May 9, 1950 L. C. RANKIN 2,506,683

DISPLAY SIGN

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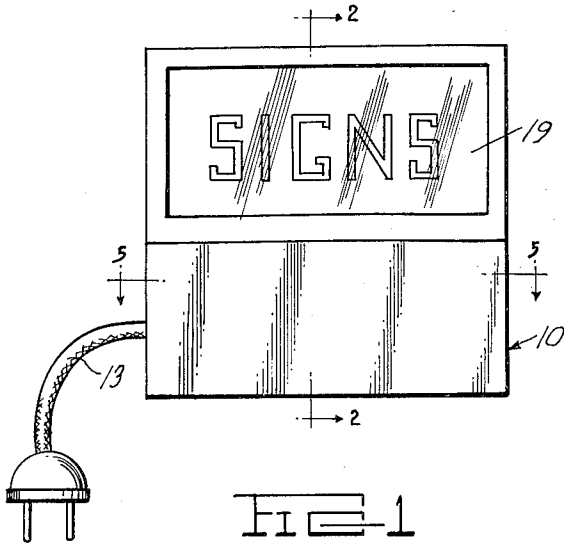


FIG 1

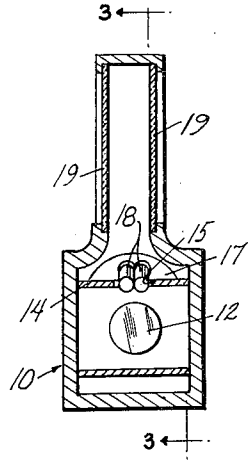


FIG 2

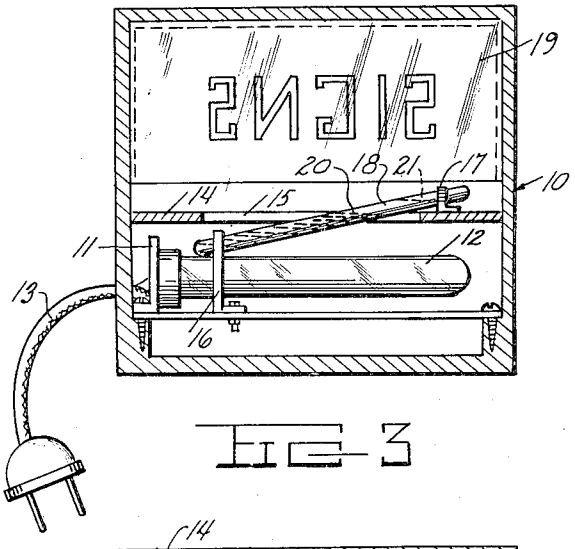


FIG 3

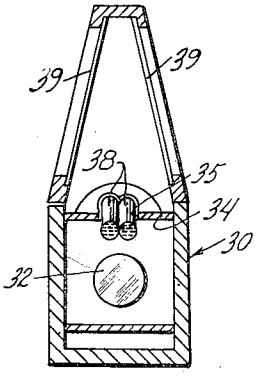


FIG 4

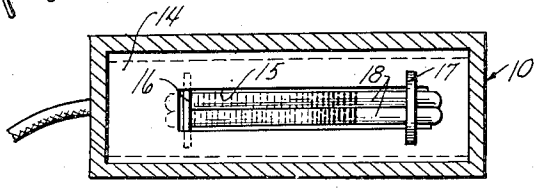


FIG 5

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DISPLAY SIGN

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2 Claims. (Cl. 40—130)

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My invention relates to display signs, and more particularly to illuminated display signs, together with methods and means for illuminating such signs.

With the foregoing in view, it is an object of my invention to provide a novel display sign and/or a novel method for illuminating the same with variegated light rays.

A further object is to provide a novel method for variegating light rays and/or novel means for variegating light rays.

Other objects and advantages reside in the particular structure of the invention, combination and arrangement of the several parts thereof, and will be readily understood by those skilled in the art upon reference to the attached drawing in connection with the following specification, wherein the invention is shown, described and claimed by way of an example.

In the drawing:

Figure 1 is a front view of one form of the display sign according to the invention;

Figure 2 is a transverse vertical sectional view taken substantially on the plane of the line 2—2 of Figure 1;

Figure 3 is a longitudinal vertical sectional view taken substantially on the planes of the lines 3—3 of Figure 2;

Figure 4 is a view like Figure 2, but showing a modified form of the invention;

Figure 5 is a horizontal sectional view taken substantially on the plane of the line 5—5 of Figure 1.

