

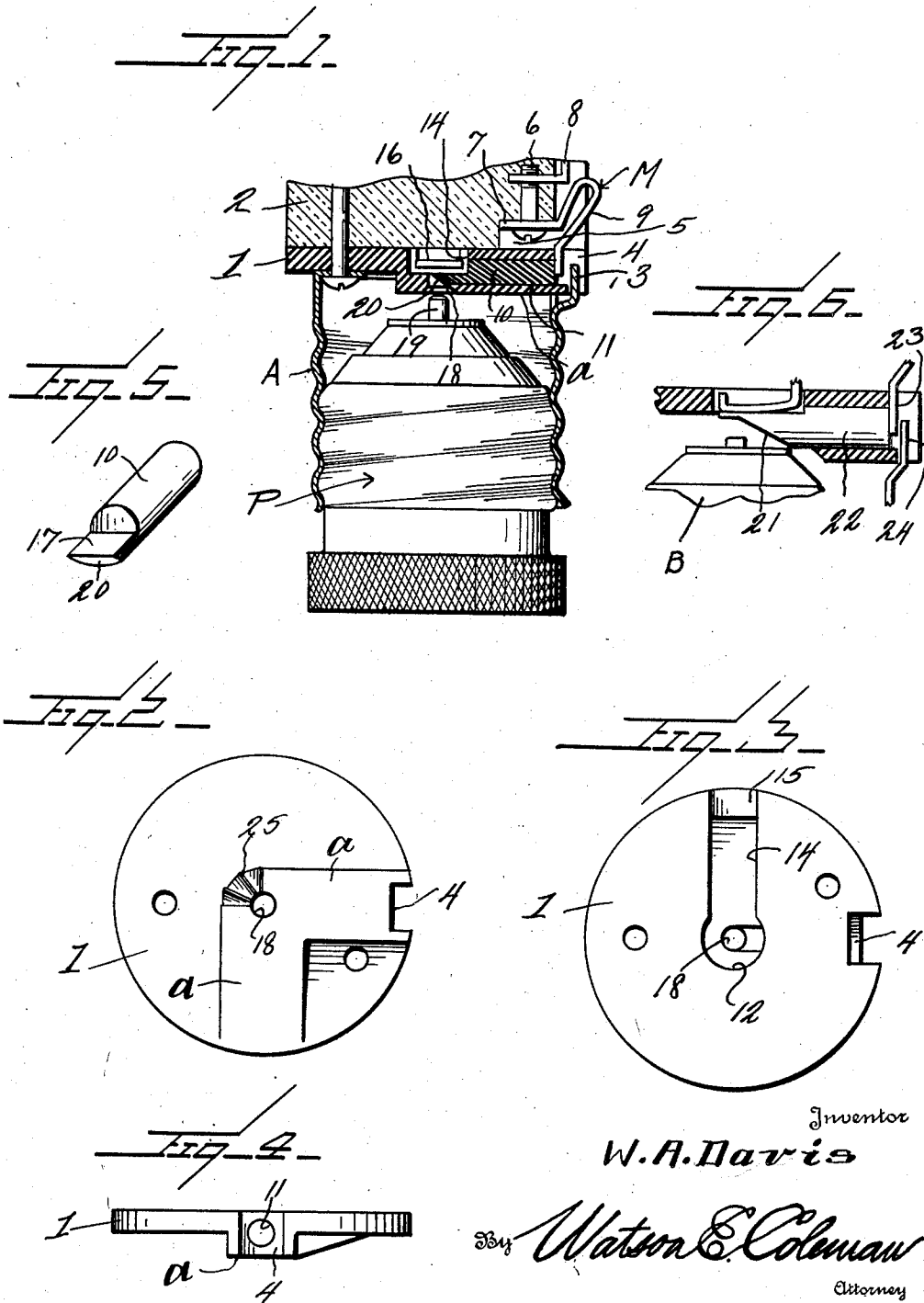
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ELECTRICAL RECEPTACLE OR OUTLET

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ELECTRICAL RECEPTACLE OR OUTLET

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4 Claims. (Cl. 173—346)

This invention relates to an electrical receptacle or outlet, and it is an object of the invention to provide a fixture of this kind including a normally open circuit closer so that there will be no electric shock transmitted to a person who, for any reason, may insert a finger or any object or item that is a conductor of electricity within the socket of the receptacle or outlet.

