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A. C. SKELSEY

2,137,360

ILLUMINATED ADVERTISING SIGN

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2 Sheets-Sheet 2

FIG. 4.

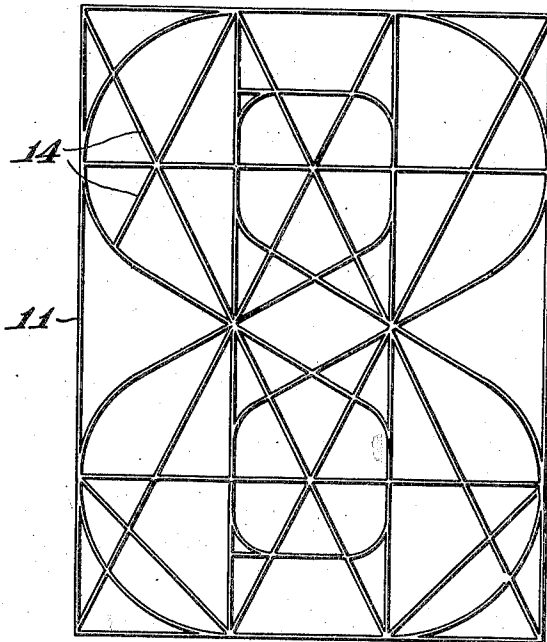


FIG. 5.

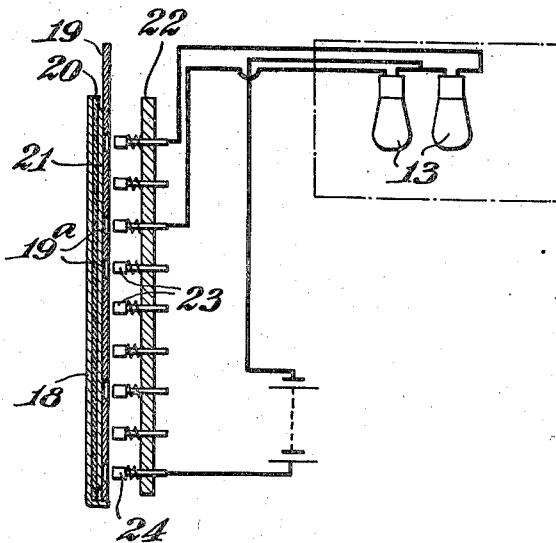
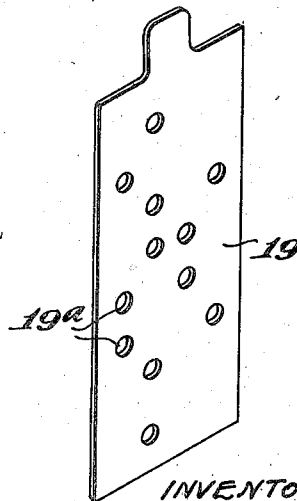


FIG. 6.



INVENTOR.

A. C. SKELSEY

By *W. P. Willebrandt* Atty

UNITED STATES PATENT OFFICE

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ILLUMINATED ADVERTISING SIGN

Alfred Charles Skelsey, London, England

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2 Claims. (Cl. 40—130)

This invention relates to illuminated advertising signs composed of units which are constructed and designed to enable any required character, such as a letter of the alphabet or a numeral to be depicted under the control of switch means located at a remote position, whereby any desired message or sign can be portrayed by providing a sufficient number of the said units to compose the sign. The invention concerns sign units of the type incorporating a character-defining frame provided with divisions which separate the frame into sections, any selected combination of which can be used in forming a character, and a plurality of lamps suitably arranged to illuminate the said sections and adapted to be switched on in selected combinations. Signs of this type are of special value for erection in positions where difficulty would be experienced in erecting and changing the sign units themselves, especially in cases where frequent change is required.

The present invention provides improvements in a sign of the foregoing type and more particularly aims at reducing to a minimum the number of lamps required to form a whole range of characters; further objects being to ensure, as far as possible, uniform intensity of illumination throughout the displayed character and to avoid the production of dark lines or spots where the frame sections meet one another so that the lighting of the character is continuous and even throughout.

According to the invention, an advertising sign of the type set forth is characterized in that some of the lamps are positioned immediately behind divisions of the character-defining frame so as to be common each to two or more character-forming sections of the frame, whilst other lamps are individual to specified sections of the frame.

In order that the invention may be readily understood, reference is directed to the accompanying drawings illustrating, by way of example, practical forms of sign units in accordance therewith, and wherein—

Figure 1 is a face view of a unit according to one design, from which the front glass has been removed.

Figure 2 is a sectional view of the sign shown in Figure 1, on line II—II.

Figure 3 is a section on line III—III, showing the construction of the light-controlling chamber, the positions of the light-emission openings being indicated by dot-and-dash line.

Figure 4 shows a face view of a character-

defining frame of modified design that may be employed.

Figure 5 is a diagrammatic view showing a form of control switch that may be employed and the manner of wiring the lamps when such a switch is used; and,

Figure 6 is a perspective view of one key plate of a set and pertaining to a specified character.

Referring to the drawings, the sign unit comprises a rectangular metal box-like casing 7 having a back plate 8 and diffusing and coloured front glasses 9. Within the casing there is provided a frame-like unit 10 which preferably is inserted from the front of said casing and readily detachable therefrom.

