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LIGHTING SYSTEM

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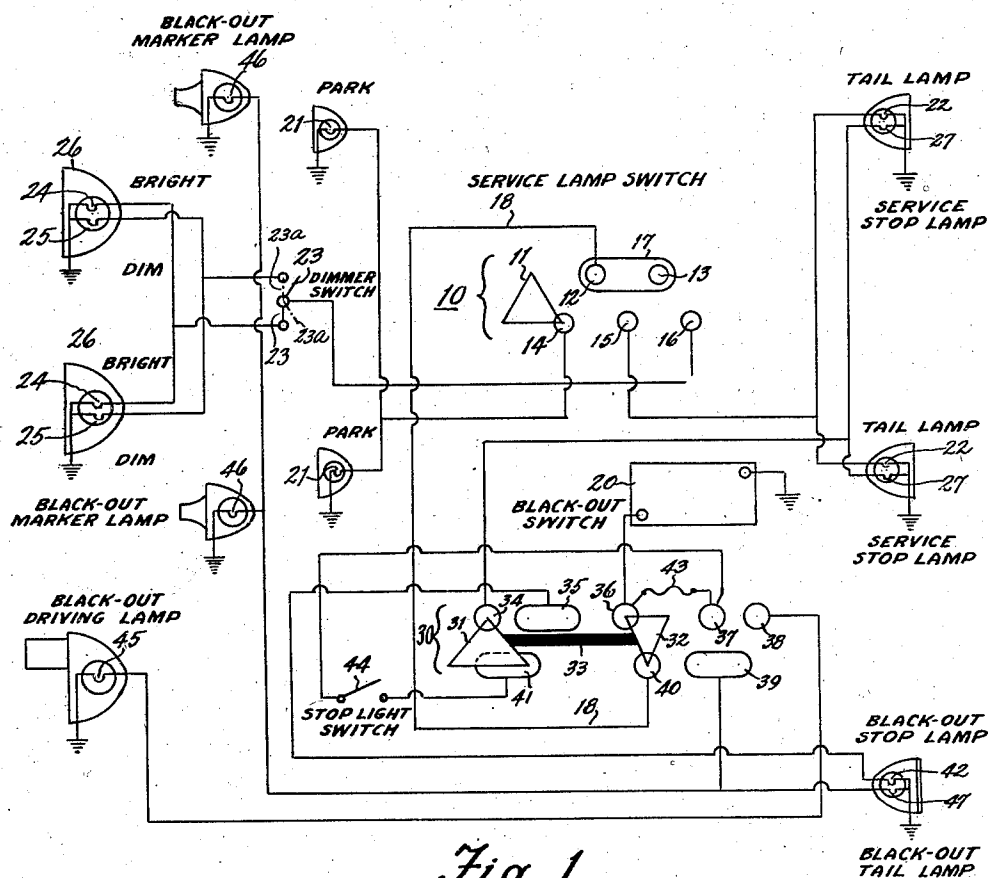


Fig. 1

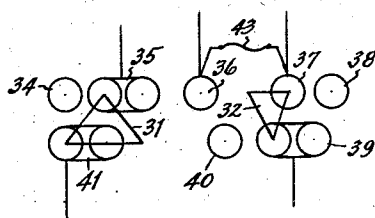


Fig. 2

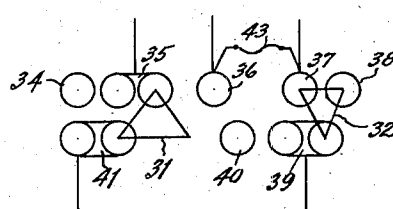


Fig. 3

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LIGHTING SYSTEM

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4 Claims. (Cl. 315-83)

This invention relates to lighting systems for automobiles and aims to provide for the addition to the regular automobile lighting system of black-out lights controlled by an auxiliary switch which operates when turning on any of the black-out lights to prevent turning on any of the regular lamps of the automobile by the main lighting switch.

Further objects and advantages of the present invention will be apparent from the following description, reference being had to the accompanying drawing wherein a preferred embodiment of the present invention is clearly shown.