Another object of the invention is to provide an electrical receptacle or outlet so constructed that a circuit cannot be completed until after an electric light bulb or other plug has been substantially completely inserted within the socket of the fixture.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved electrical receptacle or outlet whereby certain important advantages are attained and the device rendered simpler, less expensive and otherwise more convenient and advantageous for use, as will be hereinafter more fully set forth.

The novel features of my invention will hereinafter be definitely claimed.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawing, wherein:

Figure 1 is a view partly in section and partly in elevation illustrating an electrical receptacle or outlet constructed in accordance with an embodiment of my invention, a plug being partially engaged within the socket;

Figure 2 is a view in bottom plan of the cap as comprised in the present embodiment of my invention unapplied;

Figure 3 is a view in top plan of the cap as herein employed unapplied;

Figure 4 is a side elevational view of the cap as herein embodied;

Figure 5 is a view in perspective of the plunger as herein employed unapplied;

Figure 6 is a fragmentary view partly in section and partly in elevation illustrating another embodiment of my invention.

As is particularly illustrated in Figures 1 to 5 of the accompanying drawing, my improved electrical receptacle or outlet comprises a cap or plate 1 of a material non-conductive of electricity and of desired dimensions and configuration. This cap or plate 1 is securely held against a face of the body 2 of the receptacle or outlet which is of porcelain or other material non-conductive of electricity.

Held to the outer face of the cap or plate 1 is

a screw socket A of a material conductive of electricity and which socket has the inner portion of its side wall formed to provide an outwardly offset contact lug 3 which extends upwardly within a suitably positioned recess 4 provided in the periphery of the cap or plate 1.

The portion of the body 2 immediately adjacent to this recess 4 is provided with an undercut recess 5 to the upper end portion of which is anchored by the screws 6 the straight end portion 7 of a contact member M. The screws 6 also afford an electrical connection between the member M and a lead 8 for a conventional terminal plate. The outer end of the portion 7 of the member M is formed to provide an upstanding split loop 9, the free end portion of which extends inwardly of the contact lug 3 and having direct contact with the outer end of a pin 10. This pin 10 is of a material non-conductive of electricity and is snugly and slidably disposed through a bore 11 extending radially of the cap or plate 1. The inner end of this bore 11 communicates with the transversely enlarged inner portion 12 of a radially disposed groove 14 provided in the upper face of the cap or plate 1 or that face of the cap or plate 1 having direct contact with the body 2. This groove 14, as clearly illustrated in the accompanying drawing, is at right angles to the bore 11 and is provided at its outer end with a shoulder 15 to which is connected an end portion of a conventional resilient center contact 16 having proper connection with a second terminal carried by the body 2 as is well known.

The inserted end portion of the pin 11 is cut away, as at 17, to compensate for the contact member 16. In communication with the enlarged portion 12 of the groove 14 is an opening 18 through which is adapted to pass an elongated central contact plunger 19 carried by the male plug P to be threaded within the socket A and which plunger contact 19 does not enter the opening 18 until after the plug E has been substantially entirely inserted within the socket A.

As the plunger contact 19 passes through the opening 18 it contacts with the under beveled end 20 of the pin 10 and forces said pin outwardly a distance sufficiently to bring the contact member 11 into desired electrical engagement with the contact lug 3. This plunger contact 19 after properly forcing the pin 10 outwardly has electrical engagement with the contact 16. It is to be particularly noted that the split loop 9 of the contact member M possesses sufficient inherent tension to constantly urge said pin 10 to the limit of its inward movement and

at which time the beveled end 20 is disposed across the opening 18.

