Oct. 9, 1928. 1,687,106

F. B. RAE

ILLUMINATED DISPLAY SIGN

Filed March 30, 1926

Fig. 1.

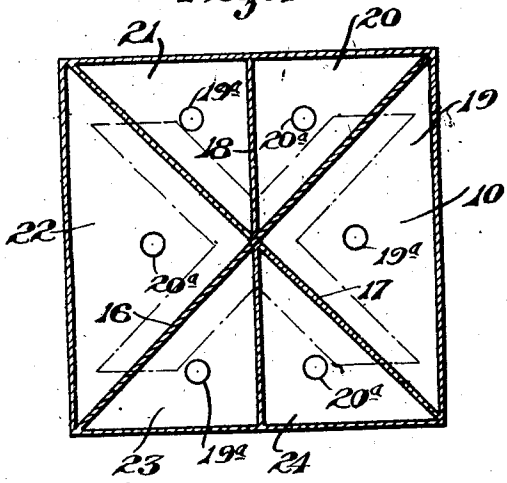
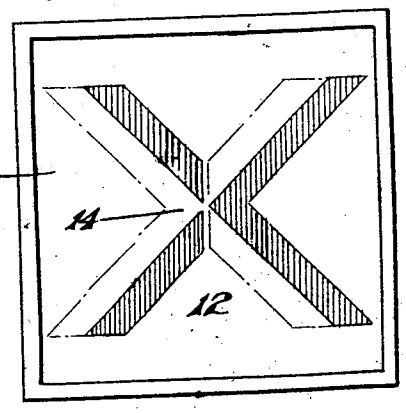


Fig. 2.



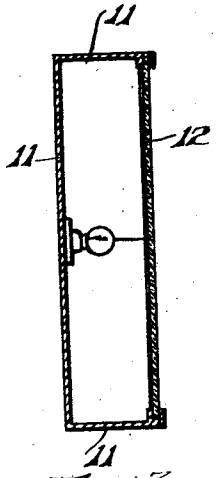


Fig. 3.

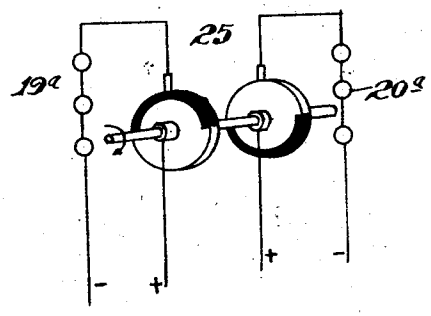


Fig. 4.

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Patented Oct. 9, 1928. 1,687,106

UNITED STATES PATENT OFFICE.

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ILLUMINATED DISPLAY SIGN.

Application filed March 30, 1926. Serial No. 98,437.

This invention relates to illuminated display signs for advertising and attraction purposes.

It is the principal object of the present invention to provide an improved illuminated display sign which is so constructed that when in operation the characters or figures being displayed thereby create the illusion that they are in motion, thereby rendering the sign very effective for advertising or attraction purposes.

In carrying out this object I arrange each figure or character to be illuminated into light and shadow zones each of which include a sufficient portion of figure or character so as to fully outline it when displayed independently of the other zone. The zones are alternately illuminated in comparatively rapid succession which creates the visual impression that the character or figure is in motion.

One form which the invention may assume is exemplified in the following description and illustrated by way of example in the accompanying drawings, in which:

Fig. 1 is a view of the device with the display plate removed showing the manner in which the lighting effect is obtained.

Fig. 2 is a front elevation of the sign showing the relative positions of the zones of the figure illustrated as an example.

Fig. 3 is a transverse section through the sign disclosing its construction.

Fig. 4 is a diagrammatic view showing one method of illuminating the zones alternately.

Referring more particularly to the accompanying drawings, 10 indicates a casing having opaque back and end walls 11, and a display plate 12. This display plate is supported at its marginal edges by the end walls of the casing at a spaced distance from the back plate 11 in parallelism therewith. Formed on the display plate 12 is a figure or character 14, which is of translucent material so that illumination interiorly of the casing will illuminate it. The background surrounding the figure or character is opaque.

