June 10, 1941. P. W. PELISSIER 2,245,294

ELECTRIC PLUG

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Fig. 1.

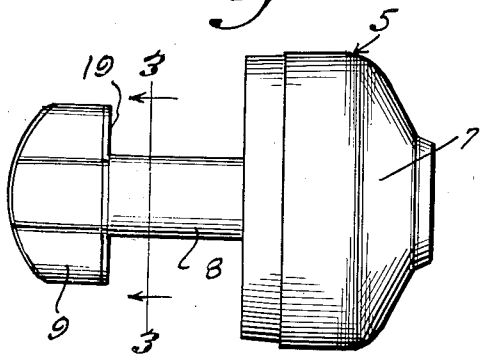
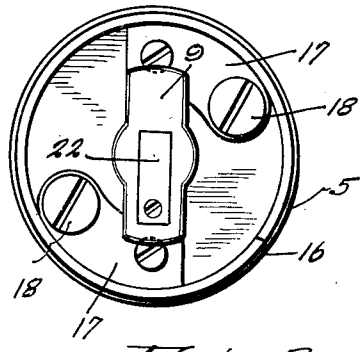


Fig. 2.



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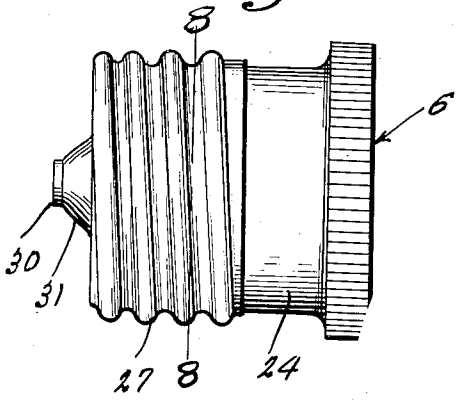

Fig. 7.

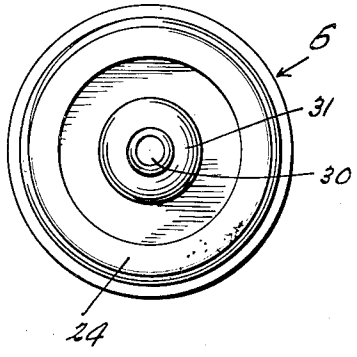

Fig. 6.

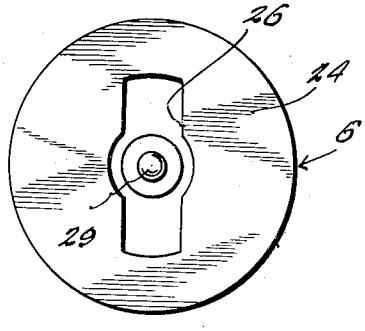

Fig. 8.

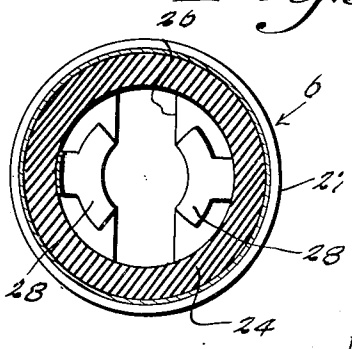

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Fig. 4.

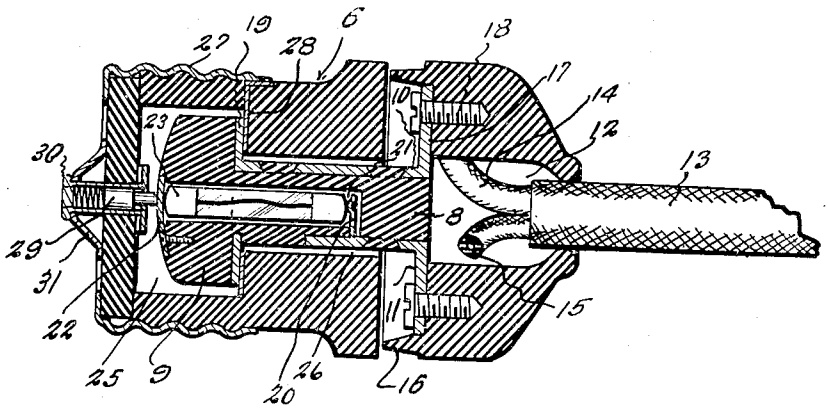


Fig. 2.

