

May 4, 1937.

J. J. SHIVELY

2,079,230

ILLUMINATED SIGN

Filed July 25, 1935

2 Sheets-Sheet 1

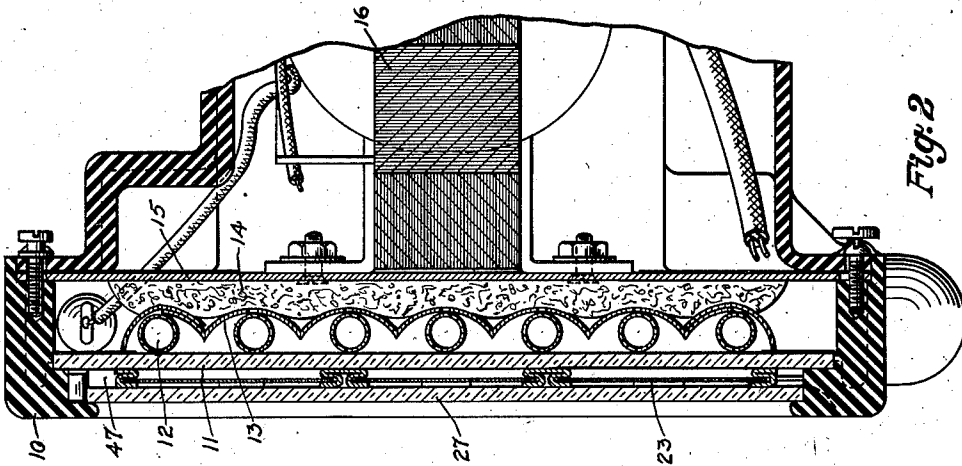


Fig. 2

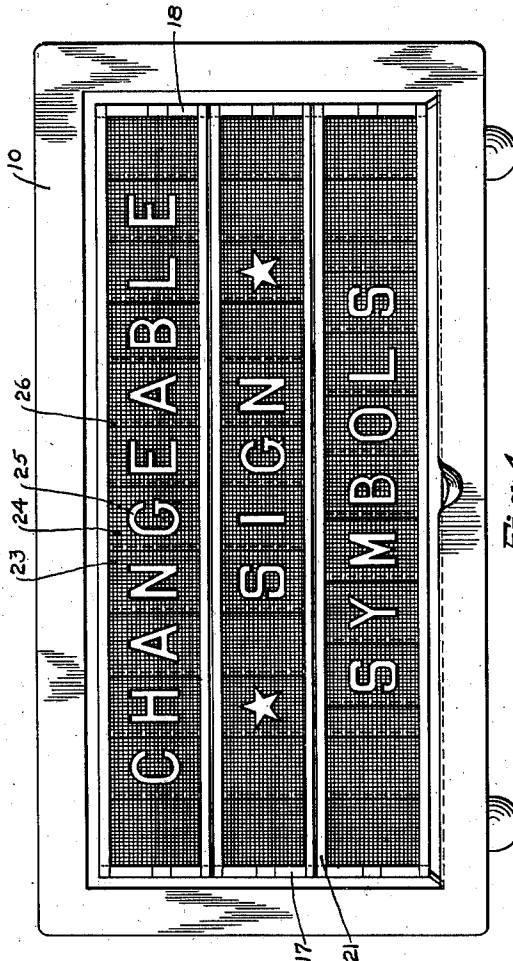


Fig. 1

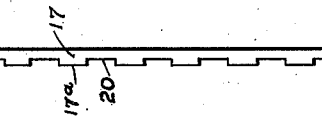
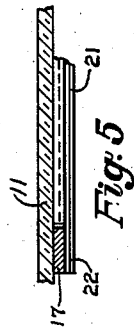


