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A. W. FRANKLIN

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FLASHER PLUG

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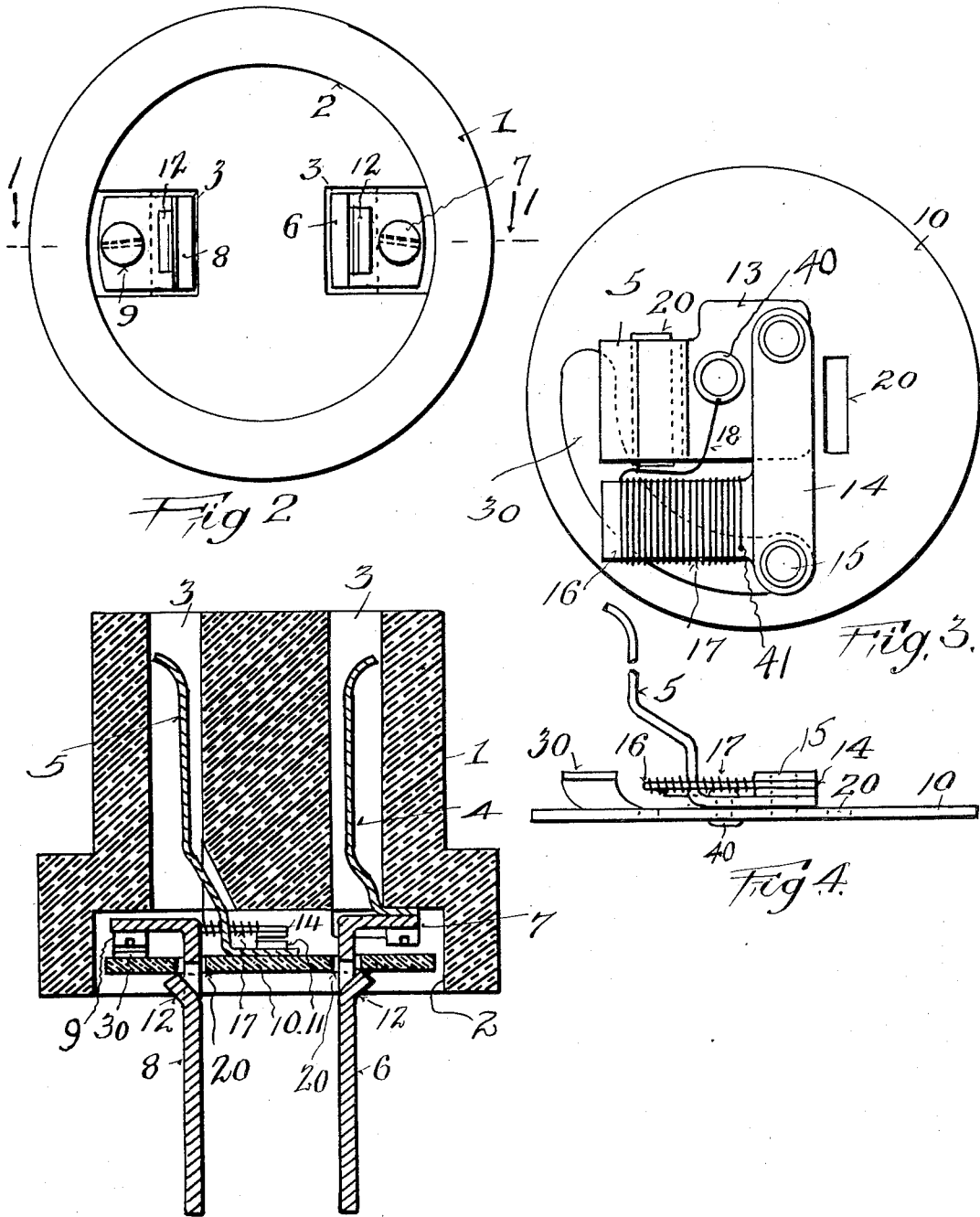


Fig. 1

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UNITED STATES PATENT OFFICE.

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FLASHER PLUG.

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This invention relates in general to electric flashers.

One of the objects of this invention involves a simple form of flasher plug which is adapted to automatically cut in and out resistance in a lamp circuit so as to alternately dim and brighten the lamp.

A further object of this invention involves the construction of a flasher plug which may be readily inserted between the lamp and the outlet from the source of current by a very simple operation.

A still further object of this invention involves the construction of a flasher of the above type which is very simple in construction, cheap to manufacture, and adapted for rapid assembly.

These and other objects as will appear from the following disclosure are secured by means of this invention.

This invention resides substantially in the combination, construction, arrangement and relative location of parts, all as will appear more fully hereinafter.

Figure 1 is a vertical cross-sectional view taken on the line 1—1 of Figure 2.

Figure 2 is a bottom plan view of the device with one portion removed.