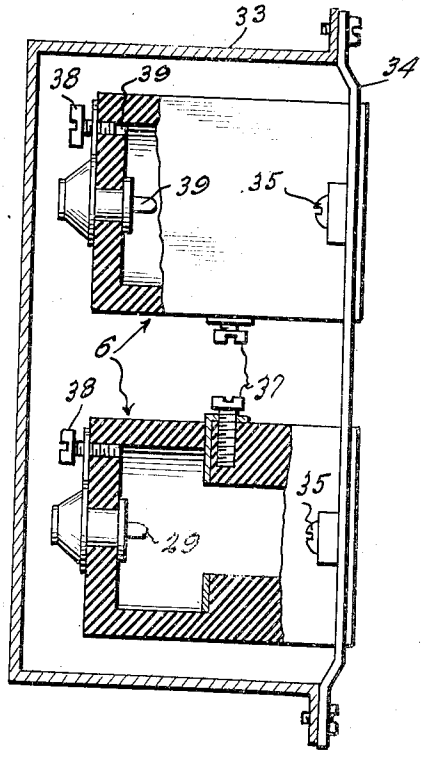
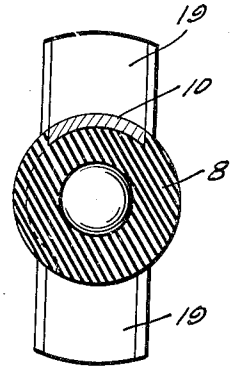


Fig. 3.



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Patented June 10, 1941 2,245,294

UNITED STATES PATENT OFFICE

2,245,294

ELECTRIC PLUG

Philip W. Pelissier, Cumberland, Md.

Application October 18, 1940, Serial No. 361,785

2 Claims. (Cl. 200—115.5)

This invention relates to electric plugs to be employed for connecting electric appliances and like devices having extension cords into electric outputs such as ordinary electric sockets, etc., and has for the primary object the provision of a device of this character which includes male and female fixtures and which are so constructed that accidental separation thereof will be obviated and which may be easily and quickly connected and disconnected by a simple one-half rotation of the male fixture within the female fixture, the male fixture having accommodation for a fuse to protect the electric appliance from an electric overload, and which may be easily replaced by another fuse when damaged or blown out.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which

Figure 1 is a side elevation illustrating the male fixture of the present invention.

Figure 2 is an end elevation illustrating the male fixture.

Figure 3 is a sectional view taken on the line 3—3 of Figure 1.

Figure 4 is a vertical sectional view showing the male and female fixtures in coupled relation.

Figure 5 is a side elevation illustrating the female fixture.

Figure 6 is an end view illustrating the female fixture.

Figure 7 is an end view illustrating the opposite end of the female fixture from that shown in Figure 6.

Figure 8 is a sectional view taken on the line 8—8 of Figure 5.

Figure 9 is a vertical sectional view showing the application of the present invention in an outlet box.

Referring in detail to the drawings, the male and female fixtures are indicated by the characters 5 and 6. The male fixture 5 includes a cap 7, a shank 8, a head 9 and contact plates 10 and 11. The cap 7 has a bore 12 opening outwardly through one end thereof to admit an extension cord 13 including electrical conductors 14 and 15. The cap 7 further includes an annular flange 16 defining a recess in communication with the bore 12. The contact plates 10 and 11 have right angularly disposed end portions 17 secured on the cap 7 within the recess by screws 18 threaded into the cap and also acting as terminals for connecting the conductors to the contact plates.

