Dec. 19, 1933. O. HOFFERBERT 1,939,774

DIAL ILLUMINATING MEANS

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Fig. 1

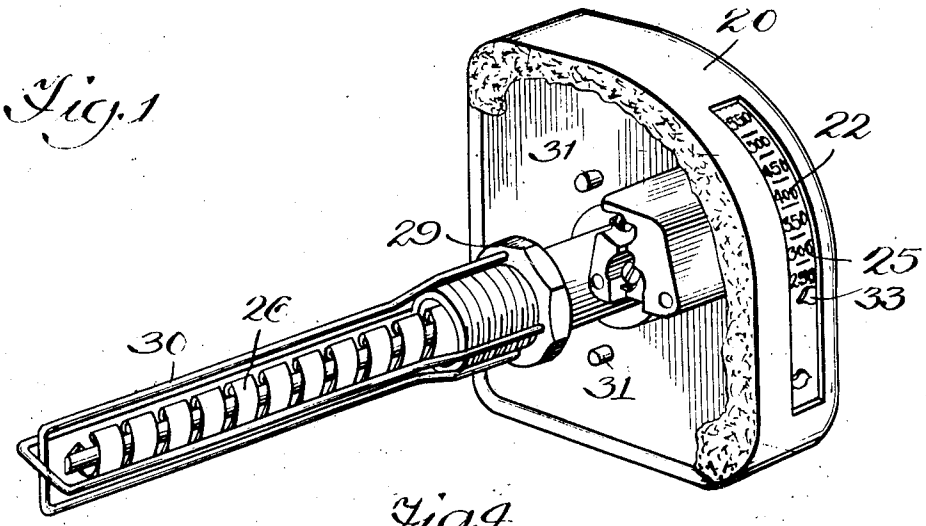


Fig. 4

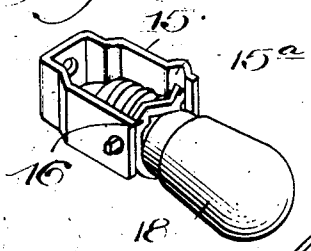


Fig. 3

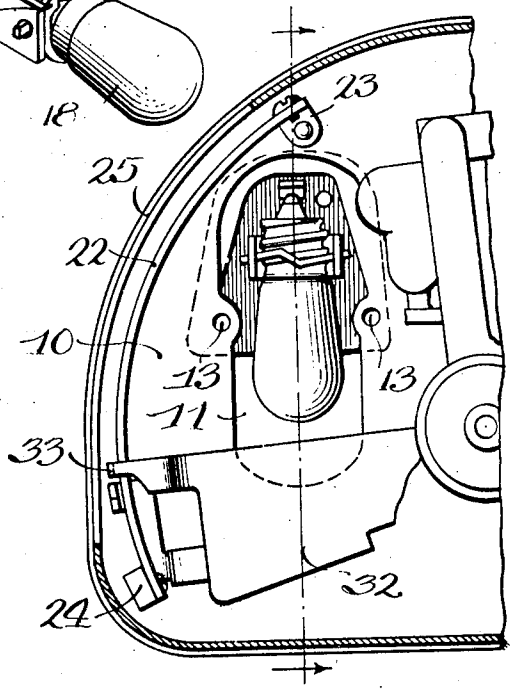
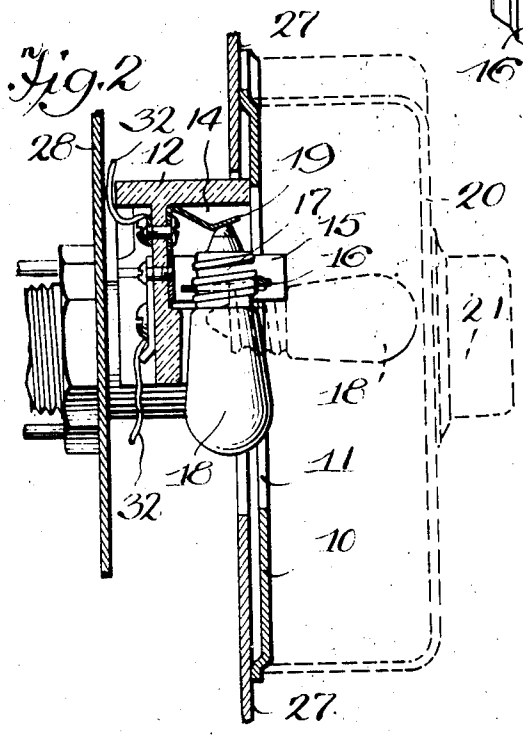


Fig. 2



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DIAL ILLUMINATING MEANS

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7 Claims. (Cl. 240—2.1)

This invention relates to improvements in dial illuminating means.

