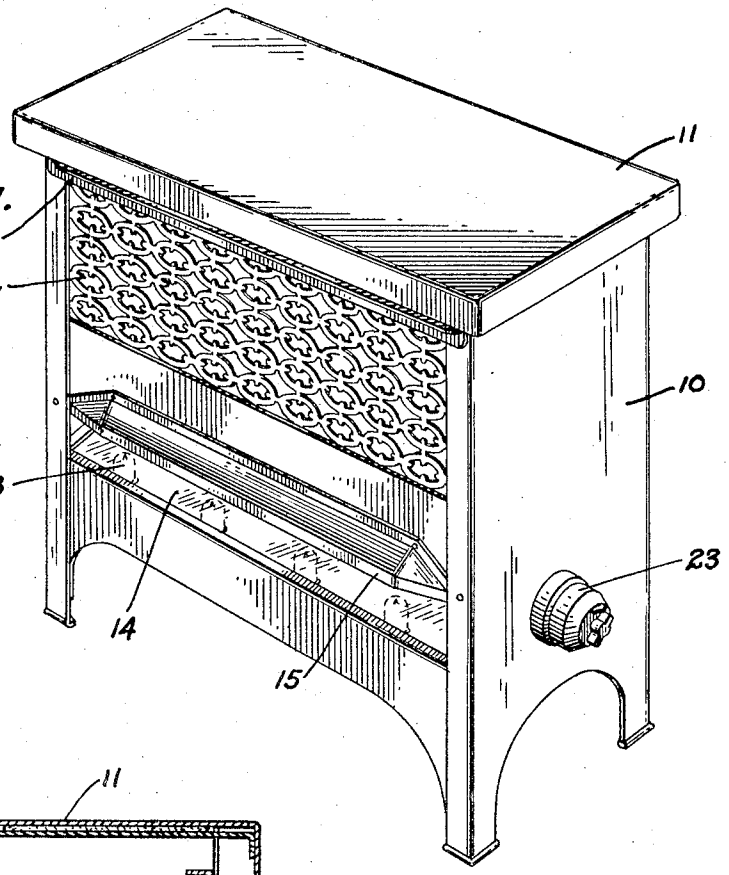
April 9, 1929. F. J. PIOCH 1,708,237

ELECTRIC HEATER

Filed May 28, 1928 2 Sheets-Sheet 1

Fig. 1.



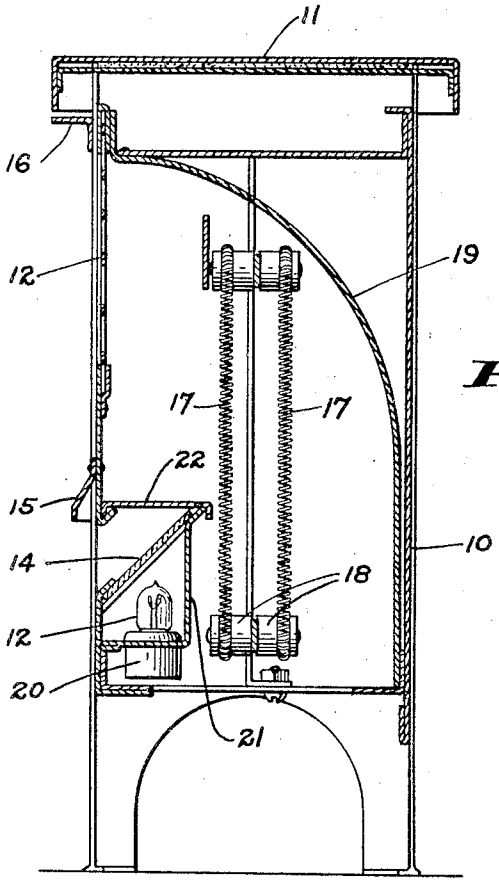


Fig. 2.

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ELECTRIC HEATER

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Fig. 3.