The embodiment of the invention as illustrated in Figure 6 is substantially the same as hereinbefore described with respect to the first form of invention except that in lieu of the beveled end 21 of the pin 22 being contacted by a plunger contact carried by the plug member B, the inner marginal portion of such plug member B has direct contact with the under bevel 21 of the pin 22 to force said pin outwardly to close the contact members 23 and 24.

The portion of the cap or member 1 provided with the bore 11 and groove 14 is formed to provide the perpendicularly related flanges *a* which are disposed beyond the outer face of the cap or plate 1 to reinforce such portion provided with said bore 11 and groove 14.

As is particularly illustrated in Figure 2, the outer corner of the meeting portions of these perpendicularly related flanges is formed to provide the friction or gripping teeth 25 which are contacted by the inserted end of the plug P whereby the plug P effectually resists retrograde turning which would occur as a result of vibration, thus assuring the effective locking or maintenance of the plug in the socket 3.

From the foregoing description it is thought to be obvious that an electrical receptacle or outlet constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated, and it will also be obvious that my invention is susceptible of some change and modification without departing from the principles and spirit thereof and for this reason I do not wish to be understood as limiting myself to the precise arrangement and formation of the several parts herein shown in carrying out my invention in practice except as hereinafter claimed.

I claim:

1. An electrical outlet comprising a body, a cap secured to a face of said body, a socket carried by the cap, said socket having its side wall at the inner end thereof outwardly offset to provide a contact lug, a spring contact member carried by a side portion of the body for coaction with the contact lug normally spaced therefrom, a pin slidably carried by the cap and with which the spring contact engages, said pin having movement radially of the cap and having its inner extremity formed to provide a beveled portion with which a part of a plug being inserted within the shell contacts to move the pin in a direction to bring the spring contact into engagement with the contact lug.

2. An electrical outlet comprising a body, a cap secured to a face of said body, a socket carried by the cap, said socket having its side wall at the inner end thereof outwardly offset to pro-

vide a contact lug, a spring contact member carried by a side portion of the body for coaction with the contact lug normally spaced therefrom, a pin slidably carried by the cap and with which the spring contact engages, said pin having movement radially of the cap and having its inner extremity formed to provide a beveled portion with which a part of a plug being inserted within the shell contacts to move the pin in a direction to bring the spring contact into engagement with the contact lug, said cap having a bore in which the pin is snugly engaged, the cap having an opening in communication with the inner extremity of said bore and opening into the socket, the beveled portion of the pin normally overlying said opening, said opening allowing the said part of the plug to have contact with the beveled end of the pin.

3. An electrical outlet comprising a body, a cap secured to a face of said body, a socket carried by the cap, the inner end of the socket having an outwardly offset contact lug, a spring contact member carried by the body for coaction with the contact lug normally spaced therefrom, a pin slidably carried by the cap and with which the spring contact engages, said pin having a beveled portion with which a part of a plug being inserted within the shell contacts to move the pin in a direction to bring the spring contact into engagement with the contact lug, the outer face of the cap being provided with teeth with which the inserted end of the plug contacts to lock said plug against retrograde turning in the socket.

4. An electrical outlet comprising a body, a cap secured to a face of said body, a contact member carried by the body and extending beyond said face of the body, said cap having a portion cut away to receive said contact member, said cap being also provided with a radially disposed bore, a pin slidably mounted within said bore, said cap and pin being of a material non-conductive of electricity, the inner extremity of the pin being beveled, a socket carried by the cap, a contact lug carried by the socket and intersecting the outer end of the bore of the cap, a spring contact member carried by the body engaging the outer end of the pin for normally maintaining the pin at the limit of its inward movement, said pin when at such normal position preventing contact with the first named contact member, the beveled portion at the inner extremity of the pin being engaged by a part of a plug being inserted within the shell to move the pin in a direction to bring the spring contact member into engagement with the contact lug, the spring contact member being free from the contact lug when the pin is at the limit of its inward movement.

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