United States Patent

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[73] Assignee **General Electric Company**

[54] **LAMP BASE AND SOCKET**
2 Claims, 5 Drawing Figs.

[52] **U.S. Cl.** **339/88,** 339/188
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[50] **Field of Search** ..... 339/88, 88 (C), 184, 184 (L), 185, 187, 188 (All), 189 (All), 199, 65—73, 60, 127, 176 (L)

[56] **References Cited**

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ABSTRACT: A special purpose electric lamp having a base of the bayonet type and a socket accommodating the base. A stop in the socket obstructs the insertion of a conventional bayonet lamp base into a locked position in the socket and the bayonet base of the special purpose lamp accommodates the stop in the locked position of the lamp in the socket.

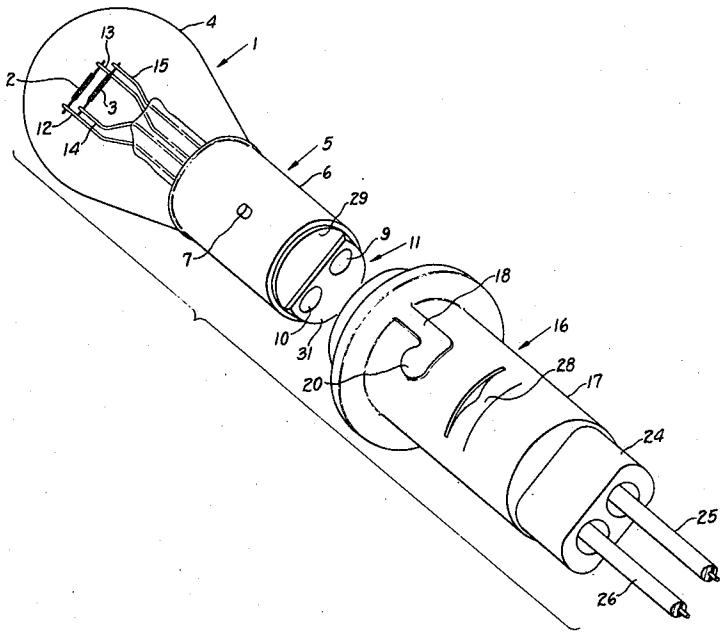


Fig. 1.

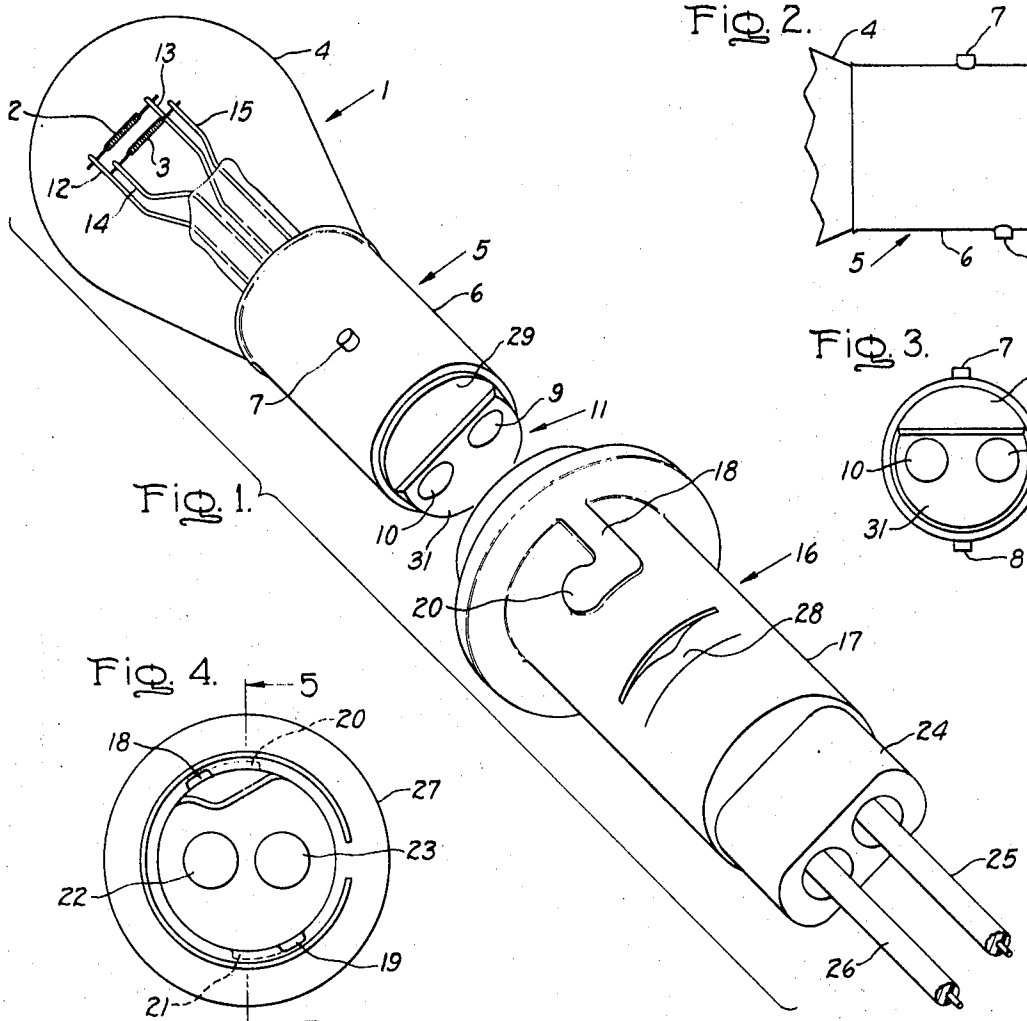
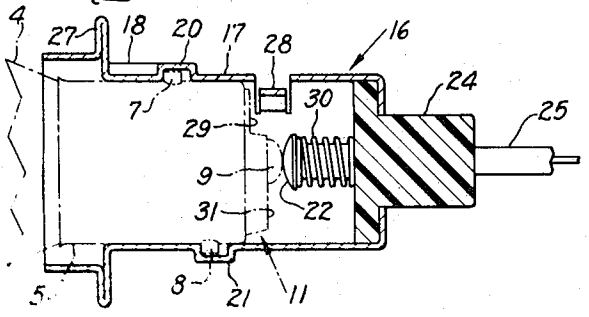


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.