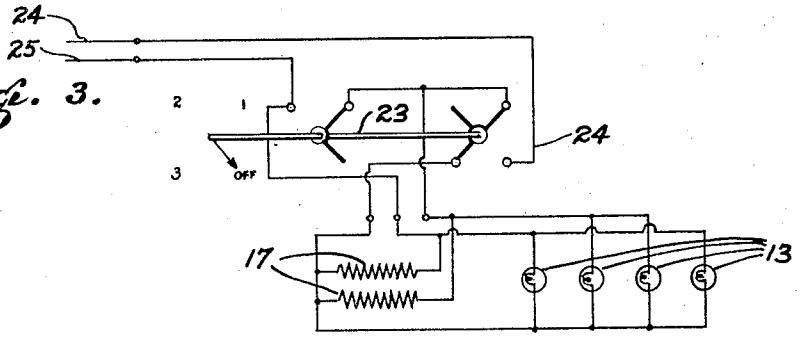


Fig. 4.

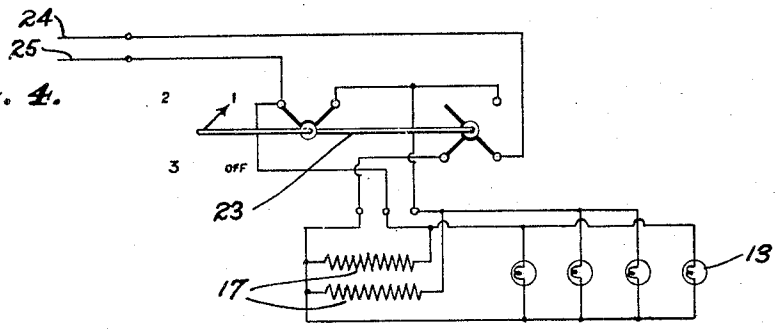


Fig. 5.

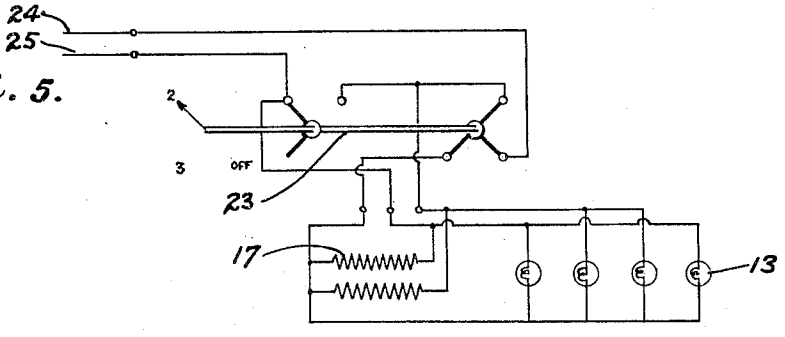
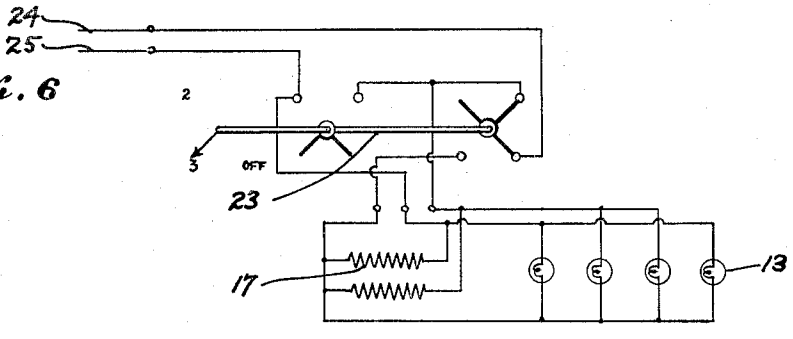


Fig. 6



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UNITED STATES PATENT OFFICE.

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ELECTRIC HEATER.

Application filed May 28, 1928. Serial No. 281,036.

My present invention relates to an electric heater and particularly to one of the resistance unit type.

An object of my invention is to provide a simple, improved and practical electric heater of the portable household type.

