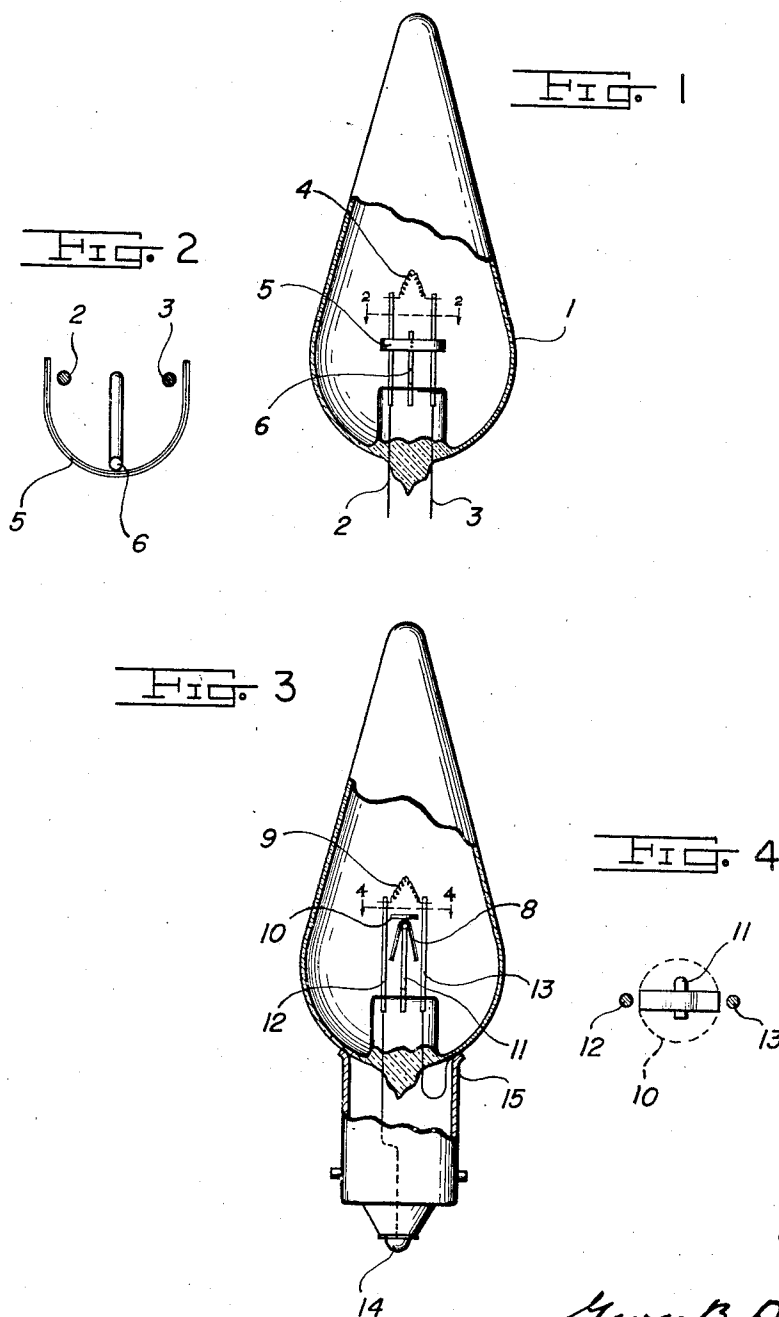


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G. B. DAVIS, JR
INCANDESCENT LAMP
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Inventor

George B. Davis, Jr.
Bernard E. Hawley
and Joseph A. Cornell
Attorneys

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INCANDESCENT LAMP

George B. Davis, Jr., Green Acres, Md.

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3 Claims. (Cl. 315—74)

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This invention relates to the class of illumination, and particularly to incandescent lamps.

More specifically the invention has reference to incandescent lamps of the miniature type designed for use in Christmas-tree lighting sets, although as will be appreciated as the description proceeds, the lamp of my invention is not limited to that particular use, but readily lends itself to use in any series-connected lamp circuit.

In accordance with my invention, the incandescent lamp is provided, as a departure from the conventional, with thermostatic means for shorting out the filament of the lamp in a manner to cause a flashing of that lamp and a consequent periodic fluctuation, without a complete interruption, in the flow of the current through the remaining lamps of the series whereby a twinkling as distinguished from a flashing effect is produced on the conventional lamps in the series circuit.

The lamp of my invention can be manufactured inexpensively, and when used in a series circuit will not shorten the life of the conventional lamps therein as do flashers of the type now known and used in such circuits or lighting sets.

The lamp of the present invention is an improvement over the flasher lamp disclosed in Patent No. 2,235,360 granted to me under date of March 18, 1941, and entitled "Thermoplastic flasher lamp," in that in the former the thermostatic strip is wholly supported by the dummy lead, and the arrangement is such that it permits use of a dummy lead of such strength as enables it to receive and absorb the full weight of the bimetallic strip and any jar and vibration incident to the operation of the lamp.

