Nov. 8, 1938. C. E. SWANSON 2,135,859

ILLUMINATED SIGN

Filed June 12, 1937 2 Sheets-Sheet 1

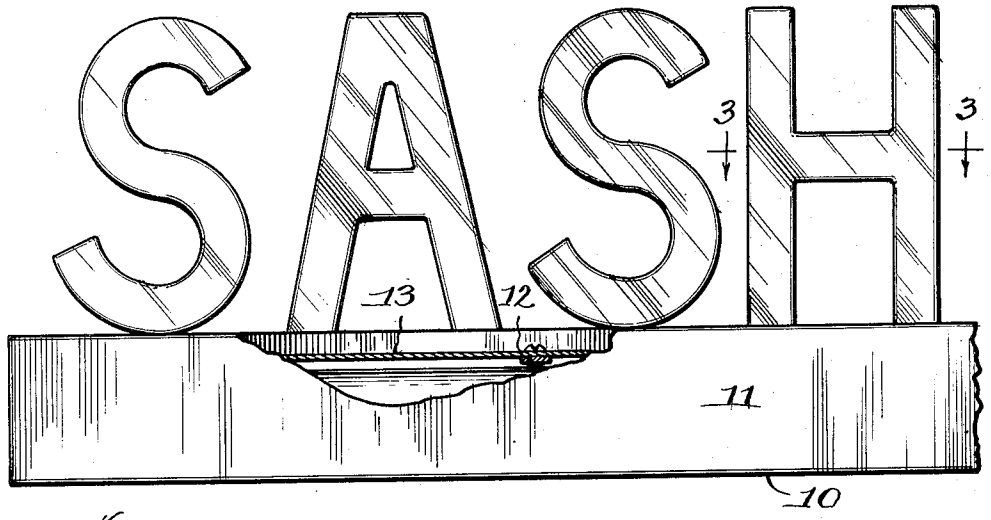


Fig. 1

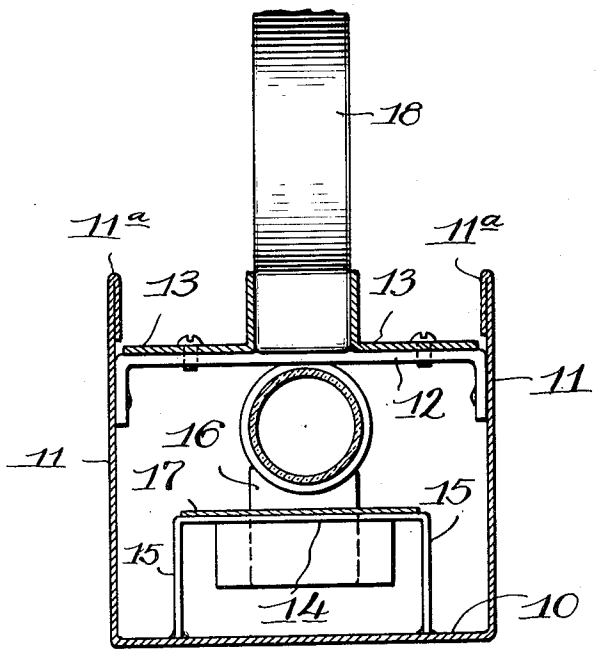


Fig. 2

Witness:
Chas. L. Fourshe

Inventor
Charles E. Swanson,
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Nov. 8, 1938. C. E. SWANSON 2,135,859

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Filed June 12, 1937 2 Sheets-Sheet 2

