Oct. 25, 1938. L. E. BROWN 2,134,170

CONNECTER

Filed June 25, 1937

Fig. 1.

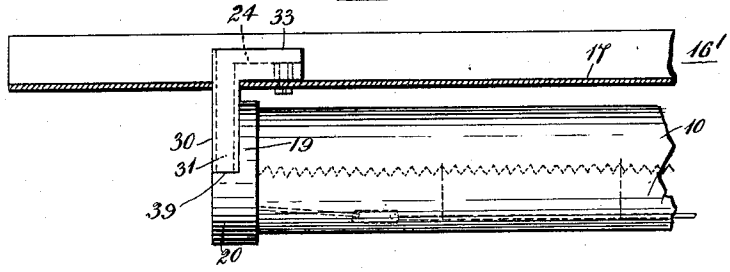


Fig. 2.

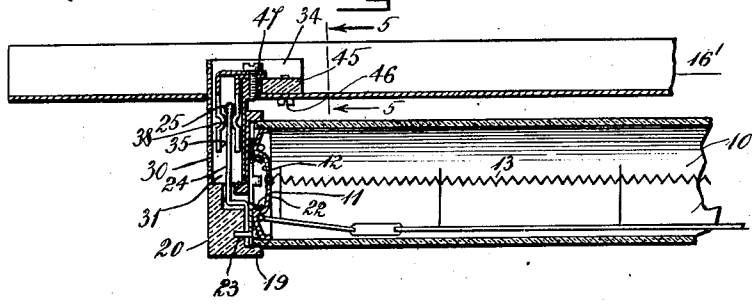


Fig. 3.

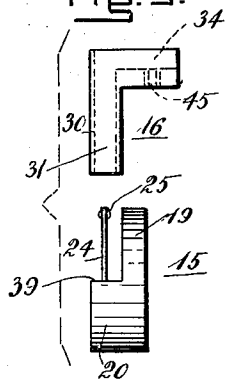


Fig. 4.

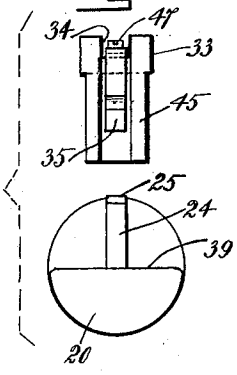


Fig. 5.

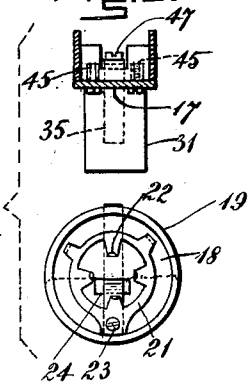


Fig. 7.

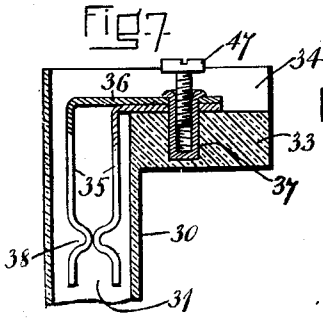
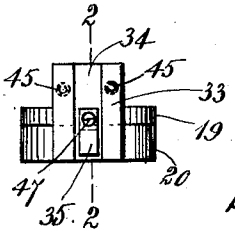


Fig. 6.



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Patented Oct. 25, 1938 2,134,170

UNITED STATES PATENT OFFICE

2,134,170

CONNECTER

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Application June 25, 1937, Serial No. 150,339

2 Claims. (Cl. 173—328)

This invention relates to connecters especially adapted for use with cylindrical lamps having contact ferrules at their respective ends and its object is to improve and simplify the construction of such connecters in the manner hereinafter more fully set forth.

In the drawing accompanying and forming a part of this specification, Figure 1 is an elevation of a connecter embodying my invention and a portion of a lamp to one end of which it is connected, together with a portion of a wiring channel within which said connecter is secured.

Fig. 2 is a longitudinal section taken on the line 2—2 of Fig. 6.

Fig. 3 is a side elevation showing the contact cap and socket which make up my invention slightly separated.

Figs. 4 and 5, respectively, are front and rear elevations showing the two parts of the connecter separated, Fig. 5 being partly in section taken on the line 5—5 of Fig. 2.

Fig. 6 is a plan view of my connecter, the two component parts thereof being united.

Fig. 7 is a sectional view on an enlarged scale of a detail of construction.

In the particular drawing selected for more fully disclosing my invention, said drawing being illustrative merely, and not restrictive, 10 is a cylindrical lamp commonly known as a "lumiline lamp", each end of which is provided with a metallic ferrule 11 having a central depression 12, a filament 13 being electrically connected between said ferrules. For connecting said filament to a lighting circuit, a contact cap 15 and a socket 16 therefor both formed of insulating material, are employed. When the lamp is employed for certain purposes, as for example, to illuminate a showcase, a wiring channel usually is employed and in the present instance, such channel, shown at 16', consists of a base 17 having two upstanding arms 18 formed integral therewith.

