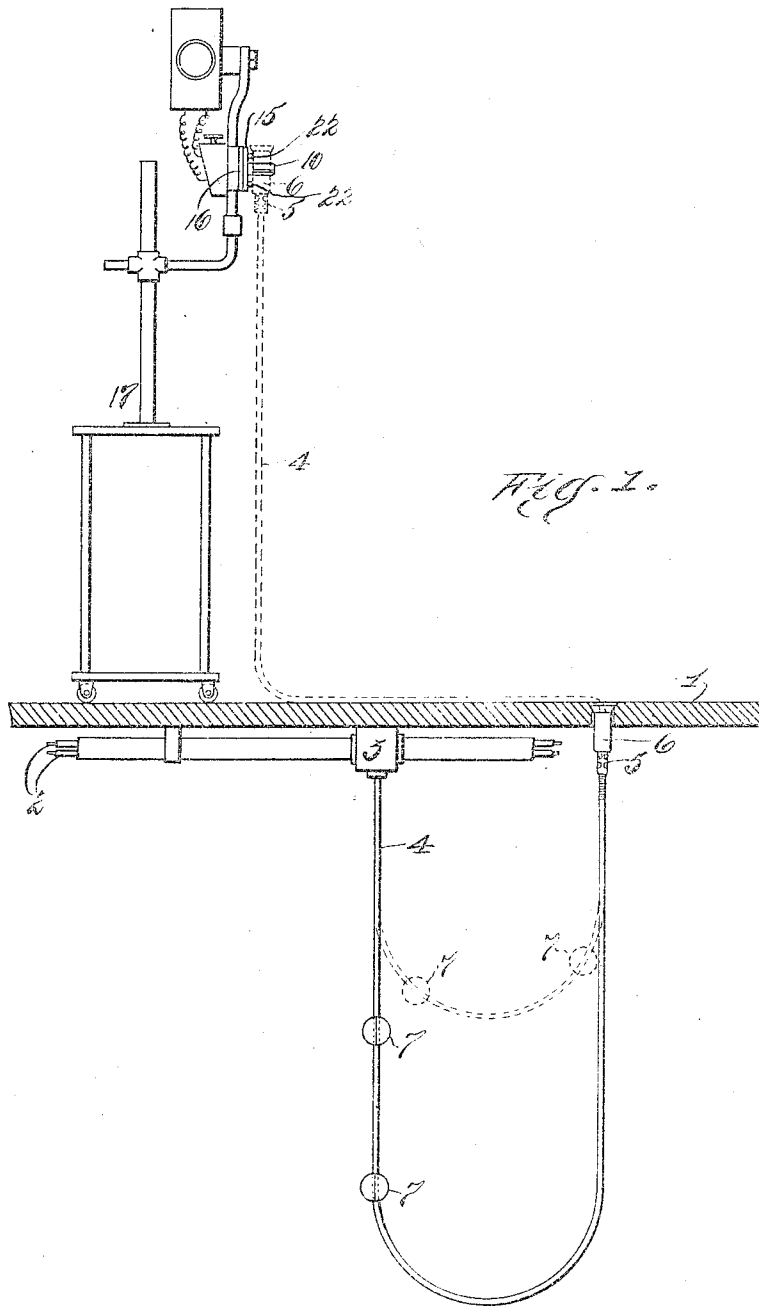


C. L. HAGEN.
CONNECTING PLUG.
APPLICATION FILED MAR. 9, 1910.

1,032,133.

Patented July 9, 1913.
2 SHEETS—SHEET 1.



Witnesses
C. A. Jarvis
Mabel Dittmerhofer

Clarence L. Hagen
Inventor
By Chas. E. Wright
attorneys.

J. L. HAGEN.
CONNECTING PLUG.
APPLICATION FILED MAR. 9, 1910.

1,082,133.

Patented July 9, 1912.
2 SHEETS—SHEET 2.