Fig. 3

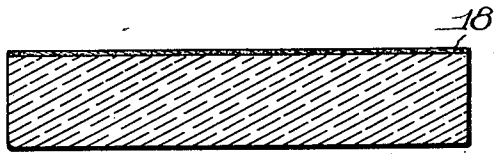


Fig. 4

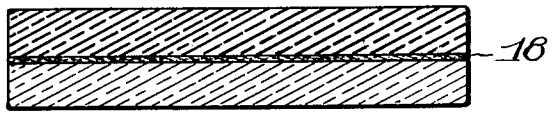


Fig. 5

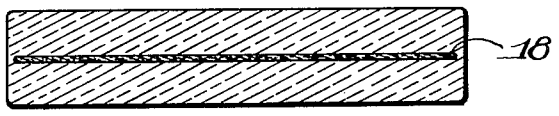
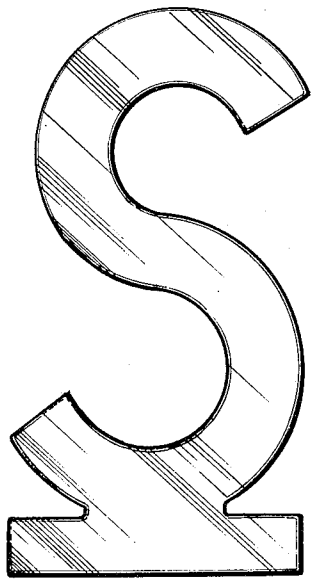


Fig. 6



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Patented Nov. 8, 1938 2,135,859

UNITED STATES PATENT OFFICE

2,135,859

ILLUMINATED SIGN

Charles E. Swanson, Chicago, Ill., assignor to Garden City Plating & Manufacturing Co., Chicago, Ill., a corporation of Illinois

Application June 12, 1937, Serial No. 147,828

5 Claims. (Cl. 40—130)

My present invention relates to improvements in signs and has special reference to the provision of a sign having changeable and removable illuminated characters of indicia.

It has long been known that lights introduced into the end of a glass rod or the edge of a glass plate will be largely transmitted to the opposite end or edge of the rod or plate, and but a small portion of the light so introduced will escape from the lateral face or faces of the glass. This is so even when the rod or plate is bent so that the light transmitted through the body of the glass proceeds around curves or convolutions.

I have discovered that while the light traveling through the body of the glass illuminates the surface of the glass but slightly, it will illuminate light diffusing materia' placed in the body of the glass or in intimate contact with one face thereof. If such light diffusing material is in intimate contact with one face of the glass through which light is proceeding, it will appear under good illumination through the opposite face of the glass, or if such light diffusing material is located centrally of the glass through which light is proceeding, it will be visible through both the lateral surfaces of the glass.

So as to make the glass characters or indicia more luminous from one or both sides I provide in the body of the glass, or at one surface, a material of good light diffusing characteristics in order that the considerably greater portion of light passing directly through the glass will strike the light diffusing material and thereby cause a much greater proportion of the light to be discharged from the lateral face or faces of the characters or indicia.

Characters constructed in accordance with the teaching of this specification may be cast from glass with sturdy proportions and will last indefinitely in use and will only be destroyed by an accident involving considerable force.

As will hereafter be seen, the bases of characters or indicia employed in my sign are, preferably, of uniform length, which, preferably, are as long as the width of the widest letters or indicia so employed.

For supporting the characters or indicia in desired side by side relation and supplying the necessary illumination thereto, I provide a base with a channel of suitable width to receive and engage the bases of the characters or indicia and directly under this channel and housed within the base I preferably provide an electric incandescent bulb of the character which has been given the trade name "LumiLine", which has the filament running from end to end of the lamp between contacts at the respective ends of the lamp tube.

I have attained the above indicated objects by means of the structure illustrated in the accompanying drawings, in which—

Fig. 1 is an elevation of a housing and letters or indicia embodying my invention.

Fig. 2 is a transverse section through the structure illustrated in Fig. 1.

Fig. 3 is a transverse character having the light diffusing medium applied to one of its lateral faces.

Fig. 4 is a transverse section through a letter in which the light diffusing material is cemented between plates of glass.

Fig. 5 is a transverse section of a character provided interiorly with a light diffusing medium.

Fig. 6 is a side elevation of such a character.

Similar reference characters refer to similar parts throughout the respective views.

The lamp housing may be relatively small in section and for most occasions should be longitudinally extended. The base may conveniently comprise a bottom wall 10 and side walls 11—11 conveniently bent or broken from a strip of metal of suitable size. The upper edges of the side walls are preferably bent back inwardly upon each other at 11a—11a to provide greater strength and rigidity at these points. At the ends of the side walls are provided transverse brackets 12—12, the ends of which are bent downwardly and secured to the side walls by soldering or spot welding, or in any other desired way.

Screwed, or otherwise attached, to the transverse brackets are angled top pieces 13—13, the upstanding flanges of which are spaced from each other and constitute a slot for receiving the bases of the characters or indicia.