The shank or stem 8 and head 9 are constructed of insulating material and are of integral construction and the shank is secured to the contact plates 10 and 11 with the latter arranged at opposite sides thereof. The contact plate 10 includes an end portion 19 which abuts one edge of the head 9 and extends the full length of the latter.

A contact extension 20 is formed on the contact plate 11 and enters a fuse chamber 21 formed in the shank 8 and head 9 and opens outwardly through one edge of the head. A contact plate 22 is detachably secured to the head and normally overlies the chamber. A fuse 23 lies in the chamber 21 and is engaged by the contact extension 20 and the contact plate 22.

The head 9 is of substantially elongated formation and extends an equal distance on opposite sides of the shank 8.

The female fixture 6 includes a body 24 of insulating material and has formed therein a chamber 25 which opens outwardly through one end of the body by way of a slot 26. The purpose of the slot 26 is to admit to the chamber 25 the shank and head of the male fixture. The head may move freely through the slot 26 and on entering the chamber 25 is adapted to be rotated one-half turn and thereby lie across the slot and be prevented from accidentally moving out of the chamber 25. A threaded metallic ferrule 27 is mounted on a portion of the body 24 of the female fixture and has a contact strip 28 which enters the chamber 25 to be engaged by the end portion 19 of the contact plate 10.

Mounted in one end of the female fixture is a spring influenced contact 29 adapted to engage the contact plate 22 within the chamber 25 when the male fixture is adapted to the female fixture. The spring influenced contact 29 is slidably mounted in a metallic ferrule 30 mounted in the end of the body of the female fixture and mounted on the ferrule is a dome-shaped cap 31 contacting the end wall of the body of the female fixture.

Thus it will be seen that when the male fixture is inserted in the female fixture and given one-half turn, the contact plate 22 will engage the spring influenced contact 29 while the end portion 19 of the contact plate 10 engages the contact strip 28 of the metallic ferrule. The female fixture, due to the arrangement of the spring influenced contact 29 and the metallic ferrule,

may be threaded into an ordinary socket type outlet fixture.

Referring to Figure 9, it will be seen that through a slight alteration of the female fixture the latter may be mounted in an outlet box 33. In this instance the female fixture 6 is secured to the face plate 34 of the outlet box by screws 35 and the metallic ferrule 27 is omitted and a contact screw 37 employed in lieu thereof. The contact screw 37 connects with the plate 28. Also, it will be noted that the spring influenced contact 29 is connected to a terminal screw 38 by a contact plate 39. The usual electric feed conductors (not shown) are connected to the terminal screws 37 and 38. The male fixture may be readily inserted into the female fixture when the latter is mounted in the outlet box and given a one-half turn to secure the fixtures against accidental separation and to establish electric connection therebetween.

The contact plate 22 being removable from the head 9 of the male fixture will permit easy removal of the fuse 23 should the latter become damaged or blown out. Also, this construction will permit another fuse to be readily brought into operative position within the male fixture.

The contact plates 10 and 11 are secured onto the stem 8 by having openings in which material of the stem 8 is embedded.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described the invention, what I claim is:

1. In an electric plug of the character described, a male fixture including an insulated shank and head at one end and contacts mountable on said shank and adapted for connection to electric conductors of an extension cord, a female fixture including a chamber and a slot communicating therewith and opening outwardly through one end thereof to receive the shank and head, and contacts carried by the female fixture to engage with the contacts of the male fixture.

2. In an electric fixture, a cap having a bore, contacts secured to said cap, an insulated shank positioned between and secured to said contacts and including an enlarged elongated head at one end thereof and a fuse chamber extending from a point within the shank through the head and opening outwardly through one end thereof, a contact strip entering said chamber and secured to one of the contacts, the other of said contacts having an angularly related portion lying along one edge of the head, a fuse in said chamber and having one end in engagement with the contact strip, and a second contact strip detachably secured to the head enclosing the chamber and engaging the other end of the fuse.

PHILIP W. PELISSIER.