Oct. 14, 1930. H. A. DOUGLAS 1,778,186

CIRCUIT CONTINUING DEVICE

Filed May 9, 1929

Fig. 1.

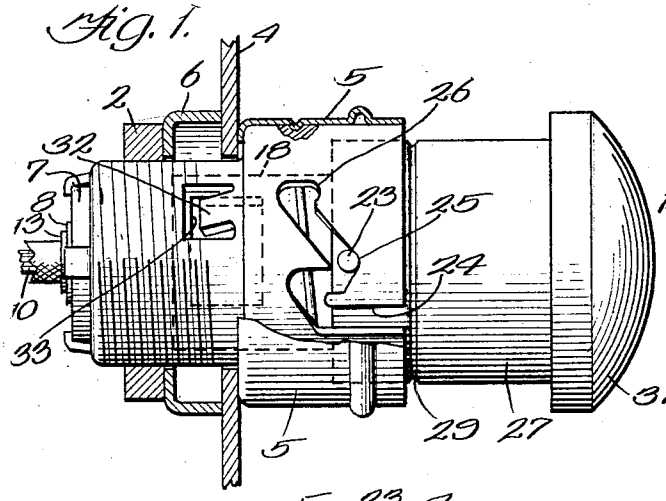


Fig. 4.

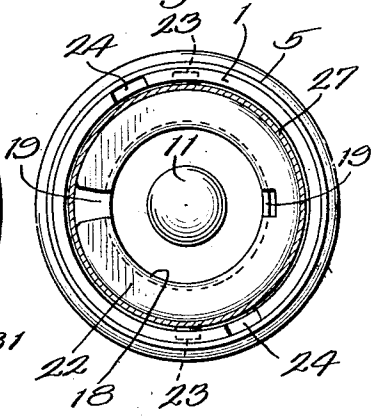


Fig. 2.

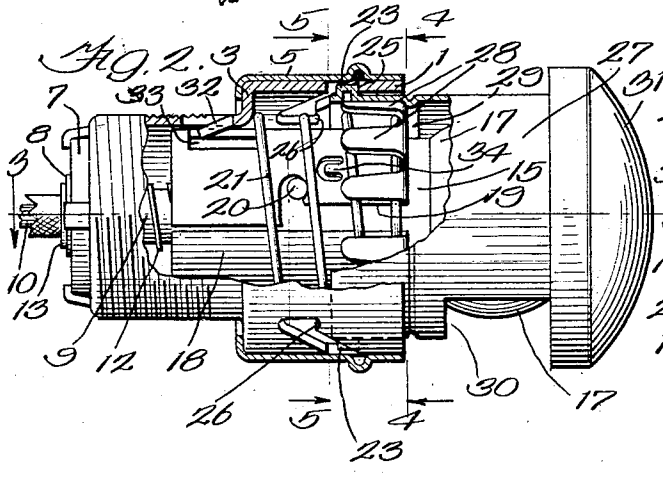


Fig. 5.

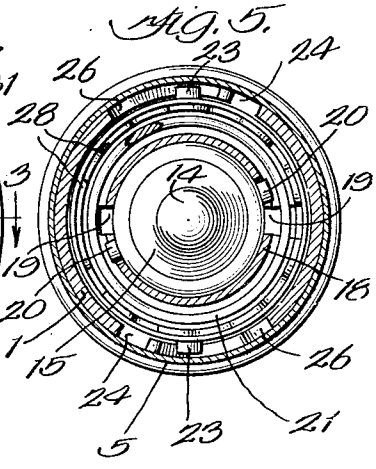
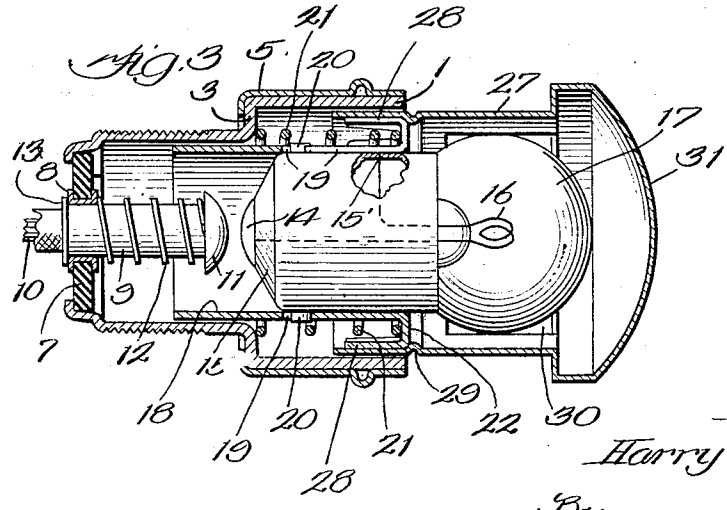