For supporting the LumiLine lamp, which may be any desired length, I provide a table consisting of a top 14 and side walls 15—15 conveniently bent from a single strip of metal. The lower edges of the side walls 15—15 are secured to the inner surface of the bottom wall 10 of the casing in any desired way, and the ends of the top are, preferably, bent downwardly and then upwardly, as at 16, to provide brackets for mounting the sockets for the ends of the LumiLine lamps. The top surface of the table 14 is provided with a layer or coating 17 of light diffusing material such as a light diffusing paint so as to diffuse light coming from the lamps downwardly back upwardly to the slot which receives the

bases of the characters or indicia. The characters or indicia are, preferably, cast from glass, or other suitable transparent light transmitting material.

When it is desired to exhibit the sign from one side only the letters may be made of plain transparent glass, the back or side opposite to the display side being provided with a coating or layer 18 of light diffusing material such as a light diffusing paint. If it is desired to display both faces of the characters or indicia the characters may be either cast about a central layer of light diffusing material or the characters may be made in front and back pieces which are cemented to opposite sides of a layer of light diffusing material.

A sign provided as herein illustrated and described will permit of the alteration of the position of the display characters in any way and as often as may be desired with a minimum of trouble and expense. The characters or indicia of such a sign are the only parts thereof which are illuminated and the light diffusing material, which causes the illumination of the sides of the characters, being either embedded within the characters or attached intimately to one surface thereof, is not liable to injury or deterioration from atmospheric or chemical causes. The heat accompanying the distribution of illumination, as herein described, is inconsiderable, being very much less than the radiation from an incandescent lamp.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. A sign comprising the combination of a housing having a flanged or channel opening and a source of light mounted therein, and a removable indicium formed of a light transmitting material and having a light-transmitting surface on the obverse side thereof, said indicium having a base substantially coextensive with the width thereof positioned in said flanged opening, said base, substantially throughout its entirely, being capable of receiving light from the light source and transmitting it into the body of the indicium, and light diffusing material adhering to some of the surfaces of the indicium to diffuse the light passed into the body of the indicium to cause it to pass out of the light transmitting surface thereof.

2. A sign comprising the combination of a housing having a flanged or channel opening and a source of light mounted therein, and a removable indicium formed of a light transmitting material and having a light transmitting surface, said indicium having a base substantially coextensive with the width thereof positioned in said flanged opening, said base, substantially throughout its entirety, being capable of receiving light from the light source and transmitting it into the body of the indicium, and light diffusing material provided over the surfaces of said indicium adjacent to said light transmitting surface other than those in the path of the light passing through the base whereby the light passing into said indicium is diffused and caused to pass through the said light transmitting surface.

3. A sign comprising the combination of a housing having a flanged or channel opening and a source of light mounted therein and a removable letter or indicium formed of a light transmitting material and having a light transmitting surface, said letter or indicium having a base of a width substantially coextensive with the width thereof positioned within said flanged opening, said base and the surfaces of the letter or indicium adjacent to and/or opposed to the top surface of the base being capable of receiving light from the light source and permitting it to pass into the letter or indicium, and substantially all of the other surfaces of said letter or indicium being provided with a material which diffuses the light and causes it to pass out of the light transmitting surface.

4. A sign comprising the combination of a housing having a flanged or channel opening and a source of light mounted therein, and a removable indicium formed of a light transmitting material and having a light transmitting surface on the obverse side thereof, said indicium having a base positioned in said flanged opening, said base, substantially throughout its entirety, being capable of receiving light from the light source and transmitting it into the body of the indicium, and light diffusing material adhering to a surface of the indicium to diffuse the light passed into the body of the indicium to cause it to pass out of the light transmitting surface thereof.

5. Indicium, adapted to be used in combination with a source of light for display purposes, formed of a light-transmitting material and having a light-transmitting surface on the obverse side thereof, said indicium having a base adapted to receive light from the light source substantially throughout its entirety and transmit it into the body of the indicium, and light diffusing material adhering to a surface of the indicium to diffuse the light passed into the body of the indicium and cause it to pass out of the light transmitting surface thereof.

CHARLES E. SWANSON.