Referring specifically to the drawing, wherein like reference characters have been used throughout the several views to designate like parts, and referring at first to the form of the invention illustrated in Figures 1, 2, 3 and 5, 10 designates generally any suitable housing including any suitable bracket means adjacent the bottom thereof mounting any suitable source of light, such as the electric light bulb 12 which is supplied with electric current by any suitable extension cord 13 extending through one end wall of the housing. A partition 14 overlies the bulb 12. The partition 14 is formed with a restricted opening, such as the slot 15 therein, to permit the passage of light rays therethrough from the light 12. In this connection, it is understood that the housing 10 and the partition 14 are of opaque material. A lower bracket 16 and an upper bracket 17, the latter being atop the partition 14 beyond one end of the slot 15, support an upwardly-inclined pair of sealed glass tubes 18. While two tubes 18 have been shown, it is

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obvious that a single tube or similar body of liquid, which is at least translucent and which may be transparent, may be positioned across the restricted opening or slot 15 in the partition 14.

As shown, the tubes 18 are partially filled with a volatile liquid which normally extends to the level indicated by the reference character 20. However, when the liquid in the tubes is heated, it expands to the point indicated by the broken line 21, Figure 3, and a constant stream of bubbles passes from the bottom of the tubes to the space above the liquid level 21. When so expanded, the liquid extends substantially the entire length of the slot 15, whereby to provide a constantly agitated liquid as long as the light 12 is illuminated. In this connection, it is understood that heat from the bulb 12 is sufficient to expand the liquid in the tubes, as aforesaid, and to create the stream of bubbles.

I have found that when light rays are passed through a constantly agitated body of translucent liquid, a variegated ray pattern is provided in the rays after their passage through such liquid. With the foregoing in view, I have provided any suitable display sign or signs 19, 19 above the tubes 18, whereby to be illuminated by light rays of variegated quality passing through the tubes.

While I have shown the agitation as being achieved by means of heat from the light bulb, it is obvious that a heating element could be enclosed in the tubes 18 to create the bubbles and the expansion of the liquid, that the liquid in the tubes could be agitated by shaking the tubes by any mechanical means, not shown, or that the bubbles and agitation could be created by circulating liquid through the tubes. In this case, it is understood that the tubes be in the form of a closed hydraulic circuit. Obviously, other ways of agitating the liquid constantly will occur to those skilled in the art.

Likewise, the particular sign shown in Figures 1, 2, 3 and 5 is an illustration whereby the signs 19 are illuminated more or less indirectly by the light rays from the tubes. In the form shown in Figure 4, the casing 30 includes a source of light 32, a pair of tubes 38 disposed across a slot or other restricted opening 35 in a partition 34. In this form of the invention, the sign or signs 39 are inclined so as to be converging, whereby they are more nearly disposed in the direct path of the variegated light rays passing through the tubes 38 from the light source 32. Obviously, other forms of signs will occur to those skilled in the art, whereby the illustration and herein-

above description are to be considered illustrative rather than limitative.

Thus, while I have shown and described what is now thought to be a preferred form of the invention, it is to be understood that the same is susceptible of other forms and expressions and other methods of operation. Therefore, I do not limit myself to the foregoing-described apparatus and methods, except as hereinafter claimed.

I claim:

1. A display device, comprising an opaque casing, a light bulb mounted within the casing, an opaque panel mounted within the casing above the light bulb and having an opening, a substantially transparent container mounted within the casing and extending substantially across the opening and disposed near the light bulb to be heated thereby, the container being partially filled with a volatile liquid which when heated by the light bulb will bubble constantly to variegate the light rays from the bulb which pass through the liquid, and a display sign carried by the housing above the opaque panel to be illuminated by the variegated light rays.

2. A display device, comprising a substantially opaque casing, a light bulb mounted within the casing, a substantially opaque panel mounted within the casing near and above the light bulb and having an elongated opening adjacent to the

light bulb, a substantially transparent elongated tube mounted within the casing and inclined with respect to the panel, the tube extending longitudinally of the elongated opening and substantially covering the same with respect to light rays coming from the bulb, the lower end of the tube substantially contacting the light bulb to be heated thereby, the tube containing a volatile liquid which when heated rises in the inclined tube to substantially completely cover the elongated opening, the heated liquid bubbling to variegate the light rays passing through it, and a display panel mounted above the opaque panel and tube to be illuminated by the variegated light rays.

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