A further object of my invention is to provide a novel arrangement of heater units for a heater of the above type which can be connected in a plurality of different circuit arrangements whereby different degrees of heating may be produced.

A further object of my invention is to provide in combination with an electric resistance heater, illuminating means which will be energized and controlled simultaneously with the control of the heater units circuit so as to produce an illuminating effect corresponding to the heat radiated by the heater.

Another object of my invention is to provide in a heater of the above type an improved construction of housing which will prevent overheating of the top surface thereof so that the heater may be used as a tabouret or in an otherwise ornamental manner.

A further object of my invention is to provide by a novel arrangement within a heater of the above type, a mounting for the illuminating elements whereby the unsightly interior of the heater will not be illuminated thereby.

For a better understanding of my invention, reference should be had to the accompanying drawings, in which—

Figure 1 is a perspective view of a preferred type of heater embodying my invention,

Figure 2 is an elevation in section taken through the heater shown in Figure 1, and

Figures 3, 4, 5, and 6 show the manner of connecting the heating units and the illuminating means and the circuits of the different elements with the control switch respectively in the off, first, second, and third positions.

In Figure 1 of the drawing, my improved heater is shown as comprising a main upright body portion 10 having a cover or top portion 11. Along the front face of my heater I provide an open grillework 12 and immediately therebelow and visible through a suitable opening I mount illuminating lamps 13. The lamps 13 are arranged behind a window or glass 14 which is preferably red in color. Overhanging the window 14 there is shown an overhanging member 15. The heating units of my device, as is customary, are mounted centrally within the housing 10 so that the heat radiated thereby will circulate out through the grillework 12. Directly above the grillework 12 I show an outwardly projecting lip 16 which is spaced slightly below the bottom edge of the cover 11 so as to permit of a circulation of air between it and the cover. By referring to Figure 2, it will be seen that the cover 11 is spaced away from the upright body portion 10 so as to provide a free passageway for a circulation of air thereunder. This feature insures against the cover 11 becoming hot, as will be hereinafter pointed out. In this figure of the drawing I show helically wound resistance heater units 17 mounted upon insulating knobs 18 carried by horizontally extending supporting members. Directly back of the heater unit 17 I arrange a curved heat reflecting partition 19 which serves to direct the heat out through the grillework 12. The illuminating lamps 13 are shown as mounted in suitable receptacles 20 carried by a member 21 which forms a shielding and enclosing housing for the lamps. Cooperating with the member 21 and above the window glass 14 I show a cover member 22 so arranged that no illumination is projected from the lamps 13 into the compartment containing the heater units 17.

By the above construction and arrangement of elements I have produced an electric heating device which is not only practical from the heat point of view, but is also attractive and otherwise a great improvement over the prior art devices as it permits the use of non-glowing resistance units which are necessarily expensive and short-lived, and also embodies the novel feature of presenting by means of the illuminating arrangement shown and later described a visual indication of heat which it will be readily recognized is a desirable characteristic in connection with a heater of this type.

Mounted conveniently somewhere upon the housing 10, I provide a suitable multi-circuit control switch 23 by means of which the circuits of the heater units 17 and the lamps 13 may be changed to produce different degrees of heating and illumination, the changes in the circuits of both the illuminating and heating circuits being made si-

