

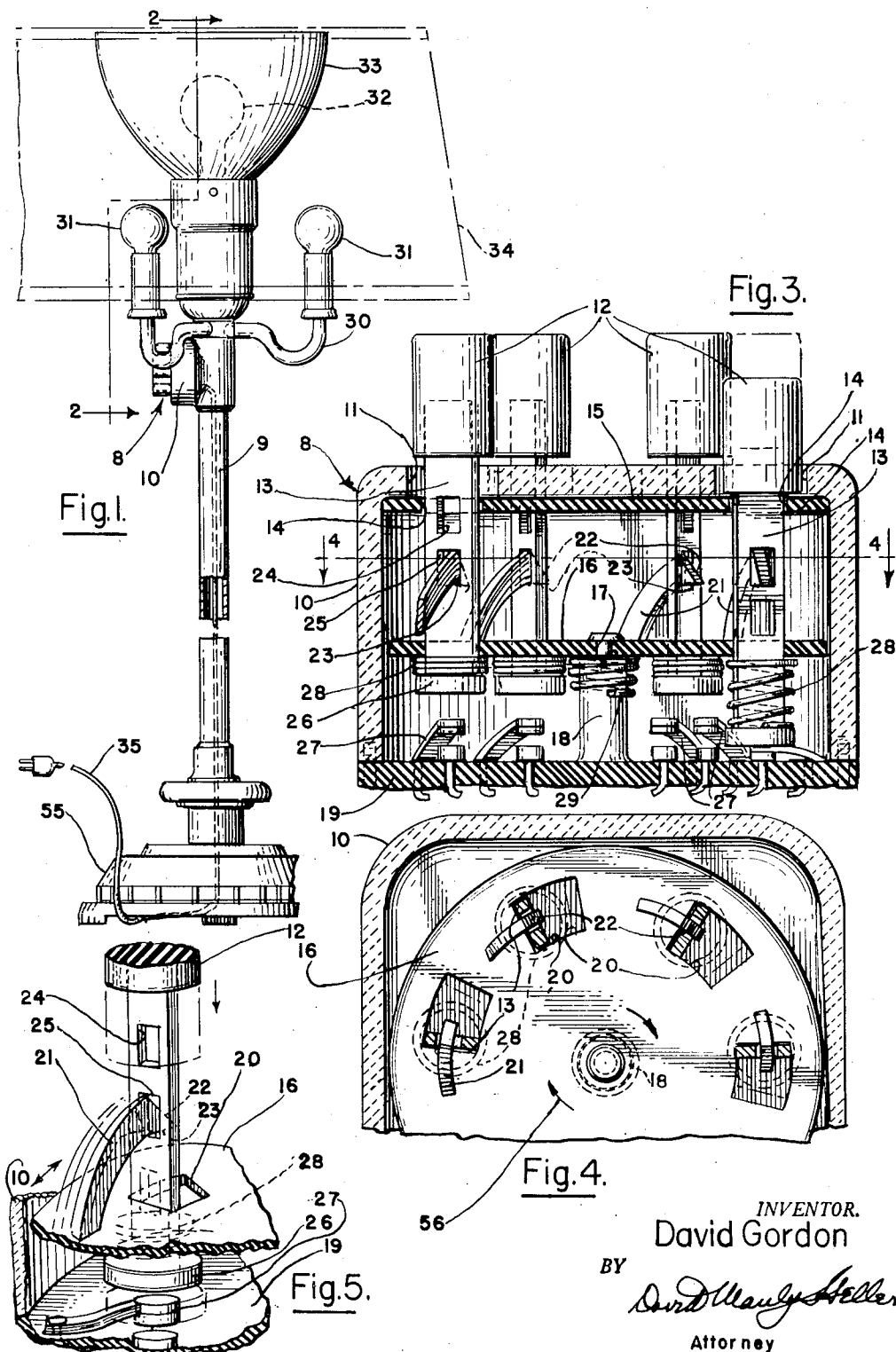
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D. GORDON
MULTISWITCH MEANS FOR OPTIONALLY AND SELECTIVELY
OPERATING MULTIFILAMENT MEANS