The contact cap comprises a circular face portion 18 having a peripheral flange 19 and a portion 20 at right angles to said face portion. Within the recess formed in the face of the contact cap by the overhanging flange 19 is disposed a flat contact member 21 provided with several spring fingers 22 which are integral therewith and extend outwardly therefrom, said fingers being disposed to enter the depression 12 in the lamp ferrule.

In the present instance, the flat contact member is secured to the contact cap by the screw 23 which passes through the lower end of the prong 24, the lower end of which underlies said contact member, thereby electrically and mechanically connecting said prong to said member. The upper end of said prong projects upwardly from the portion 20 of the contact cap and terminates in a bead 25. Preferably said prong is a flat metallic member, as shown, in order that the flange portion 20 of the contact cap may be reduced to the minimum possible width, it being highly desirable that the width of the contact cap be as small as possible.

The socket which co-operates with the contact cap comprises a body portion 30 having an opening 31 therethrough, and a top portion 33 extending at right angles to said body portion and provided with a groove 34 communicating therewith. Within said socket is disposed a contact clip comprising a pair of spring fingers 35, each terminating in a laterally extending portion 36 disposed in said groove. In order to secure the contact clip to the socket, the flanges of the clip may be provided with registering openings and passed over the projecting end of an interiorly threaded metallic socket 37 embedded in the overhanging top portion of the socket 16 approximately midway between the ends of said overhanging portion and the projecting ends of said metallic socket rolled over on the uppermost flange 36 by a punch or other tool, or any other suitable means may be employed for securing the contact clip to said socket 16.

In the present instance, the spring fingers are provided with oppositely directed bows 38 near their lower ends, which are separated by the insertion therein of the prong 24 (Fig. 2) the beaded end of which when the contact cap and socket 16 are engaged will be disposed immediately above said bows. The resiliency of the spring fingers and the size of the beaded end 25 of the prong are sufficient to prevent the separation of the co-operating members 15, 16, by the weight of the lamp carried between the contact caps 15 and to prevent sudden shocks or jars from disengaging the parts, in fact, a reasonable degree of force is required to remove the contact cap 15 from its socket 16.

The spaced relation between the positions of the bows 38 and the point of juncture of the contact cap and socket, viz, the upper surface 39 of the portion 20 of the contact cap, preferably is such that upon the withdrawal of said contact cap from its socket the prong 24 will have broken contact with the spring fingers 35 before the space between the lower end of the body portion 30 of the socket and the upper surface

38 aforesaid is sufficiently large to permit a finger of the operator, or any portion thereof, to come in contact with the prong.

It will be understood, of course, that while a contact clip of any suitable form may be employed, I prefer to use a clip consisting, as shown, of two flat spring fingers in order to permit the use of a relatively narrow contact cap.

The flange portion 33 of the socket is provided with means whereby it may be attached to a support, such means in the present instance being shown as the interiorly threaded metallic sockets 45 embedded in said flange portion near the rearward end thereof. When said socket is supported by a wiring channel, such as 16', the latter is provided with a transverse opening through which the body portion of said socket is passed and the flange portion 33 firmly secured to the bottom of the wiring channel by screws 46 which pass through holes in said bottom and take into the metallic sockets 45.

The contact fingers 35 are connected in circuit by means of the binding screw 47 having threaded engagement with the metal socket 37. As will appear more clearly in Fig. 6, a substantial amount of insulating material intervenes between said binding post and sockets 45, which of course are grounded through the screws 46 and the wiring channel, thereby reducing the danger of grounding the circuit.

By placing said binding screw and the sockets 45 in the positions shown, I am enabled to reduce the width of the top 33 of the socket 16 and permit the use of a narrower wiring channel than would be feasible if said screw and sockets were in alignment.

Having thus described an illustrative embodiment of my invention without, however, limiting the same thereto, what I claim and desire to secure by Letters Patent is:

1. A connecter for a tubular electric lamp having at each end a metallic ferrule provided with a central depression and a filament connected therebetween, comprising in combination a contact cap of insulating material having a recess in one face thereof, a flat contact member disposed in said recess and provided with spring fingers extending therefrom and integral therewith, said spring fingers being disposed to enter the depression in one of said ferrules, a prong mechanically secured to said cap and electrically connected with said contact member said prong being substantially parallel with the plane of the inner face of said cap and not extending substantially beyond the perimeter thereof, a socket of insulating material provided with an opening therethrough, a contact clip in said opening, said clip comprising a pair of spring fingers disposed to receive said prong between them, and means securing said clip to said socket.

2. A connecter for a tubular electric lamp having at each end a metallic ferrule provided with a central depression and a filament connected therebetween, comprising in combination a contact cap of insulating material having a recess in one face thereof, a flat contact member disposed in said recess and provided with spring fingers extending therefrom and integral therewith, said spring fingers being disposed to enter the depression in one of said ferrules, a prong mechanically secured to said cap and electrically connected with said contact member said prong being substantially parallel with the plane of the inner face of said cap and not extending substantially beyond the perimeter thereof, a socket of insulating material provided with an opening extending therethrough and a groove in the top thereof, a contact clip in said opening, said clip comprising a pair of spring fingers disposed to receive said prong between them and terminating in a flange disposed in said groove, means securing said clip to said socket and a binding screw passing through said means.

LAWRENCE E. BROWN.