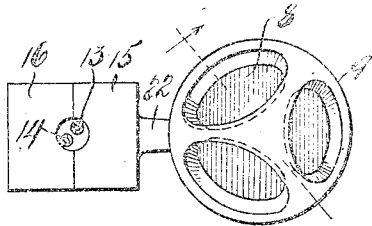
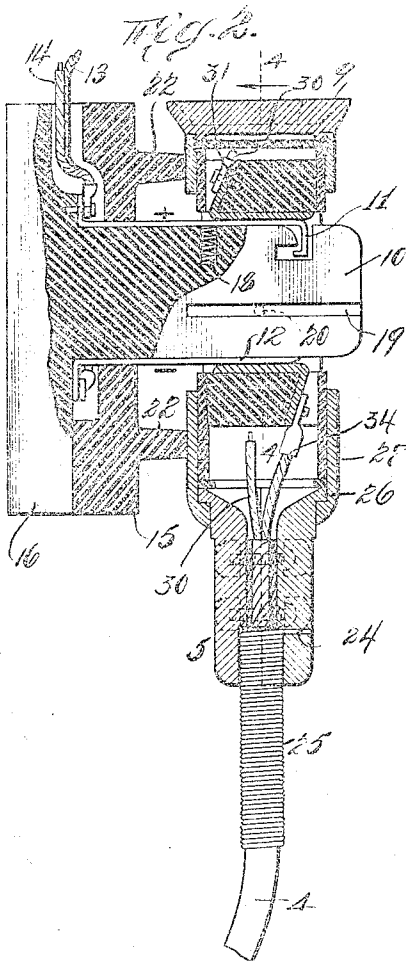


Fig. 6.

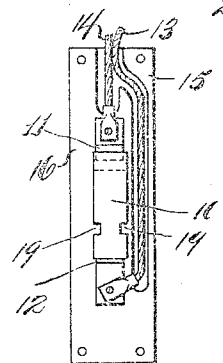
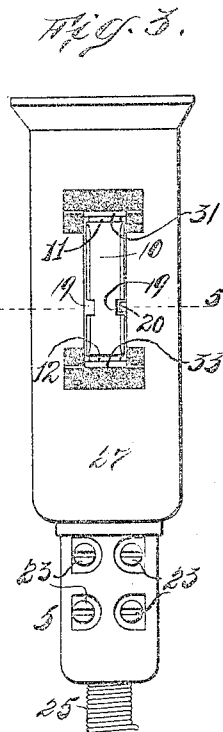
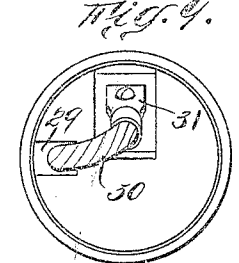
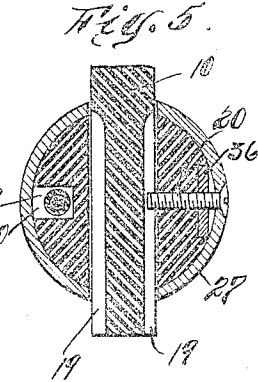
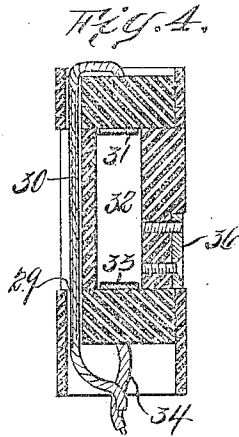


Fig. 7.



Fig. 8.



Witnesses:
C. A. Jarvis.
Mabel Dittenthoefer

Inventor
J. L. Hagen
by Chryse and Wright
attorneys

UNITED STATES PATENT OFFICE.

CLAUDE L. HAGEN, OF NEW YORK, N. Y.

CONNECTING-PLUG.

1,032,133.

Specification of Letters Patent.

Patented July 9, 1912.

Application filed March 9, 1910. Serial No. 548,246.

To all whom it may concern:

Be it known that I, CLAUDE L. HAGEN, a citizen of the United States, residing at New York city, in the borough of Manhattan, county and State of New York, have invented certain new and useful Improvements in Connecting-Plugs, of which the following is a clear, full, and exact description.