Fig. 3



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1,778,186

UNITED STATES PATENT OFFICE

HARRY A. DOUGLAS, OF BRONSON, MICHIGAN

CIRCUIT-CONTINUING DEVICE

Application filed May 9, 1929. Serial No. 361,675.

My invention relates to circuit continuing devices of the type shown in my prior Patent 1,734,565, November 5, 1929, and is of particular service in connection with those circuit continuing devices which are in the form of incandescent lamps, though the invention is not to be thus limited.

The lamp or other circuit continuing device is inclusive of a contact carrier which would be the base or plug of the lamp if such be employed. I provide an actuator which is assembled with the contact carrying plug for shifting the position of this plug to break or establish the circuit that is inclusive of the contact structure thereon. Where the invention is embodied in connection with an incandescent electric lamp the actuator is in the form of a cowl which is coupled with the lamp for effecting the control of the circuit that contains the lamp. In the preferred embodiment of the invention the actuator or cowl is movable along the axis of the plug or lamp base and then constitutes an actuating plunger. The plunger by its inward movement establishes the circuit and by its outward movement opens the circuit. A spring is provided which normally places the plunger in its outermost position. If the plunger is in the form of a cowl, a light transmitting opening is desirably provided in the side of the cowl and the cowl is rotatable to adjust the position of the opening to determine the direction in which the light is to shine.

I will explain my invention more fully by reference to the accompanying drawing in which Fig. 1 is a side elevation illustrating the preferred embodiment of the invention, a portion being broken away and some parts being shown in section; Fig. 2 is a view taken at right angles to the direction in which Fig. 1 is taken, parts being shown in section; Fig. 3 is a sectional view on line 3—3 of Fig. 2; Fig. 4 is a sectional view on line 4—4 of Fig. 2; and Fig. 5 is a sectional view on line 5—5 of Fig. 2.

The structure illustrated is inclusive of a generally cylindrical shell 1 which is reduced at one end and there threaded to receive a nut 2 which is employed to clamp the shoulder 3 of the shell in assembly with a support 4, which support may be the dash-board of an automotive vehicle. The larger part of the casing may be surrounded by a finishing sheath 5. I have shown a distance preserving hollow washer 6 which may be interposed between the nut and the support. The shell constitutes a contact carrier to which end a contact carrier ring 7, of insulation, is assembled with the rear end of the shell. This ring of insulation is provided with a metallic bushing 8 that receives a metallic sleeve 9 which is slidable in the bore of the bushing. A circuit continuing conductor 10 enters the sleeve 9 and is electrically connected with a contact button 11 at the inner end of the sleeve. A coil spring 12 surrounds the portion of the sleeve that is within the casing. One end of this spring presses against the bushing and the other end presses against the contact button whereby this button is forwardly pressed. The limit to which the button may be forwardly pressed is determined by the flange 13 which is provided upon the rear end of the sleeve 9, this flange being adapted for abutting engagement with the bushing. A contact 14, which is complemental to the contact 11, is provided upon a plug 15. This plug, in the embodiment of the invention illustrated, also constitutes a base of an incandescent lamp. A filament 16 of this lamp is located within the glass bulb 17 and has one terminal connected with the contact button 14. The other terminal of this filament is connected with a metallic sheath 15′. The lamp socket 18 is provided with diametrically opposite bayonet channels 19 which receive the bayonet pins or projections 20 that are provided upon and project laterally from the plug 15. These bayonet pins or projections are receivable at the front ends of the bayonet channels and pass along the bayonet channels longitudinally of the structure until the inner ends of the channels are reached whereafter the plug is turned to bring the said bayonet projections into the bayonet seats.