The invention, together with the stated and other objects as will readily present themselves, will be best understood from the following detailed description read in the light of the accompanying drawing in which are illustrated what are presently considered preferred embodiments of the invention, and wherein;

Figure 1 is a view partly in elevation and partly in section of the envelope or globe of a lamp, and illustrating one embodiment of the invention;

Figure 2 is a detail view taken substantially on the line 2—2 of Figure 1, and looking downwardly;

Figure 3 is a view partly in elevation and partly in section of a complete lamp and illustrating a second embodiment of the invention; and

Figure 4 is a detail view taken substantially on line 4—4 of Figure 3.

Referring now to the drawings in detail, and more particularly to Figures 1 and 2 thereof, it will be seen that in the therein illustrated embodi-

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ment of the invention, the lamp is constructed with a departure from the conventional by providing within the envelope or globe 1 thereof a dummy lead 6, and a bimetallic strip 5 which is supported by the lead 6 in operative position relative to the conventional leads 2 and 3 and in heat-responsive relation to the filament 4 of the incandescent lamp.

In this presently described form of the invention leads 2, 3 and 6 are arranged in substantially triangular relation, and the bimetallic strip 5 is substantially U-shape to extend from the dummy lead 6 in a manner to substantially straddle the conventional leads 2 and 3 as shown. Intermediate its ends the thermostrip 5 is spot welded or otherwise positively secured to its support or dummy lead 6.

When the lamp, as just described is in use, as by being employed in a series connected lamp circuit such as a Christmas-tree lighting set, the thermosensitive strip 5 bends or flexes when heated so that when the mentioned strip is affected by the heat developed by the flow of current through the lamp filament 4 the terminals of said strip move into contact with the leads 2 and 3 and the filament will be shorted or shunted out of the circuit. As the shunted lamp filament 4 cools, strip 5 expands or bends away from, and out of contact with, the leads 2 and 3 so that after a period of time, filament 4 will be again connected in series to the leads 2 and 3. Thus the lamp is caused to flash on and off by the intermittent complete interruption of the flow of current through the lamp filament.

As should be apparent from the foregoing, the flashing of the herein described lamp is effected without completely breaking the circuit through the other lamps in the series; the current flow through the lamps in the series being caused to merely fluctuate whereby as to these lamps a twinkling as distinguished from a flashing effect is produced thereon.

In the form of the invention shown in Figures 3 and 4, the dummy lead, therein indicated by the reference numeral 11, is so positioned with respect to the lamp leads 12 and 13 as to conveniently support the bimetallic strip, therein indicated by the reference numeral 8, intermediate the leads 12 and 13.

In the form of the invention now being described the thermo-sensitive strip 8 straddles the upper end of dummy lead 11 and is supported in such proximity to the lamp filament 9 as to be so influenced by the latter as to cause a relatively rapid flashing of the lamp. The rapidity of the

flashing of the lamp may be controlled either by the gauge of the thermo-sensitive strip, or by providing, as shown, a shielding screen or plate 10 spot-welded to the strip at its point of attachment to the dummy lead. Screen or plate 10 being thus interposed between thermo-strip 8 and the filament 9 will shield the strip 8 from direct radiations of the filament so that a less rapid heating of the strip will result when the shield is resorted to than when such shield is omitted.

Except as otherwise above set forth, the lamp of Figures 3 and 4 functions in the same manner as the lamp of Figures 1 and 2 when employed in a series connected circuit and hence further detailed description thereof is deemed to be unnecessary. It may, however, be here noted that with certain voltages it has been found advantageous to have the thermosensitive strip of my lamp so positioned with respect to the leads for the lamp filament that one end of the thermo-strip will come into contact with the adjacent lead in advance of, or prior to, the engagement of the opposite end of such strip with the lead adjacent thereto.

It will also be understood, and as shown in Figure 3, that the complete lamp structure will include a stem with which the filament leads will be in electrical connection as for example, at 14 and 15 respectively.

Various changes may be made in the invention within the scope of the claims hereto appended.

What I claim is:

1. In an incandescent lamp, a filament, leads to the filament, a thermo-sensitive strip arranged in proximity to the filament and adapted to flex into and out of bridging contact with the

leads, and a shield interposed between the filament and the thermo-sensitive strip.

2. An incandescent lamp for use in a series connected lamp circuit characterized by a substantially U-shaped thermo-sensitive strip supported wholly independently of the filament leads of the lamp and arranged and adapted to flex into and out of bridging contact with the filament leads below the filament in response to the heat from the latter to periodically shunt the current flow away from the filament and vary the flux of the current through the other lamps of the series without completely interrupting the flow of current therethrough.

3. An incandescent lamp constructed with a departure from the conventional by having embodied therein thermostatic means arranged and adapted to periodically shunt the current flow away from the lamp filament; said thermostatic means embodying a bimetallic strip for bridging contact with the filament leads and normally spaced from said leads, a shield interposed between the bimetallic strip and the lamp filament, and a single support common to said bimetallic strip and said shield.

GEORGE B. DAVIS, JR.

REFERENCES CITED

The following references are of record in the file of this patent:

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Number	Name	Date
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1,280,227	Houchin	Oct. 1, 1918
2,235,360	Davis, Jr.	Mar. 18, 1941