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J. WERTZHEISER

2,163,902

LAMP CONNECTOR

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Fig. 1.

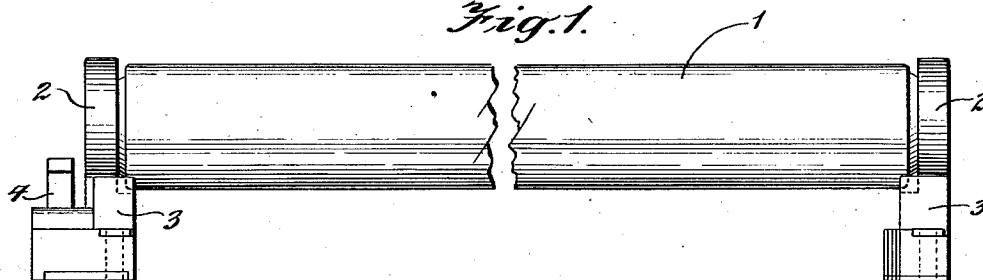


Fig. 2.

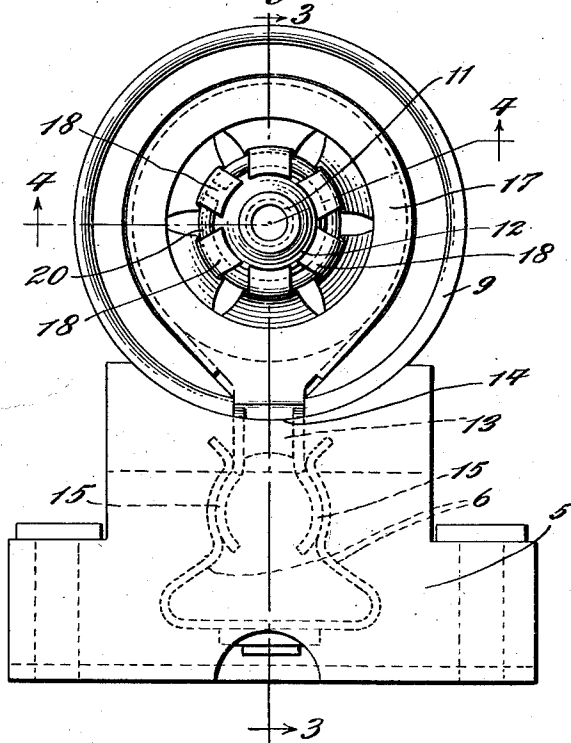


Fig. 3.

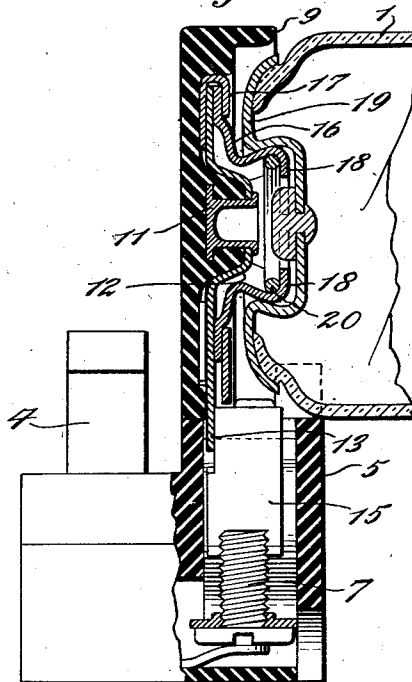
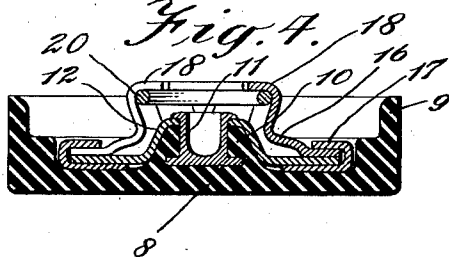


Fig. 4.



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LAMP CONNECTOR

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2 Claims. (Cl. 173—328)

My invention relates to lamp connectors and more particularly to a separable cap for use with the type of lamp having a contact ferrule at each end.

5 It is an object of my invention to provide such a connector which is readily and securely attachable to the lamp and also readily detachable therefrom and which will not be materially affected by repeated attachments and detachments. Other objects and features of my invention will be apparent from the drawing of an illustrative embodiment of my invention and the following specification.