Dividing the interior of the casing 10 into compartments are a plurality of partitions 15 which extend between adjacent surfaces of the back wall 11 and plate 12 at right angles to the plane surfaces of these members. Two of these partitions or those indicated at 16 and 17 extend diagonally of the casing, while the other, indicated at 18, extends vertically.

In the present instance the character on the face plate is the letter X. It will be noticed that the diagonal partitions 16 and 17 extend exactly through the center of the legs of the X, while the vertical partition 18 intersects the letter exactly at its center. These partitions 16, 17 and 18 divide the interior of the compartment into six light-proof compartments 19, 20, 21, 22, 23 and 24. The compartments 19, 21 and 23 are illuminated by light bulbs 19^a which are in the same circuit and are adapted to be illuminated in unison. The compartments 20, 22 and 24 are each fitted with an electric bulb 20^a, all of which are in the same circuit and adapted to be illuminated in unison.

It will be noticed from Fig. 1 that the illumination in each compartment controls the illumination of a certain portion of the letter arranged on the display plate 12. In other words, the compartment 19 illuminates one-half of the right-hand V portion of the letter, while the compartments 21 and 23 illuminate one-half of the left hand V portion of the letter. Likewise, the compartment 22 controls the illumination of the other half of the left-hand V portion of the letter, while the compartments 20 and 24 control the illumination of the remaining portion of the right-hand V portion of the letter.

It will be noticed also that the portions of the letter controlled by the compartments 20, 22 and 24 are at the left of those portions controlled by the compartments 19, 21 and 23. Thus, in effect, dividing the letter into a light and a shadow zone. One zone being that portion of the letter controlled by the compartments 19, 21 and 23, the other zone being that controlled by the compartments 20, 22 and 24.

Each zone includes sufficient of the letter to form a perfect X when illuminated independently of the other, and in effect the zones are relatively disposed side by side, forming in fact two interwoven letters X's.

As before stated the illuminating means in the various compartments is so arranged that the compartments of each zone will be illuminated in unison.

Reference being had to the diagram 25 indicates a control member so interposed in the circuits of the lights 19^a and 20^a that these sets of lights will be alternately illuminated in succession, thus illuminating the light and shadow zones of the letter alternately and in comparatively rapid succession. When they are alternately illuminated a visual illusion will be created that the letter is in motion.

It is obvious that the display plate can be

arranged on both sides of the sign or that the sign can be arranged other than vertically as disclosed. Likewise, the invention is applicable to any letter of the alphabet or the figures and characters of any description.

While in the present instance the letter is shown as capable of giving the impression of sidewise movement, by rearranging the lighting, movement other than sidewise may be imparted to the letter.

A sign constructed according to my present invention is applicable for use in advertising and display signs and also for use in other signs such as warning signs used on public highways for various purposes in directing traffic.

While I have shown but one letter in the present instance it is to be understood that they may be used in multiple and that the letters of one sign may be given such a lighting effect that adjacent letters will give the appearance of motion in different directions.

While I have shown the preferred form of my invention, it is to be understood that various changes in its construction may be made by those skilled in the art 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. An illuminated display sign comprising an opaque display plate having a translucent indicium formed thereon, said indicium being divided into zones each completely forming the indicium when illuminated independently, separate illuminating means at one side of the plate for each of said zones, and means for illuminating said illuminating means alternately to give the indicium the appearance of being in motion.

2. An illuminated display sign comprising a display plate having an indicium of translucent material formed thereon, said indicium being divided into two zones, each zone being adapted to completely outline the indicium when illuminated independently, and means for alternately illuminating said zones in comparatively rapid succession to create the visual impression that said indicium is in motion.

3. An illuminated display sign comprising a casing having an opaque display plate, an indicium formed on said display plate and being translucent, means within the casing dividing said indicium into zones relatively disposed side by side, each zone being adapted to completely block out the indicium when illuminated independently, and means disposed within the casing adapted to alternately illuminate said zones in comparatively rapid succession.

4. An illuminated display sign comprising a casing having a display plate, an indicium formed on said display plate of translucent material, partitions within the casing dividing said indicium into zones relatively disposed side by side and each capable of completely blocking out the indicium when being illuminated independently, and illuminating means disposed within the casing and operative to alternately illuminate said zones to create the visual impression that said indicium is in motion.

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