2,475,237

Filed April 24, 1948

3 Sheets-Sheet 1



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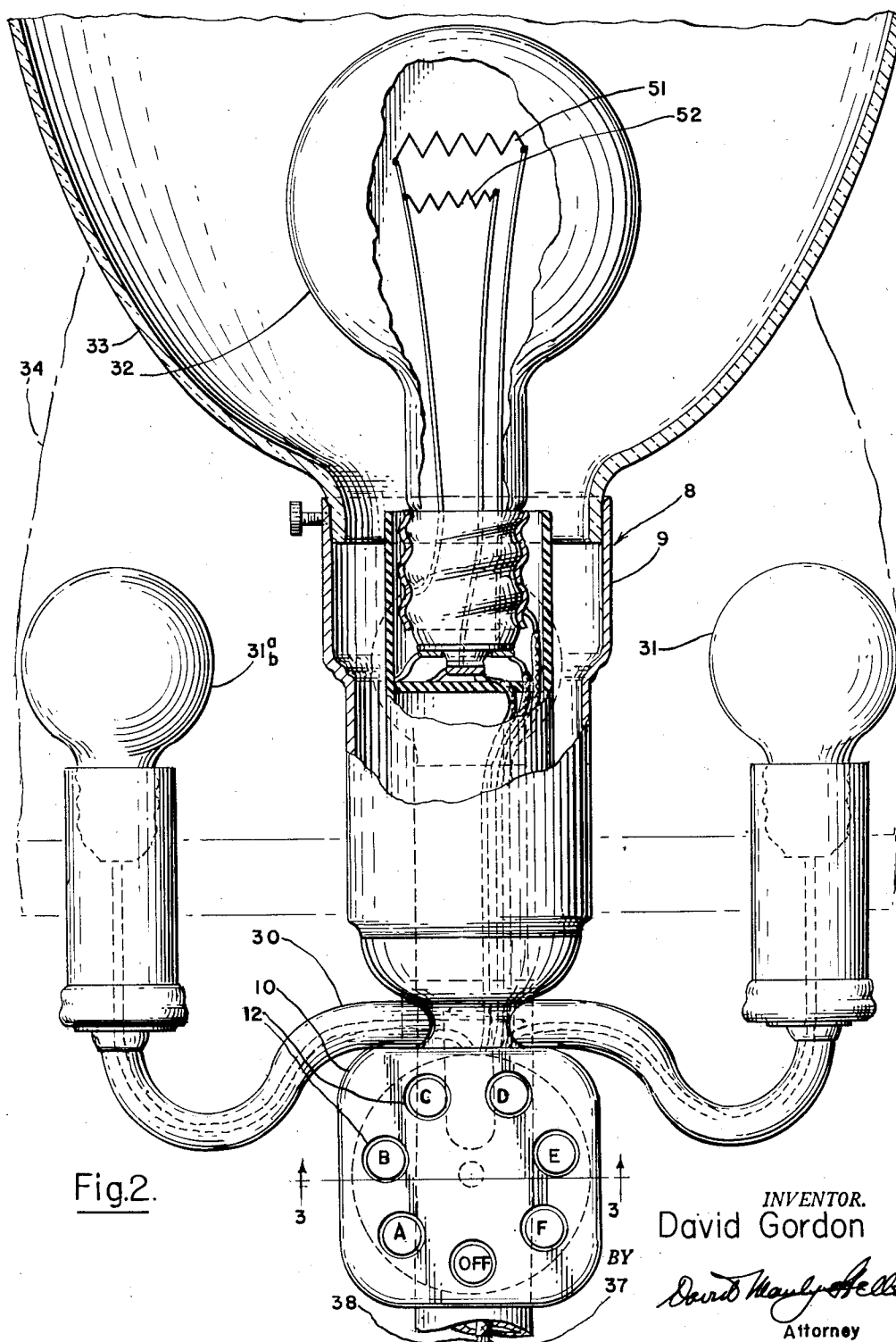
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3 Sheets-Sheet 2



