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W. H. WOOD

HEADLIGHT BULB

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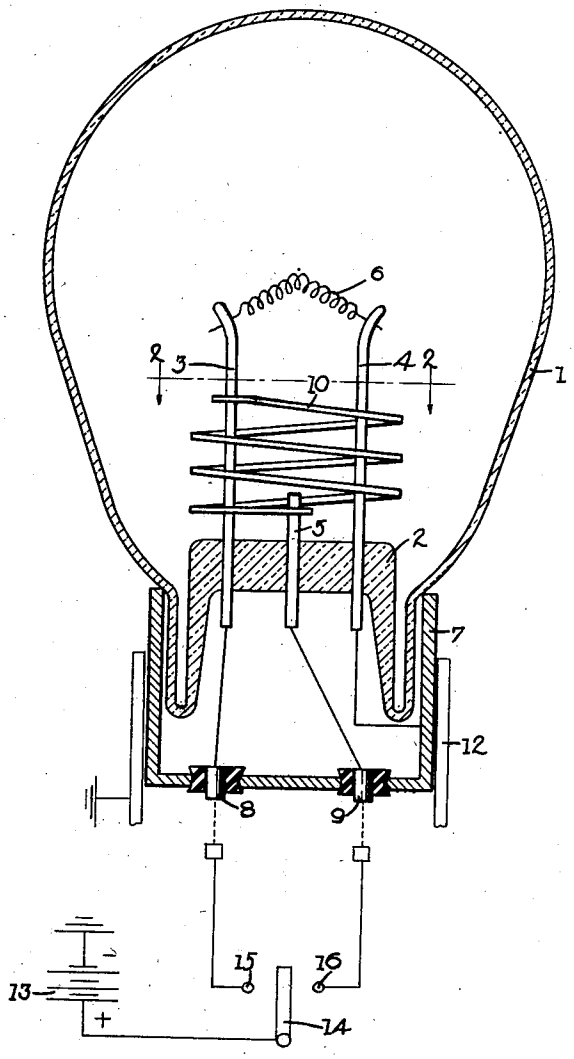


Fig. 1

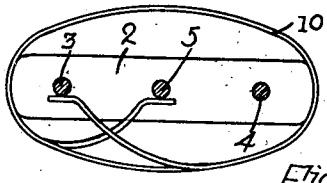


Fig. 2

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HEADLIGHT BULB.

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This invention relates to electric headlight bulbs and has for its object the provision of a new and improved dimming expedient. It is well known that the laws of many municipalities as well as a just consideration for the comfort of other people requires the employment of a less intense light inside cities and villages than is desirable when driving in the open country. The objects of my invention are the provision of a dimming expedient which shall be cheaper in cost and more reliable in operation than previous devices; the provision of a dimming lamp of single filament type which can be used in a double circuit system; the provision of a lamp bulb of this nature which can be made and sold more cheaply than other bulbs designed for this purpose and substituted for them without changing the equipment in other regards; while further objects will appear as the description proceeds.

In the drawing accompanying and forming a part of this application Fig. 1 illustrates a simple form of automobile headlight lamp together with a diagram of a common wiring arrangement with which the same may be employed; and Fig. 2 is a sectional view corresponding to the lines 2—2 of Fig. 1.

My improved lamp comprises the usual glass globe 1, closed at one end by the usual press-tube 2 in which are sealed three leading-in wires 3, 4, and 5, a luminous filament 6 of any suitable or desired shape and material being carried by the leading-in wires 3 and 4. Secured to the closed end of this globe is the metal base 7 provided with two contacts 8 and 9 insulated from the base and from each other. In the present embodiment I have shown the leading-in wire 4 as grounded to the base 7, the leading-in wire 3 as connected to the contact point 8, and the leading-in wire 5 connected to the contact point 9.

Connected to the leading-in wires 3 and 5 inside the lamp bulb is a wire 10, preferably of a material having rather high specific resistance so that it can be made of fairly substantial size and strength. Its size and length are so chosen, as coupled with its specific resistance, to limit the current when connected in series with the filament 6 to reduce the candle power thereof to the desired degree without itself becoming luminous. I prefer a length of manganin or constantin wire but any common successful resistance wire can be used which will not melt below a red heat. The resistance and carrying capacity of the wire depends upon the voltage of the circuit, the material, size, and candlepower of the main filament, and the candlepower desired after dimming. The ordinary 21 c. p., 6–8 volt headlight, for example requires a resistance not over about 1 ohm nor much under ½ ohm, which may be secured by using from about 6 to 15 centimeters of No. 30 gauge (B. & S.) constantin or manganin wires, spot welded to the leading-in wires. If other voltages, candlepowers, or resistance materials are used other sizes and lengths of wires must be employed. In any case the wire is so disposed as not to impede its introduction into the globe. Such wires can easily be looped around the leading-in wires as shown in Figs. 1 and 2. The large size of the resistance element prevents its becoming overheated even in a vacuum lamp.

Such a lamp is employed in the usual circuit shown diagrammatically in Fig. 1 comprising a socket 12 which is generally grounded to the frame of the machine, a battery 13 having its negative pole similarly grounded to the frame of the machine, and a suitable switch 14 of any desired construction connected to the positive pole of the battery and adapted to be turned selectively to the points 15 or 16 which are suitably connected to terminals in the socket engaged by the contacts 8 and 9 respectively. My improved lamp is susceptible of very cheap and ready manufacture owing to the fact that the resistance wire 10 is much cheaper than filament wire and can be located in place and spot welded to the leading-in wires without the necessity of accurate placing. The lamp is free from deterioration since this wire is preserved out of contact with the air and being strong and rugged is not subject to accidental breakage.

Having thus described my invention what I claim is:

1. In an automobile headlamp bulb, the combination with a globe and a filament therein, of two circuits including said filament, a coil of non-luminous resistance wire inside said globe constituting a part of one circuit, said coil having sufficient size and dissipating power to dim said filament with-

out itself becoming incandescent, and external connections for said circuits carried by the base of said globe.

2. In an automobile headlamp bulb, the combination with a glass globe and a metal base secured thereto, said base also having two contacts insulated from said base and from each other, of three leading-in wires sealed in said globe and connected, one to said base and one to each of said contacts, a coil of resistance wire located inside said globe and connected between said last named leading-in wires, and a light-emitting filament connected between one of said last named leading-in wires and said first named leading-in wire, said coil having sufficient size and dissipating power to dim said filament without itself becoming incandescent.

In testimony whereof I hereunto affix my signature.

WILLIAM H. WOOD.