The said frame 10 comprises a front section 11 in the form of a reticulated frame and this section constitutes a character-defining section and is hereinafter referred to as such. The rear section 12 of the frame 10 also is in the form of a reticulated frame and constitutes a light-controlling chamber as hereinafter explained; it is hereinafter referred to by that term.

Upon the back plate 8 are mounted a plurality of lamps 13 which are arranged to enter the compartments of the light-controlling chamber 12 and which have predetermined positions in relation to the divisions of the character-defining frame as hereinafter explained.

The character-defining section 11 of frame 10 incorporates a number of division strips 14 which are suitably arranged in any predetermined manner to form, between two substantially parallel strips, a character-defining channel. As shown in each of the two patterns (Figures 1 and 4) these channels include marginal channels which extend around the outline of the sign and other channels which intersect one another at the centre of the sign.

It will be understood that whatever the design of the character-defining section 11 of frame 10, there will be a number of points where strips thereof intersect other strips. This necessarily results in the formation of a number of small compartments. To provide each of these small compartments with its own lamp would necessitate the employment of a large number of lamps and complicated switching arrangements. The invention overcomes this difficulty by arranging that some of the lamps are common each to two or more character-forming sections of the frame. For example, the lamps 13a are common each to three or four different sections. By arranging these lamps at the positions of intersection of the strips, the

light emitted by such a lamp is able to illuminate each of the adjacent sections with consequent economy in lighting consumption. Further, this distribution of the light obviates the production of dark regions in the locality of the points of intersection thereby giving continuous character formation. Other lamps such as 13b are arranged to illuminate two sections at positions other than those of intersection and will be switched only when both sections are to be used. If not switched on, then certain of said adjoining sections can be illuminated independently of others.

To permit the lamps to be arranged in the above way, they are mounted wholly behind the plane of the character-defining section 11 of frame 10, and those which are to illuminate two or more frame sections each are disposed immediately behind a division strip of the frame 11, e. g. the lamps 13a and 13b shown in Figure 2. Other lamps are individual to sections of the character-defining frame.

The divisions of the light-controlling chamber 12 serve to prevent the light rays from the lamps passing to sections of the frame 11 other than those which they are intended to illuminate.

In order further to control the light entering the character-defining frame 11, the unit 10 is fitted with a plate 15 where the character-defining section 11 meets the light-controlling chamber 12, said plate being formed with apertures 16 through which the light passes into the character-defining section. Said plate can be arranged to obscure parts of the lamps as shown at 17.

The lamps can be controlled according to required permutation by switch means of any suitable form which can be operated either manually, mechanically or otherwise and can be situated at any convenient remote position.

One example of a manual switch which I may employ is shown in Figure 5 and comprises a holder 18 adapted to receive as a sliding fit any selected one of a set of insulator key plates 19, the inside face of the member 18 being fitted with an insulator plate 20 to which is attached a metal circuit-closing plate 21 having its edges set back. A base member 22 of insulating material is fitted with a plurality of spring-pressed plungers 23 which are electrically connected to the various lamps, and a similar live plunger 24. Any suitable provision is made to advance the holder 18 towards said plungers, with the result that those plungers which coincide with holes 19a in the selected key plate 19 will pass through said holes and come into contact with the circuit-closing plate 21. The permutation of holes in a key plate will depend upon the lamps to be lit up.

If desired, provision may be made for adjusting the positions of those lamps which are common to two or more sections of the character-

defining frame so as to correctly position said lamps with respect to the divisions of said frame.

Further, if difficulty is likely to be experienced in nesting the lamps of different compartments sufficiently close together, the lamps therefor may be situated well back from the character-defining frame and be spaced-apart further than are the front openings of the compartments of the light-controlling chamber which they are to illuminate, the walls of said compartments being suitably inclined to convey the light rays from the lamps to the said front openings of the compartments.

Any of the light channels of the character-defining frame may be sub-divided as required, provision being made in the manner above explained for independent illumination of the sections thus formed.

As will be understood, a plurality of units made in accordance with the invention will be assembled together or be otherwise arranged in a row or rows for the display of notices and the like.

I claim:

1. An advertising sign including a plurality of lamps arranged within compartments in a light controlling chamber, a frame having character defining strips forming character sections and arranged in front of said compartments, and a plurality of lamps positioned in the compartments immediately behind certain strips of the character defining frame so as to be common each to two or more character forming sections of the frame, while other lamps are individual to specific sections of the frame.

2. An advertising sign unit adapted to exhibit changeable reading characters including, a light controlling chamber having a plurality of lamp compartments arranged respectively in intramarginal vertical, horizontal and diagonally crossing relation, an illuminating lamp in each compartment, and a character defining section arranged in front of the light controlling chamber and comprising a plurality of spaced major character forming strips also arranged in intramarginal, vertical, horizontal, and diagonally crossing relation to conform substantially with the arrangement of the lamp compartments, said strips being joined at intervals by relatively short minor strip sections arranged to intersect the plane of the major strips, opaque portions filling the gaps between the non-character forming areas of the character defining section, certain of said major character forming strips and their minor strip sections being arranged out of obstructing relation to some of said lamps to permit such lamps only to flood-light the area between two major strips, and other of said major character forming strips and their minor strip sections directly overlying other of said lamps whereby such lamps will flood-light a plurality of compartments simultaneously.

ALFRED CHARLES SKELSEY.