In the drawing:

Fig. 1 is a wiring diagram of a lighting system for automobiles having regular or service lamps controlled by a switch, and black-out lamps controlled by a switch which controls circuits leading to the service lamp switch.

Figs. 2 and 3 show other positions of the black-out switch.

In Fig. 1 the service lamp switch is indicated generally by numeral 10 and the black-out lamp switch by numeral 30. The service lamp switch 10 has movable contact 11 and stationary contacts 12, 13, 14, 15 and 16. Contacts 12 and 13 are connected by strap 17. Contacts 12 and 13 are connected by wire 18, leading to a contact 40 of switch 30, which in the "off" position provides a connection between wire 18 and the battery 20. Contact 14 is connected with parking lamps 21, contact 15 is connected with tail-lamp filaments 22; and contact 16 is connected with a dimmer switch 23 which, in the position shown, makes a connection with the main headlight filaments 24 or, in the dot-and-dash line position 23a, makes a connection with the depressed beam filaments 25 of the service headlamps 26.

The black-out switch 30 has movable contacts 31 and 32, mechanically connected by part 33, and stationary contacts 34, 35, 36, 37, 38, 39, 40 and 41. Contact 34 is connected with service stop-lamp filaments 27; contact 35 is connected with black-out stop-lamp filament 42; contact 36 is connected with battery 20; contact 37 is connected by fuse 43 to contact 36 and with stop-light switch 44 which is connected with contact 41; contact 38 is connected with black-out driving lamp filament 45; contact 39 is connected with black-out marker lamp filaments 46 and the black-out tail-lamp filament 47.

When black-out switch contacts 31 and 32 are in the "off" position shown in Fig. 1, battery 20 is connected with contacts 12 and 13 of the service light switch 10, through contacts 36, 32 and

40 of black-out light switch 30 and wire 18. Then the service lamps can be controlled by the service light switch. In Fig. 1 switch contact 11 is shown in the "off" position. In the first "on" position contact 11 moves to the right to connect contacts 12, 14 and 15. This connects the parking lamp filaments 21 and the tail-lamp filaments 22 with the battery. In the second "on" position contact 11 connects contacts 13, 15 and 16, in order to connect the battery with tail-lamp filaments 22 and with the dimmer switch 23 by which either the main filaments 24 or the depressed beam filament 25 of lamps 26 may be connected with the battery.

When the black-out lamp switch 30 is in the "off" position, shown in Fig. 1, contact 31 connects contacts 34 and 41. A connection is provided between the battery 20, stop-light switch 44 and the service stoplight filament 27 through a circuit which includes contact 36, fuse 43, contact 37, stop-light switch 44, and contacts 41, 31, 34. Thus the black-out lamp switch 30 provides a connection in the "off" position of the switch between the stop-light switch 44 and the service stop-lamp filament 27. In the first "on" position of the black-out lamp contacts 31, 32, shown in Fig. 2, the contact 31 separates from contact 34 so that the service stop-lights 27 can not be operated by the stop-light switch 44, and connects contacts 35 and 41 so that, when the stop-light switch 44 is closed, only the black-out stop-lamp filament 42 will burn. In the first "on" position of the black-out switch 30, contact 32 moves away from contact 40 to disconnect the battery 20 from the service lamp switch 10 and to make a connection between contacts 37 and 39 thereby connecting the battery with the black-out marker lamps 46 and with the blackout tail-lamps 47.

In the second "on" position of the black-out lamp switch, shown in Fig. 3, the contact 31 connects contacts 35 and 41, as shown in Fig. 3, so that the stop-light switch 44 will control the black-out stop lamp filament 42. Contact 32 connects contacts 37, 38 and 39 so that the battery 20 is connected with the black-out marker lamp 46, the black-out tail lamp 47 and the black-out driving lamp 45.

The present invention provides for adding to an existing automobile lighting system comprising service headlamps, service parking lamps, service stop and tail-lamps, and the main control switch, a dimmer switch and a stop-light switch, all of the necessary equipment required for a black-out without discarding any of the switches of the service lighting system. To the conven-

tional service lighting system are added a black-out driving lamp, black-out marker lamps, a black-out stop-lamp and tail-lamp and an auxiliary black-out control switch which controls the connection between the battery and service lamp switch so that the service lamps cannot be operated when any of the black-out lamps are turned on. The black-out lamp switch selectively controls the connection between the stop-light switch and the service stop-lamp filament or the black-out stop-lamp filaments. In case the service stop-lamp is in an "on" position when the black-out signal is given, the turning on of any of the black-out lamps immediately turns off any of the service lamps which may have been burning.