In oven temperature regulators of a type now on the market, a dial or scale is provided at one side of the instrument over which two pointers are movable, one manually by means of a knob for setting the mechanism for limiting the heat to a desired degree, while the other pointer indicates the temperature prevailing in the oven at any given time. The dial or scale is not always readily readable from a distance, as across a kitchen, due for instance to varying light conditions. The principal object of the present invention is to provide illuminating means for the dial or scale which will render the same more clearly readable and which, while illuminating the scale from the interior, will not obstruct the normal operation of the mechanism of the instrument.

While the regulator referred to is intended primarily for use on electric ovens or the like, the invention herein disclosed is not necessarily limited to such use. However, when so used, the lamp employed for illuminating the dial may be so placed in the circuit of the electric heating units of the oven that the lamp will act also as a tell tale and thus indicate that the current to the oven is turned on.

The regulator shown in the drawing described below is designed to be positioned against an outer wall of the oven with a temperature responsive member projecting through an opening in the inner and outer walls of the oven to the interior thereof. The supporting means for the lamp employed is secured to the rear wall of the regulator and is received in another recess formed in the outer wall of the oven. The regulator is provided with a removable cover and when removed the lamp and its socket can be tilted into the interior of the regulator through an arc of about 90°, in which position the lamp may be removed conveniently and a new lamp installed when required. By mounting the lamp as described, it has been found unnecessary to re-design or rearrange any of the operative parts of the regulator mechanism to accommodate the illuminating device. The tilting arrangement of the lamp renders it readily accessible upon removing only the cover of the regulator and without removing the entire instrument from the oven or other heated inclosure in conjunction with which it is used.

Other objects of the invention relate to various features of construction and arrangement which will be apparent from a consideration of the following specification and accompanying drawing wherein:

Figure 1 is a detached perspective view of a temperature regulator with an illuminating device embodying the present invention secured thereto.

Figure 2 is a vertical sectional view showing the regulator and device attached to a wall of a heated inclosure, such as an electric oven.

Figure 3 is a broken front elevation of the regulator with the cover removed.

Figure 4 is a perspective view of the lamp socket and bracket removed from its insulating receptacle.

In the drawing 10 indicates the rear wall of the regulator on which the operative parts of the mechanism are mounted. Inasmuch as the mechanism per se forms no part of the present invention, a description of the same will be omitted. The wall 10 is provided with an opening 11, across the rear of which an insulating member or receptacle 12 may be secured, as by screws 13. The receptacle 12 has a recess 14 which accommodates a metal conducting bracket 15 to the arms of which is pivoted a socket 16 in the form of a plate to threadedly receive the threaded base 17 of the electric lamp 18.

One arm of the bracket 15 preferably is provided with a depression 15^a into which an edge of the plate socket 16 seats when the lamp 18 is turned to the horizontal position, as illustrated in Figure 4. A spring contact arm 19 is secured in the recess 14 to a wall of the receptacle for contacting with the end terminal of the lamp when the latter is in the vertical position, as shown in full lines in Figure 2. When the lamp is in the horizontal position indicated by dotted lines in said figure, the lamp terminal is out of contact with the member 19 and hence the lamp circuit is open.

The current to the lamp may be supplied from any suitable source, but in instances where the device is used on an electric oven, the lamp is preferably arranged in a circuit controlled by the main switch so as to act as a tell-tale to indicate that current is flowing to the heating elements of the oven.

The regulator has a cover 20 which can be removed readily upon removal of the knob 21. When the cover is removed, the lamp 18 can be swung with the socket plate 16 to the dotted line position shown in Figure 2 in which position the lamp can be unscrewed from the socket and a new lamp installed when necessary.

As shown in Figure 3 the dial or scale 22 is supported by the brackets 23, 24 projecting forwardly from the back plate 10. When the cover is in position, the scale is visible through the slot or opening 25 in the side of the cover. The scale is preferably of translucent material so the opaque graduations and figures thereon will be clearly visible when the lamp 18, which is positioned one side and to the rear thereof, is lighted.