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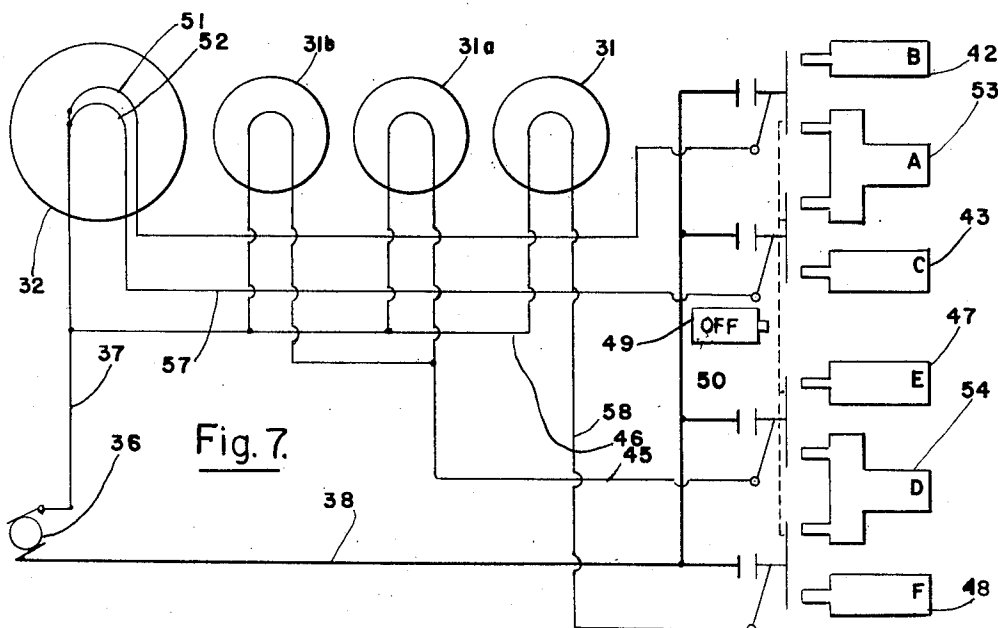
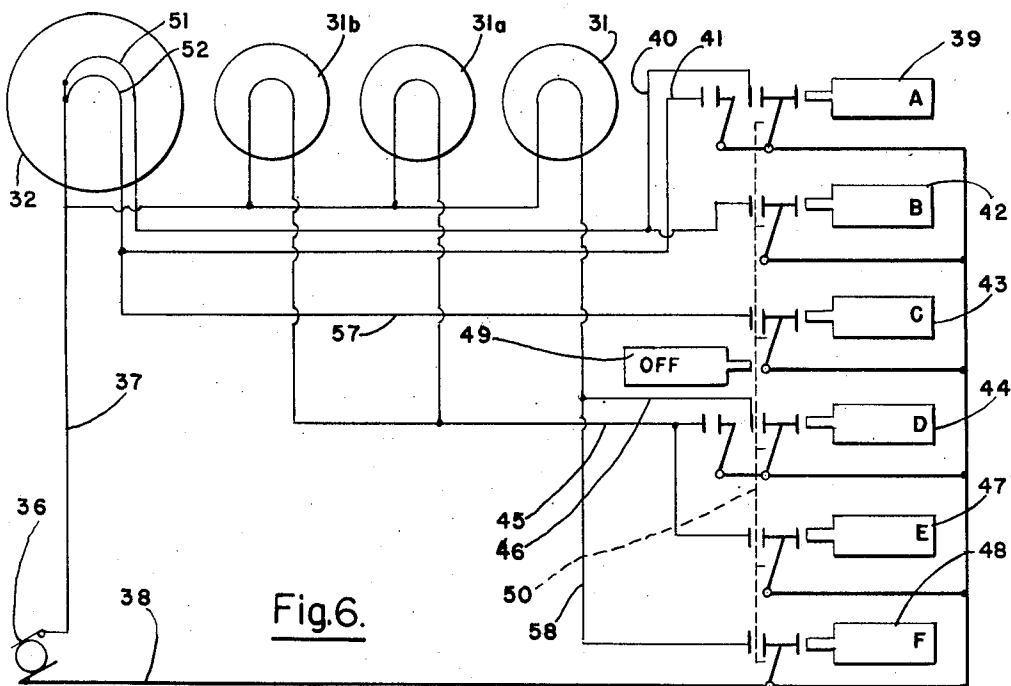
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MULTISWITCH MEANS FOR OPTIONALLY AND SELECTIVELY
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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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MULTISWITCH MEANS FOR OPTIONALLY
AND SELECTIVELY OPERATING MULTI-
FILAMENT MEANS

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3 Claims. (Cl. 315—320)

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My invention relates to multi-switch means and has particular relation to multi-filament lamp switches.

Switch means for multi-filament lamps in present use require a number of push button or rotating switch operations to change from one filament or combination of filaments to another, as well as requiring separate cut-out switch operations to turn off the various light filaments. I have devised a multi-filament lamp switch wherein the operation of each push button will turn on one of a number of filaments or combination of filaments on the multi-filament lamp, and at the same time will turn off any filament or combination of filaments already on.