multaneously so that the lighting effect will correspond in degree to the heating effect produced by the combined action of the heater units. For a better understanding of this aspect of my invention reference should be had to Figures 3, 4, 5, and 6 of the drawings. These figures of the drawings are schematic and show only two individual heater units 17 and four lamps 13. The heater units 17 are shown as connected to the switch 23 so that they can be connected as determined by the position of the switch in parallel, one alone, or in series, as is customary in heating devices for the purpose of producing various degrees of heating. Four of the lamps 13 are shown arranged in two groups with respect to their electrical connections, the two extreme lamps being connected in one group and the two intermediate lamps in another group so that two distinct lamp circuits are formed, the arrangement of lamps being similar to that of the heater units 17 so that the groups may be connected either in parallel, one group alone, or the two groups in series, so that the illumination produced thereby may be varied in intensity in the same manner as the heating effect is varied in the heating units. The switch 23 may be of any desired construction. In the drawings it is illustrated schematically as one of the standard and well known three-way type. It is connected to suitable power lines 24 and 25 and to the heater and light units in the manner shown so that when it is operated to its various positions the heater circuits and the lamp circuits will be simultaneously changed to produce heating and lighting effects which will correspond in intensity. In Figure 3 the switch 23 is shown as in its off position where it will be observed that the power line 24 is disconnected completely from the heater and lamp circuits. In Figure 4 the switch is shown as in its first position, which position normally corresponds to the high heat connection of the heater unit. When the switch is in this position, the heater units 17 and the two groups of lamps 13 will be connected in parallel. This connection will impose a maximum voltage across each of the heater units and across the groups of lamps which will result in a maximum illumination by the lamps and an increase in current flow through the heater units. The heating effect of the units 17 will be further increased by reason of the reduction in the joint resistance thereof. In Figure 5 the switch 23 is shown as in its second position. When the switch is in this position only the upper heater unit 17 and the outer lamps will be energized. This connection will produce a medium heating condition in the heater units and will illuminate only the two extreme lamps 13. The illuminated lamps 13 in this case will be subjected to the full maximum voltage, but only two of them will be energized and in this manner the illumination will be limited to an intensity of substantially half its intensity upon the previously described connections. With reference to this feature of my invention, it will be noted that by arranging the lamps as shown the illumination produced during the period of connection shown in Figure 5 will be symmetrically distributed across the heater unit and, as a result, will produce a more pleasing effect than would be the case if the illuminated lamps were not symmetrically arranged in view. In Figure 6 the switch 23 is shown as in its third position. When the switch is in this position the heater units 17 and the two groups of lamps 13 will be connected in series with each other. This connection will produce a low heat radiating condition within the heater and with respect to the lamps it will have the voltage of the lamps in each group so that their illumination will, as a result, be considerably reduced. With reference to the illumination produced by this connection, it is pointed out that the lamps operating at half voltage, as is here the case, do not light up to their full intensity, but rather glow so that in spite of the fact that they are all energized, the illumination produced thereby is less than is the case where only two are lit on full voltage.

From the above it will be seen that I have produced a novel arrangement of heater units and glow or illumination means wherein by a simple manipulation of the control switch a physical heating effect and a visual illuminating effect can be simultaneously controlled in a novel manner. The operation of my invention will be readily understood from the above description and it is therefore thought that a further discussion in this respect is unnecessary.

While I have shown the preferred form of my invention as now known to me, it is to be understood that various changes may be made in its construction without departing from the spirit of the invention as defined in the appended claims.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In an electric heater, the combination of a plurality of resistance heater units adapted to be connected in series or parallel circuit, a plurality of illuminating lamps adapted to be connected in series or parallel circuit, and a switch for simultaneously changing the circuits of said resistance units and said lamp whereby the illumination produced by said lamp will correspond with the heat produced by said heater units.

2. In an electric heater, the combination

of a plurality of independent resistance heater units, means for selectively connecting said units independently in multiple or in series by interchanging the connections of said units to produce different degrees of heating, and a plurality of lighting units connected to the circuits of said units adapted to produce an intensity of illumination corresponding to the heat produced by said heater units.

3. In an electric heater, the combination of an enclosing housing having a heater compartment and an illumination compartment, resistance heater units in said heater compartment and illuminating units in said illumination compartment, and means for simultaneously controlling the circuits of said heater units and said illuminating units whereby the latter will produce an illumination corresponding to the heat radiated by said heater units.

4. In an electric heater, the combination of an enclosing compartment having heater units therein, a grillework in one side thereof for the exit of heat radiated by said heater units when energized, a curved reflector adjacent and behind said grillework for directing the heat therethrough, a flat top for said enclosing compartment having overhanging edges, and a flange outside of said grillework forming a continuation of said curved reflector for deflecting the radiated heat beyond the overhanging edges of said top.

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