15 In the accompanying drawing, Fig. 1 is a side elevation of a lamp having a connector at each end; Fig. 2 is a plan view of a connector; Fig. 3 is a partial vertical section taken along the line 3—3 of Fig. 2 and having a lamp in place; Fig. 4 is a horizontal section taken along the line 4—4 of Fig. 2.

20 In the form of my invention shown in the accompanying drawing, a lamp 1 is supported at each end by a connector consisting of a contact cap 2 and a base 3. A switch 4 may be incorporated in the base 3 if desired, as shown at the left of Fig. 1.

25 The base 3 consists of a shell 5 of insulating material inside of which are located spring contacts 6 having a terminal connection screw 7.

30 The contact cap 2 consists of a cover 8 of insulating material having an upstanding lip 9 and a central projection or hub 10. Embedded in said hub there is a metallic rivet 11 securing a conductor plate 12 inside of the cover 8. Said plate fits over the hub 10 and is substantially circular in shape except for an extension 13 which projects through an opening 14 in the lip 9. The extension 13 has spring fingers 15 formed integrally on it and lying in a plane at right angles to the plane of the plate 12.

40 The spring fingers 15 are arranged to engage the spring contacts 6, thus holding the cap 2 to base 3 and connecting the conductor plate electrically to the source of current through the terminal screw 7.

45 A circular lamp-holding plate 16, preferably having a diameter the same as that of the conductor plate 12, rests against the conductor plate and is held thereagainst in close conducting relation by a clamping plate 17 which overlies the periphery of the lamp-holding plate 16 and has its edge bent over the edge of the conductor plate 12 throughout the greater portion of the periphery of the latter.

50 The center of the lamp-holding plate 16 is cut

out to form a group of upstanding spring fingers 18, the shape of each of which will be adapted to the particular ferrule used on the lamp to be held in the connector. In the arrangement shown, a lamp ferrule 19 has a central depression and therefore the group of spring fingers are arranged in a circle and each is preferably curved, as shown, so that when the cap is in place, the curvature of the fingers will cause them to spring outward to press against the wall of the recess in the lamp ferrule 19.

5 While for some purposes, it will be sufficient to have these spring fingers depending for their elasticity entirely on the metal from which they are formed, I find that there are advantages in having these fingers inherently relatively weak and then to supply the necessary resilience by means of a separate spring 20, such an arrangement being illustrated in the drawing, said spring being in the form of a ring and located inside the group of fingers so as to press each of them outward. By this means, the resilience of the holding arrangement will be maintained even after the spring fingers are snapped into place in the lamp ferrule a large number of times, which would not be likely to be true if the stiffness of the metal of the fingers alone were depended on for their resilience.

30 On the other hand, I find it of advantage to have the conductor plate 12, and particularly the contact spring fingers 15 formed integrally therewith, relatively stiff. The connector arrangement which I have provided enables the use of different metals or different thicknesses of the same metal for the conductor plate 12 with its spring fingers 15 and the lamp-holding plate 16 with its spring fingers 18. Moreover, by having the lamp-holding plate formed independently of the conductor plate, any desired conformation of the spring fingers 18 can be adopted without interfering with the attaching means for holding the conductor plate in the insulating cover.

45 While I have illustrated and described the preferred embodiment of my invention, it will be understood that many of the details thereof may be varied within wide limits and I do not, therefore, limit myself to the precise form shown and described.

I claim:

50 1. A connector including an insulating cover having a recess, a conductor plate placed in said recess and having an integral line contact extending through a slot in said cover, a rivet embedded in a wall of said cover and extending through and over said conductor plate to hold 55

it to said cover, a lamp-holding plate having a group of circularly disposed upstanding spring fingers, a spring within the group of said fingers and arranged to normally hold said fingers outwardly, and clamping means holding the two plates in good electrical contact with each other.

2. A connector including an insulating cover having a recess, a conductor plate placed in said recess and having an integral line contact extend-

ing through a slot in said cover, a rivet embedded in a wall of said cover and extending through and over said conductor plate to hold it to said cover, a lamp-holding plate having a group of circularly disposed upstanding spring fingers, and clamping means holding the two plates in good electrical contact with each other.

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