When the regulator is mounted on the wall of an oven, the heat responsive member 26 projects through the wall 27 and lining 28 into the interior, a nut 29, carrying the guard 30, clamping the device in place. Studs 31 are secured to the back plate 10 and project through openings in the wall 27 to hold the device against rotation. An additional recess is made in the oven wall to receive the insulating receptacle 12 as illustrated in Figure 2.

Current may flow from a suitable source through conductors 32 when the lamp is in the vertical position. Light from the lamp uniformly illuminates the dial 22 and renders it clearly readable. When the lamp is in the lighting position, it does not obstruct the operation of the mechanism of the regulator, such as the arm 32 which carries the heat selecting pointer 33. When the arm 32 is lowered to the position shown in Figure 3, space is available in the regulator, when the cover is removed, for tilting the lamp to horizontal position for removal of the same.

Although I have shown and described an embodiment of my invention designed particularly for use in conjunction with a temperature regulator for electric ovens, said regulator obviously may be used with ovens otherwise heated, or with heated enclosures of other types.

Various changes may be made in the relative arrangement and location of the parts and in the parts themselves. For example, the scale 22 being positioned inwardly of the curved side wall of the cover 20, as shown in Fig. 3, may, if desired, be opaque and be illuminated by light reflected to its graduated outer face through the openings between the edges thereof and the cover. Also the terms front, rear and side, are used herein in a relative sense as a matter of convenience in the description and not as limitations.

Various other changes may be made within the scope of the claims.

I claim:

1. The combination with an instrument having a casing, a removable front cover, a scale, and a rear wall having an aperture adjacent said scale, of an insulating supporting member positioned at the rear of said aperture, a pivoted lamp socket carried by said member for supporting a lamp in operative position at said aperture for illuminating said scale, said lamp and socket being movable upon the pivot of the latter to a position substantially normal to the operative position of said lamp for removal of said lamp through said casing when said cover is off.

2. The combination with a temperature regulating device having a casing at one end thereof, with an apertured rear wall and a removable cover, of an insulating member outside of said casing, but secured to said rear wall adjacent said aperture, a lamp socket mounted on said insulated member in position to hold a lamp therein to the rear of said aperture, whereby said lamp does not obstruct the interior of said casing but may be withdrawn or replaced through the same, when said cover is removed, a translucent scale in said casing illuminated by said lamp and a temperature indicating pointer movable relatively to said scale.

3. The combination with a temperature regulator adapted to be secured to the wall of an oven, said regulator comprising a casing having an apertured rear wall, a translucent scale and a removable cover, of an insulating member secured to said rear wall across said aperture, and a pivoted socket on said member for receiving a lamp for illuminating said scale, whereby said lamp can be swung through said aperture into accessible position for removal through said casing when the casing cover is removed.

4. The combination with a temperature regulator adapted to be secured to the wall of an oven, said regulator comprising a casing having an apertured rear wall, a translucent scale and a removable cover, of an insulating member secured to said rear wall across said aperture, a lamp socket pivotally mounted in a recess in said member for supporting a lamp in position for illuminating said scale, said socket being movable upon its pivot whereby said lamp can be swung transversely through said recess for removal or renewal of the same when said cover is removed.

5. The combination with a temperature regulator comprising a casing having an apertured rear wall, a translucent scale and a removable cover, of an insulating member secured to said rear wall across said aperture, a pivoted lamp socket member carried thereby, said socket member comprising a circuit contact for a lamp adapted to be inserted in said socket, a spring contact spaced from said pivoted member adapted to close the lamp circuit for illuminating said scale when said lamp is in vertical position, said lamp being movable pivotally through said aperture to open the lamp circuit and into position for convenient removal through said regulator when said cover is removed.

6. The combination with a temperature regulating device having a casing, a removable cover and a translucent scale, of an insulating member secured to the rear of said casing, a pivotal lamp socket carried thereby, and a circuit closing contact adapted to contact with a terminal of an electric lamp in said socket when the latter is in operative position for effecting the illumination of said scale, said lamp and socket being movable to render said lamp accessible when said casing cover is removed.

7. The combination with a temperature regulator adapted to be secured to the wall of an oven, said regulator comprising a supporting plate with an aperture therein, a removable cover having a front wall and a curved side wall with a slot therein, an insulating member at the rear of said plate and accessible through said aperture when said cover is removed, an incandescent lamp mounted on said insulating member and a curved scale mounted on said plate near said slot but spaced therefrom and from said plate to permit light from said lamp to be reflected onto the outer side of said scale, and a movable pointer adjacent said scale.

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