While the embodiment of the present invention as herein disclosed, constitutes a preferred form, it is to be understood that other forms might be adopted, all coming within the scope of the claims which follow.

What is claimed is as follows:

1. An automobile lighting system comprising service lamp filaments including head and tail-lamp filaments and a stop-light filament, black-out lamp filaments including driving and tail lamp filaments and a stop-light filament, a current source, a service lamp switch for controlling the service head and tail lamp filaments, a stop-light switch for controlling either the service stop-light filament or the black-out stop-light filament and having a movable contact connected with the source and a terminal contact adapted to be engaged by the movable contact, and a black-out lamp controlling switch having an "off" position providing a connection between the source and service lamp switch and a connection between the terminal contact of the stop-light switch and the service stop-light filament, and having an "on" position providing for interruption of the connection between the current source and service lamp switch and of the connection between said terminal contact of the stop light switch and the service stop-light filament and providing a connection between said terminal contact of the stop-light switch and the black-out stop-light filament.

2. An automobile lighting system comprising service lamp filaments including head-lamp, parking-lamp, tail-lamp and stop-light filaments; blackout lamp filaments including driving lamp, marker lamp, tail-lamp and stop-light filaments; a service lamp switch having an "off" position, a first "on" position for causing the parking and tail-lamp filaments to burn, and a second "on" position for causing the head-lamp and tail-lamp filaments to burn; a current source; a stop-light switch having a movable contact connected with the source and a terminal adapted to be engaged by the movable contact; and a black-out light switch having an "off" position providing a connection between the source and the service lamp switch and between the service stop-light and the other terminal of the stop-light switch, and having a first "on" position disconnecting the source from the service-lamp switch and connecting the source with the black-out tail and marker filaments and connecting said terminal of the stop-light switch

with the black-out stop-light filament, and having a second "on" position for making the connections and disconnections of the first "on" position and also for connecting the source with the black-out driving lamp.

3. An automobile lighting system comprising, service lamp filaments including head and tail-lamp filaments and a stop-light filament; black-out lamp filaments including driving and tail lamp filaments and a stop-light filament; a current source; a service lamp switch for controlling the service head and tail lamp filaments; a black-out switch having an "off" position and a plurality of "on" positions, said black-out switch including a first group of contacts and a second group of contacts, each group of contacts including a movable contact and stationary contacts; means for moving the movable contacts simultaneously; means for electrically connecting two of the stationary contacts of the second group with the source; conducting means for electrically connecting one of said connected stationary contacts with one of the stationary contacts of the first group, said connecting means including a stop-light switch for controlling connections either to the service stop-light filament or the black-out stop-light filament, said black-out switch when in its "off" position conductively connecting the service lamp switch with the source and providing an electrical connection whereby the stop-light switch will connect the service stop-light filament with the source when closed, and having "on" positions providing for the interruption of the connection between the current source and the service stop-light filament and providing electrical connections whereby the black-out driving and tail lamps will be connected automatically with the source and also providing a connection whereby the black-out stop-light filament can be connected with the source upon closing of the stop-light switch.

4. An automobile lighting system comprising, service lamp filaments for normal night driving and a stop-light lamp filament; auxiliary lamp filaments for black-out driving and a black-out stop-light lamp filament; a current source; a service lamp switch for controlling the service lamp filaments; a stop-light switch for controlling either the service-stop light filament or the black-out stop-light filament and having a movable contact and a stationary contact, one of said contacts being connected with the source; and a black-out lamp filament controlling switch having a connection with the source and having connections with the service lamp switch and the stop light switch, said last mentioned connections being arranged so that service lamp switch is connected with the source only when the black-out is in the "off" position and when the black-out switch is moved to an "on" position, said circuit connections from the source to the service lamp switch are interrupted and certain black-out filament connections are connected with the source, said certain connection being dependent upon the particular "on" position of the black-out switch.

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