An important object of my invention is to provide multi-filament lamp such as a floor lamp which is provided with switch means having a number of push buttons, each one of which controls a switch means to turn off a filament or a combination of filaments in the multi-filament lamp.

A further object of my invention is to provide multi-filament lamp switch means wherein the said multi-push button means, when actuated, will turn off any filament or combination of filaments already lighted up in the multi-filament lamp.

A still further object of my invention is to provide multi-filament lamp means having a multi-filament lamp bulb of a type such as the mogul lamp bulb, together with a number of single filament lamp bulbs, all electrically connected to the above mentioned multi-filament lamp switch means.

A still further object of my invention is to provide lamp cord and plug means attachable to any standard electrical outlet.

A still further object of my invention is to provide multi-filament lamp switch means wherein any plurality of the push-button controls may be actuated at the same time to turn on and light up all of the filaments connected to the multi-filament lamp.

A further object of my invention is to provide a push-button control connected with my multi-filament lamp switch which will turn off any or all of the light filament previously turned on.

A still further object of my invention is to provide a modification to the wiring and switch

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mechanism of my multi-filament switch means to simplify its manufacture.

A still further object of my invention is to provide multi-filament lamp switch means of simple and sturdy design that may be economically manufactured in large quantities.

Other objects and advantages embraced in my invention will be disclosed in the following description and in the accompanying illustrations in which like parts are designated by like numerals, and in which;

Fig. 1 is an elevation view of my invention showing its component parts together with a lamp shade drawn in phantom lines.

Fig. 2 is an enlarged fragmentary view of my invention with parts cut away to show its interior construction.

Fig. 3 is an enlarged cross-sectional view of the switch means of my invention taken substantially on line 3—3 on Fig. 2.

Fig. 4 is a cross-sectional view of the switch means of my invention taken substantially on line 4—4 on Fig. 3.

Fig. 5 is an enlarged perspective view of one of the switch means comprising a part of my invention.

Fig. 6 is an electrical wiring diagram of my invention.

Fig. 7 is a modification of the electrical wiring diagram used in my invention.

Referring to the illustration, my invention is generally designated 8 and consists of a floor lamp 9 having a lamp base 55, candelabra 30, a reflector 33, lamp cord and plug means 35, and a lamp shade 34.

Switch housing means 10 is attached at a convenient place just below the candelabra 30 on the floor lamp 9 and has formed on its surface a number of switch button receptacles 11 formed preferably in radially spaced arrangement. The said switch housing means 10 may be of a square or rectangular shape with rounded corners as shown and made of an insulating material such as plastic.

Multiple switch button means 12 are located, one within each of the switch button receptacles 11 of which seven are shown in the illustration. Switch shank means 13 are secured to the said multiple switch button means 12 and are positioned and held in place by shank retaining slots

14, radially positioned in a shank retaining disc 15, which is secured to the underside of the top of housing 10.

A switch actuating disc 16 is rotatably mounted at 17 on a trunnion 18 within the housing 10, on the switch base 19. Arcuate cut out means 20 on switch actuating disc 16 are formed in alignment with the switch shank means 13 to allow the said switch shank means to pass therethrough and contact by means of contact actuators 26, a number of electrical contact means 27 located on base 19 as shown in Fig. 3.

Multiple switch setting dogs 21 are mounted on the top surface of the switch actuating disc 16 as shown in Figs. 3, 4, and 5, and are provided with cam surfaces 22 and switch catch means 23. Cam engaging slots 25 are formed in each of the switch shank means 13 to engage the said cam surfaces 22. Catch engaging slots 24 are formed above the said cam engaging slots in the switch shank means 13 to engage the switch catch means 23 when one of the push buttons 12 is depressed.

A coil spring 29 is located on trunnion 18 and one end is secured to said trunnion 18 and the other end to the switch actuating disc 16 to urge the said switch actuating disc 16 in a clockwise direction as shown by arrows 56 in Fig. 4. Tension springs 28 are secured between contact actuators 26 and switch actuating disc 16 to urge the push buttons 12 to a normal upraised position.