My invention relates to that class of electrical apparatus known as attachment plugs and sockets. And the particular aim of my invention is to so design and construct such devices that they will satisfy the conditions existing in theaters to a better extent than those plugs now in use. In theaters, portable electric devices such as arc lamp search lights and the like are generally provided with long conducting wires terminating in a plug. When it is desired to supply current to such device the plug and wires are carried over to floor or wall boxes, and there inserted. When it is desired to disconnect the device, the plug is withdrawn from the receptacle, the wires coiled up and fastened on to the device. This means loss of time, where time is precious, during scene shifting, and at other times. It also means that long lengths of wire are often, because of carelessness on the part of the attendants, looped in a disorganized mass upon the fixtures.

It is the object of this invention to provide a plug, and socket, so that no conducting wires need be used on the portable device, and further to provide means whereby the conducting plug from the mains will automatically return to its position either in the floor or in the wall without effort on the part of the attendants. By such an arrangement, immediately that the plug and socket are disconnected, the stage floor and the portable device will immediately be automatically cleared of all conducting wires.

In carrying out my invention, I prefer to provide a receptacle which is adapted to fit flush with the floor or wall, and be out of the way when not in use. A long heavy cable of conductors, which may be reinforced by weights, is attached to the plug, and leads to an outlet or junction box from the main conductors. The plug may be lifted, by suitable lifting openings provided in its upper surface, from the plane of the floor, and carried in any direction upon the stage that may be desired, but when re-

leased, the weight of the cable will immediately pull the plug across the floor, causing it to scurry into its receiving hole therein. I prefer to attach the plug part of my plug and receptacle to the portable device, or instrument itself, although it will be obvious that the relation might be changed.

The scope of my invention will be pointed out in the claims.

In the accompanying drawings: Figure 1 is a sectional view of a floor showing the device of my invention in place in full lines, while the dotted lines show it as attached to a portable search light. Fig. 2 is a central sectional view with parts in side elevation, showing the details of construction of my improved plug and socket. Fig. 3 is an end view of Fig. 2. Fig. 4 is a sectional view on the line 4-4, Fig. 2, of the interior insulating and contact plates of the receptacle. Fig. 5 is a transverse section showing part of the plug taken on the line 5-5, Fig. 3. Fig. 6 is a plan view of Fig. 2. Fig. 7 is a detail partly in section of the beveled cap, which is adapted to fit flush with the floor. Fig. 8 is a face view of the plug with the cover part removed. Fig. 9 is a plan view of the receptacle with the cap of Fig. 7 removed.

As illustrated in the drawings, particularly Fig. 1, the theater floor or stage floor is represented by character 1. The main feed conductors 2 are shown as running beneath the stage floor, where they are provided with a junction or outlet box 3, to which is secured a pair of conductors, preferably in a single cable 4, leading to the clamping end 5 of the receptacle 6. Extra weight 7 may be secured to the cable 4 if desired. The receptacle 6 as stated, is provided with a clamp 5 to securely grasp the conductors 4, and for a distance below the clamp 5 an armor, preferably in the shape of a flexible spiral wire, is desired to take away the wear on the cable when the device is being seated. The body portion of the receptacle is provided with a slot through the same having conducting blades of opposite polarity to where the top of the receptacle is provided with a beveled face plate having finger holes 8 therein so that the same may be lifted up out of the floor. The cover plate 9 with its beveled edges is adapted to sit in the floor in a beveled recess as shown in Fig. 1.

The plug is composed of a tongue 10, hav-

ing conducting plates 11 and 12 on each side thereof, and is supplied with conductors 13—14, a cover part 15 and a back supporting plate 16. The supporting plate 5 is secured permanently to the portable device 17, in this instance shown as an ordinary portable arc search light, such as is used for stage effects. The supporting back plates 16 of the plug are made preferably of 10 insulating material, of which the tongue 10 may well be a part. The conducting blades 11 and 12 are each secured at one bent end to the back plate 16, where the wires 13 and 14 may be attached. The plugs are adapted 15 to have a slight springing movement away from the surface of the plug, for which purposes additional springs 18 may be provided within the material of the tongue. For arc light work as shown in this instance, it is of 20 course desirable and generally necessary that the polarity be the same at all times, for which reason I provide slots 19 not centrally in the tongue, which are adapted to slide over the projecting screw 20 in the plug to 25 prevent the plug and receptacle ever being contacted, except with the same polarity. I prefer to provide a cover part 15 of insulating material having projecting pins 22 to cause the receptacle at all times to 30 stand well away from the front of the face to enable one to quickly grasp the same and make a rapid disconnection.