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LAMP BASE AND SOCKET

The present invention relates to lighting equipment of the type in extensive use for vehicles, such as automobiles, and including electric lamps having bayonet-type bases and sockets for accommodating such bases.

Special purpose lamps such as turn signal, flasher and stop lamps as well as conventional lamps are provided with such bases. The special purpose lamps differ in operating characteristics from conventional lamps so that it is important for safety purposes to use only the special purpose lamps in the locations on the vehicle requiring such lamps.

The principal object of the invention is to provide a lighting unit including a special purpose lamp having a bayonet base and a socket of simple and effective structure to assure that only special purpose bayonet-based lamps are mounted in locations where such lamps are required. Another object of the invention is to provide such a bayonet base and socket which requires minimum changes in existing mass production of base-making and socket-making machines.

In accordance with these objects, the socket has a stop to obstruct the insertion of a conventional bayonet base into a locked position in the socket and the base of the special purpose lamp accommodates the stop in the locked position of the lamp in the socket.

In the drawing accompanying and forming part of this specification:

FIG. 1 is a perspective exploded view of an electric incandescent lamp and a socket therefor, the lamp base and the socket embodying the invention;

FIG. 2 is a side elevational view of the lamp base shown in FIG. 1;

FIG. 3 is an end view of the base shown in FIGS. 1 and 2;

FIG. 4 is an end view showing the interior of the socket; and

FIG. 5 is a sectional view of the socket along the line 5–5 of FIG. 4 with the base mounted therein shown in phantom.

Referring to FIGS. 1, 2 and 3 of the drawing, the special purpose lamp 1 shown is of a conventional two-filament type having a high-candlepower filament 2 and a low-candlepower filament 3 enclosed in the usual glass bulb 4. The base 5 attached to the bulb 4 is of the usual bayonet type except as described below and has a cylindrical metal shell contact 6 having two pins 7 and 8 projecting laterally from diametrically opposite points on the periphery thereof and disposed at different distances from the outer end of the base 5. The two end contacts 9 and 10 of the base are insulated from the shell 6 and from each other by the glass insulator 11. The pairs of leading-in wires 12, 13 and 14, 15 for the filaments 2 and 3, respectively, are so connected to the end contacts 9 and 10 and the shell contact 6 of the base that the filaments may be energized separately or together, all as well known in the art. The lamp is useful as either a tail and stop lamp or a park and turn signal lamp.

The socket 16 shown in FIGS. 1, 4 and 5 is of conventional structure except as described below and includes a metal shell contact 17 provided with slots 18 and 19 of different length

having offset portions 20 and 21 which accommodate the base pins 7 and 8, respectively, to lock the base in the socket with shell contact 6 of the base engaging the socket shell 17 and the base end contacts 9 and 10 engaging the spring-pressed contacts 22 and 23, respectively, of the socket as shown in FIG. 5. The socket contacts 22 and 23 are supported within the shell 17 by the organic plastic insulator 24 affixed to the shell and are electrically connected to the insulated conductors 25 and 26, respectively, in the usual manner, the socket shell usually being grounded when mounted by its flange 27 on a motor vehicle, for example.

Over the course of years, automatic, high-speed base-making and lamp-making machines have been developed by the lamp industry for the mass production of such bayonet-based lamps.

The base and socket structure shown in the drawing as the preferred embodiment of the invention include a stop 28 in the form of an integral strip on the peripheral wall of the socket shell 17 bent inwardly toward the socket contacts and a recess 29 in the form of a land in the end contact supporting insulator 11 of the base 5 which accommodates the stop 28 to the end that the base contacts 9 and 10 effectively engage the socket contacts 22 and 23 and compress the spring 30 of the socket contacts when the lamp is locked in the socket with the pins 7 and 8 engaging the offset parts of the slots, all as shown in FIG. 5 of the drawing. The insulator of the usual bayonet base is not provided with the recess 29 but on the contrary terminates an equal distance from the outer end of the base shell throughout its periphery. The part 31 of the insulator 11 (FIGS. 2 and 5) is typical of the distance between the outer end of the shell and the insulator of the usual bayonet base.

The stop 28 in the socket is so positioned with respect to the offset portions 20 and 21 of the socket slots 18 and 19 that it engages an insulator of the usual shape to obstruct the insertion of a lamp having a bayonet base provided with such an insulator into the socket a sufficient distance for the base pins to be locked within the offset portions of the socket slots. Thus a lamp provided with the usual bayonet base cannot be locked onto the socket and will be forced outwardly of the socket by the spring-pressed socket contacts on release of the inserted lamp from the hand. The lamp will then either fall out of the socket or fail to make effective engagement with the socket contacts.

I claim:

1. In a lighting unit including an electric lamp having a bayonet base and a socket adapted to receive the base, the socket having a stop comprising an internally extending protrusion on the socket shell disposed to obstruct the insertion of a conventional bayonet base into a locked position in the socket, and the base having a portion accommodating the stop in the locked position of the base in the socket and comprising a recessed part of the base insulator.

2. A lighting unit according to claim 1 wherein the socket stop is an inwardly bent peripheral portion of the socket shell.