A coil spring 21 surrounds the lamp socket and is bottomed upon the shoulder 3. The outer end of the spring presses against the

flange 22 which is formed upon the front end of the socket whereby the socket may be moved forwardly when the spring is permitted thus to function. When the socket is thus moved forwardly the contacts 11 and 14 are separated. When the socket is moved inwardly these contacts are engaged, the contact 11 then moving slightly to the rear against the force of the spring 12.

The shell 1 is formed with two diametrically opposite bayonet slots or channels each having an entrance 24 extending along the structure and a transverse branch affording two seats 25 and 26 for bayonet pins. The seats 25 are further forward than the seats 26.

I provide an actuator for moving the lamp socket and the contact carrying base therein to control the lamp circuit. This actuator is preferably in the form of a generally cylindrical cowl 27 that desirably has abutting and tight telescopic engagement with the lamp socket. To this end the lamp socket flange is desirably formed with rearward continuations that extend rearwardly and which are desirably in the form of spring fingers 28 which, when free, expand at their tips beyond the diameter of the bore of the cowl so as to have tight engagement with the cowl when the cowl is slipped in place. The cowl is desirably formed with an internal bead 29 which has abutting engagement with the socket flange 22 to enable the cowl, when rearwardly pressed, to move the lamp socket and the parts carried by the lamp sockets rearwardly against the force of the spring 21 to establish the lamp circuit. It was hitherto stated that one terminal of the filament 16 was connected with the contact button 14. The cowl carries two diametrically opposite bayonet pins 23 which cooperate respectively with the bayonet slots of the shell 1. When the bayonet pins 18 are within the seats 25, the spring 21 is permitted to move the lamp socket forwardly to separate the contacts. When the bayonet pins are within the inner seats 26, the socket is held in an inward position against the force of spring 21 to establish engagement between the contacts. The cowl is provided with an opening 30 at its front end and in the region of the lamp bulb to enable the light to shine from the lamp through the cowl to the desired place that is to be illuminated. The cowl is desirably rotatable upon and with respect to the socket to enable the opening 30 to be shifted to change the direction in which the light may emanate from the lamp. The front end of the cowl is desirably dome shaped to constitute a push button 31 by which the cowl may be conveniently manipulated to establish the lamp circuit and to shift the direction in which the light is to shine.

In order to limit the extent to which the lamp socket may be forwardly projected by the spring 21 when the cowl is removed, I provide a tongue 32 upon the shell and an opening 33 in the lamp socket, the rear border of this opening being engaged with the rear end of the tongue by the spring 21 when the cowl is removed. In order to keep the lamp from rattling within its socket, I form the socket with an inwardly projecting spring tongue 34 which engages a side of the lamp.

Changes may be made without departing from the invention.

Having thus described my invention, I claim:

The combination with a shell reduced at one end to form a shoulder; of a socket surrounded by the shell and reciprocable therein; outwardly and inwardly directed tongues on one end of the socket, a spring surrounding the socket with one end bearing against said shoulder, and its other end against the outwardly directed portions of said tongues, a plug within the socket, complemental contacts respectively carried by the plug and shell, and a plunger telescopically engaged upon the inwardly directed portions of the tongues of the socket and having a circumscribing abutment engaging the outwardly directed portions of the tongues whereby said socket may be inwardly moved against the force of said spring by pressure on the plunger, said socket and shell having interengaging formations for holding the socket in position to maintain said contacts in engagement.

In witness whereof, I hereunto subscribe my name.

HARRY A. DOUGLAS.