Figure 3 is a top plan view of the operating mechanism removed from the plug, and

Figure 4 is a side elevational view of the construction in Figure 3.

For a detailed disclosure reference is now made to the drawings which have been given for purposes of illustration only. At 1 is shown the plug structure which may be of any suitable form provided at the bottom, which is somewhat enlarged, with a recess 2 extending longitudinally of the plug. On each side of the center line are two channels 3 in which are mounted the spring fingers 4 and 5. The spring finger 4 is attached to the plug body by means of a screw 7 which also holds the terminal 6 in place. A second terminal member 8 is provided and is secured to the plug body by means of the screw 9 so as to be spaced with respect to the terminal 6 and extending parallel thereto. An insulating disk 10 is provided with openings 20 so as to slide down over the terminals 6 and 8 and lie within the recess 2 as clearly shown in Figure 1. The insulating disk 10 is held in place within the recess by means of the tabs 12 which are struck up from the terminal fingers 6 and 8.

The spring finger 5 is provided with a right

angled projection 13 which is riveted as shown at 40 to the disk. An arm 14 constructed of bi-metal is mounted on a base so as to be secured to the disk 10 as shown at 15. The arm 14 consists of two different metals rigidly secured together to form the bi-metal element well known in any thermostatic device. Attached integrally to the arm 14 and extending at right angles thereto is the metallic wing 16 which is encircled by means of a resistance 17 which resistance is insulated therefrom in any well known manner. One end of this resistance 17 as shown at 18 is attached to the portion 13 of the spring finger 5 as is clearly apparent in Figure 3. The other end of this resistance is grounded on the wing 16 as shown at 41. At 30 is a spring contact arcuate in form as shown having one end secured under the spring arm 14 by means of the rivet or other suitable attaching means of the rivet or other suitable attaching means 15. The outer free end of the spring finger 30 is curved upwardly as shown in Figure 4. When the insulating disk 10 is slipped over the terminals 6 and 8 the spring finger 30 contacts with the screw 9.

In use the device is attached at the upper end of Figure 1 to the current source by merely pushing the plug onto the terminals of the current source so that they enter into the openings 3 and contact with the spring fingers 4 and 5. The lamp which is in any suitable socket may be pushed onto the spring fingers 6 and 7 and the device is then ready to operate. The current would flow through, for instance, spring finger 4, terminal 6, through the lamp, back to terminal 8, through screw 9, spring finger 30, through arm 14 and wing 16, to the resistance 17 at the point 41. The current then continues through the resistance 17, through wire 18 to the right angle portion 13 of spring finger 5, and thence back to the source. As a result the lamp is lighted by the current flowing through the resistance 17.

This resistance is so proportioned that the light will be dimmed to the proper degree. The current flowing through the resistance 17 gradually heats it and the wing 16. The heat is conducted from wing 16 to arm 14 which being of bi-metal will buckle when it becomes sufficiently hot and, as a result, the free end of arm 14 (see Figure 1) will contact with the contact 11 attached to the portion 13 of spring finger 5. As a result the current will then flow from spring finger 13 directly

through arm 14 to spring finger 5 because the resistance 17 is shunted out of the circuits. As a result the lamp will burn brightly and continue to do so until the bi-metal arm 14 is cooled sufficiently to move out of contact with the contact 11.

From the foregoing disclosure it will be apparent that I have devised a new and novel form of flashing device which is adapted for many uses and is not restricted merely to the flashing of electric lamps.

I am well aware that many changes in the details of construction and relative arrangement of parts will readily occur to those skilled in the art and I do not, therefore, desire to be limited except as required by my appended claims.

What I seek to secure by United States Letters Patent is:

1. In a flasher plug construction, the combination comprising a body member having two terminal members mounted thereon, a removable member supported by said terminal members, a contact finger supported on said removable member, a bi-metal arm also mounted on said removable member and a resistance unit attached to said bi-metal member one end of said resistance being connected to said contact finger and the other terminal being grounded on the bi-metal arm, and a spring finger connecting the bi-metal

arm with one of said terminal members whereby when the bi-metal arm is heated sufficiently to bend it into contact with the contact finger the resistance is short-circuited.

2. In a flasher plug construction, the combination comprising a supporting member having a recess, a contact member comprising two elements supported on said supporting member and in direct electrical communication, another contact member mounted on said supporting member, a removable insulating plate adapted to lie in said recess, a spring finger mounted on said plate, a bi-metal arm also mounted on said plate, a resistance unit attached to said bi-metal arm having one terminal attached to the spring finger and the other attached to the bi-metal arm and said contact member whereby the current flows directly from the spring finger to the contact member through the resistance under normal temperature conditions and when the bi-metal arm is heated sufficiently to bend it against the contact member the resistance is short-circuited so that the current flows directly from the spring finger to the contact member through the bi-metal arm.

In testimony whereof I have hereunto set my hand on this 28th day of April, A. D. 1928.

ALBERT W. FRANKLIN.