To operate the light switch means 8 a button 12 is depressed as shown in solid and dotted lines in Figs. 3 and 5. Cam engaging slot 25 rides on cam surface 22 on dog 21, causing switch actuating disc 16 to rotate in counterclockwise direction and allowing the catch means 23 on dog 21 to engage the catch engaging slot 24 holding the contact actuator 26 against the contact means 27 and thus closing the electric circuit. If the button 12 or any other button 12 is depressed thereafter, the dog 21 will be disengaged from slot 24 allowing the button 12 to spring up and break the circuit.

In the illustrations and diagrams a multi-filament lamp bulb 32, having a one hundred and a two hundred watt filament, is used, and three sixty watt single filament lamps are used. Using lamp bulbs of the above described wattage it is possible to obtain fifteen light watt combinations ranging from sixty watts through four hundred and eighty watts.

In the wiring diagram of my multi-filament lamp switch means, as illustrated in Fig. 6, a switch button designated 39, when depressed, actuates or closes contact 27, causing filaments 51 and 52 of the mogul lamp 32 to light up by means of connecting wires 40 and 41 and lead and return wires 37 and 38 to the source of power 33.

The push button designated 42, when depressed, turns off any filament already lighted and in turn turns on or lights up the filament designated 51 in lamp 32. The push button designated 43 turns off any previously turned on filament and through wire 57 lights up the filament 52 in bulb 32. The push button 44, when depressed, turns off any previously turned on filament and in turn lights up the single filament lamp bulb 31, 31a and 31b by means of its double switch as shown. Push button 47, when depressed, turns off any previously lighted filament and in turn lights up the two single filament bulbs 31a and 31b. Push button 48, when depressed, turns off any previously lighted filament and through wire 58 lights the single filament bulb 31. The cut

out switch 49 will cut out or turn off any or all lights that are lighted by means of the above described switch cut out means as shown by dotted line in the diagram and designated 59.

It has thus been brought out that any one of the push buttons 12 when depressed, will light up any filament or combination of filament that it controls in the multi-filament lamp means and will also turn off any filament or combination of filaments previously turned on. It is also possible to depress two or more of the push buttons 12 at the same time and light up any combination of filament in the lamp, or all of them at one time and with one operation.

I believe that the above described switching operations are novel and a distinct improvement over multi-filament lamps in present use in which a number of switching operations are required to turn off or turn on the various filaments and combination of filaments.

Fig. 7 is a modification of the wiring diagram shown in Fig. 6 wherein the number of switching operations and mechanical parts are reduced by making use of bifurcated switch means 53 and 54 to do away with four of the switches used in the illustrated switch means in Figs. 3 and 4 and in wiring diagram 6. The filament wiring in the switching sequence remains substantially the same in diagram 7 as that illustrated and described for diagram 6.

Although my invention has been described, the terms used are to be deemed terms of description rather than terms of limitation, my invention being to retain the right to all mechanical equivalents of the structural elements depicted, provided they fall within the purview of the appended claims.

Having thus disclosed and revealed my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a lamp structure, a plurality of incandescent filaments connected in a parallel circuit and a plurality of push button switch elements, the total number of push button switch elements consisting of one push button switch element for each different circuit desired plus one push button switch element for opening any circuits that may be closed, connected in said parallel circuit in such a manner that any one of the filaments may be energized by depressing a corresponding push button element, and any combination of filaments may be energized by depressing another corresponding push button element.

2. In a lamp structure, a plurality of incandescent filaments connected in a parallel circuit and a plurality of push button switch elements, the total number of push button switch elements consisting of one push button switch element for each different circuit desired plus one push button switch element for opening any circuits that may be closed, connected in said parallel circuit in such a manner that any one of the filaments may be energized by depressing a corresponding push button element, and any combination of filaments may be energized by depressing another corresponding push button element, the said push button switch elements operating optionally and selectively to close any desired circuit without going through successive stages.

3. In a lamp structure, a plurality of incandescent filaments connected in a parallel circuit and a plurality of push button switch elements, the total number of push button switch elements consisting of one push button switch element for each different circuit desired plus one push button switch element for opening any circuits that

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may be closed, connected in said parallel circuit in such a manner that any one of the filaments may be energized by depressing a corresponding push button element, and any combination of filaments may be energized by depressing another corresponding push button element, the said push button switch elements operating optionally and selectively to close any desired circuit without going through successive stages, any of the said push button switch elements when operated to close its particular circuit will cause the release of any and all push button elements which had been operated to close circuits prior thereto.

DAVID GORDON.

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