The receptacle is, preferably formed of three metal parts: the clamping end 5 for 35 the cable, which is composed of two semi-circular halves bolted together by screws or bolts 23, is adapted to grasp the cable tightly due to a reduced bore of the clamping parts, and at the lower end of the clamping parts 40 to embrace and hold one end 24 of the spiral arm 25; a flange 26 on the end 5 fits within a metal cylindrical shell 27, which shell is interiorly threaded at its upper rim, and covered by a screw cap 9. Within the cylindrical shell 27 I provide the insulating parts 45 of Fig. 4 of the drawings, cylindrically in shape, and provided with a vertical passage 29 for the passage of one of the conducting wires 30 of the cable, which 50 conducting wire is attached to a plate 31 having one end bent, and lying at the top of the slotted receptacle opening 32. A similar contact plate 33 is located at the bottom of said plate, and is attached to the conductor 55 34. To keep the cylindrical shell from rotating, I attach a plate 36 to the side thereof, and insert the screw 20 before described into such plate. If the device is for use with an arc light, I let the screw 20 be of 60 sufficient length to engage the slots 19 of the tongue. If for incandescent work, I use a shorter screw which will not project beyond the face of the cylinder, thus permitting the device to be fastened in any position to the 65 tongue.

In carrying out this invention, details of construction may be varied from those shown, and yet the essence of the invention be retained; some parts might be employed without others, and new features thereof 70 might be combined with elements old in the art in diverse ways, although the herein described type is regarded as embodying substantial improvements over such modifications.

As many changes could be made in the above construction, and many apparently widely different embodiments of the invention could be made without departing from the scope thereof, it is intended that all 80 matter contained in the above description or shown in the accompanying drawings shall be interpreted in an illustrative and not in a limiting sense. It is furthermore desired to be understood that the language used in the following claims is intended to cover 85 all the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to 90 fall therebetween.

I claim as my invention:

1. A receptacle and a plug, a receptacle having a cylindrical casing, a clamp at one 95 end thereof, a cable tightly gripped by the clamp, armor extending below the clamp and surrounding the cable, an opening through the sides of the cylindrical casing, contact plates within the casing, suitable insulating blocks therefor, a beveled cap and 100 means permitting the grasp of the same from the top surface, the plug having contacts adapted to enter the hole in the receptacle to engage the contacts of the receptacle. 105

2. A receptacle and a plug, the receptacle having a cylindrical casing, a clamp at one 110 end thereof, a cable tightly gripped by the clamp, an opening through the sides of the cylindrical casing, contact plates within the casing, suitable insulating blocks therefor, a beveled cap and means permitting the grasp 115 of the same from the top surface, the plug having contacts adapted to enter the hole in the receptacle to engage the contacts of the receptacle, an off-center guiding device in the cylinder and a corresponding guiding device on the plug adapted to insure at all 120 times the same polarity of contact.

3. A receptacle and a plug, the receptacle 125 having a cylindrical casing, a clamp at one end thereof, a cable tightly gripped by the clamp, an arm extending below the clamp by and surrounding the cable, an opening through the sides of the cylindrical casing, 130 contact plates within the casing, suitable insulating blocks therefor, a beveled cap and means permitting the grasp of the same from the top surface, the plug having contacts adapted to enter the hole in the recep- 135

tacle to engage the contacts of the receptacle, said plug having a removable cap with projecting abutments of insulation against which the cylindrical casing may
5 rest.

4. The herein described attachment receptacle comprising contact blades within a chamber located in the interior of the receptacle and open to the side thereof, conductors leading to the end of the receptacle
10 and connected with the contact blades, in

combination with a pocket in the floor or wall in which said attachment receptacle is adapted to be seated, whereby the chamber for the contact blades is closed by the wall
15 of said pocket.

Signed at New York city this 8th day of March 1910.

CLAUDE L. HAGEN.

Witnesses:

F. WARREN WRIGHT,
MABEL DITTENHOEFER.