Fig. 4

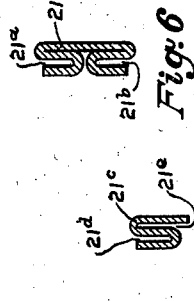


Fig. 6

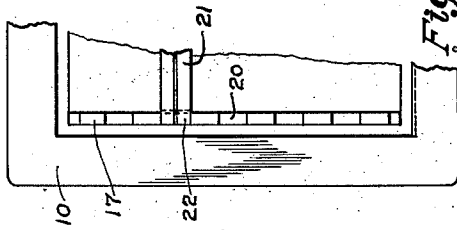


Fig. 3

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ILLUMINATED SIGN

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2 Sheets-Sheet 2

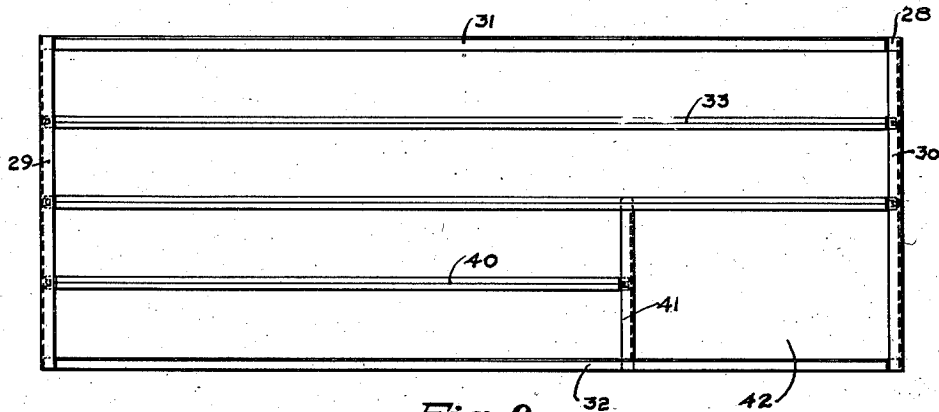


Fig. 9

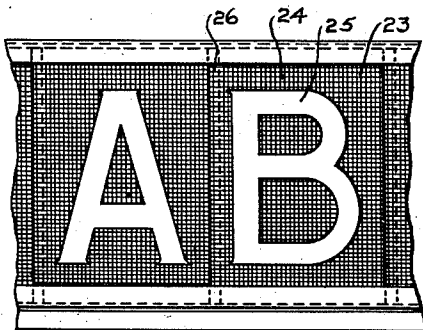


Fig. 8

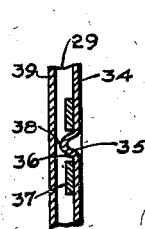


Fig. 10



Fig. 11

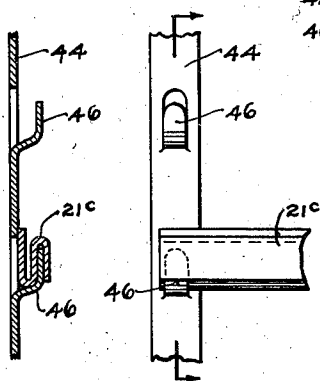


Fig. 12 Fig. 13

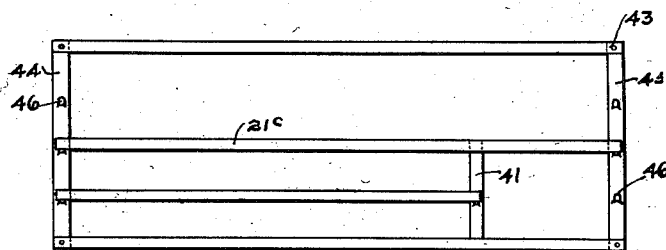


Fig. 14

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UNITED STATES PATENT OFFICE

2,079,230

ILLUMINATED SIGN

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mesne assignments, to Service Devices, Incorporated,
New York, N. Y., a corporation of New York

Application July 25, 1935, Serial No. 33,026

6 Claims. (Cl. 40—133)

This invention relates to illuminated signs of the type more fully described in the copending application Serial No. 22,333, filed May 20, 1935, entitled "Illuminated signs" and has for an object the provision of character forming means whereby the characters such as letters, figures and the like in such signs may be easily and cheaply changed.

Another object is to provide signs of the type described with a font of letters, figures and the like, from which the user can make up a panel for use in such signs, the letters and figures being reusable from time to time as the sign is changed.

The invention consists substantially in the construction, combination, location and relative arrangement of parts, all as will be more fully hereinafter set forth and as shown by the accompanying drawings and finally pointed out in the appended claims.

In illuminated signs of the type to which this invention applies, it has heretofore been the practice to paint the indicia on the transparent panel or glass forming the front of the sign, or to place in front of said glass a transparent panel of glass, celluloid, cellophane or the like on which the indicia are carried. Such arrangements are open to the objection that in the first instance the whole sign must be taken out of service to have the indicia on the glass changed and usually the services of a sign painter are necessary. In the second instance an entire transparent sheet must be used each time the sign is changed and this is often not at hand, is expensive and these sheets cannot be used except for the display marked thereon.

The present invention eliminates these and other difficulties and permits the user, without any artistic skill, to change the sign at will. The character forming means used can be used over and over again, expense is avoided and the utility of the illuminated sign greatly increased.

In the accompanying drawings:

Figure 1 is a front view of a sign embodying the invention;

Figure 2 is a cross sectional view of the sign, Figure 1;

Figure 3 is a detail view of one end of the sign, Figure 1, showing one of the vertical rails 17 for supporting and locating the horizontal carrier strips 21 that extend across the face of the sign;

Figure 4 is a side view of the rails 17;

Figure 5 is a cross sectional view of a rail 17 and strip 21;

Figure 6 is a cross sectional view of a center carrier strip;

Figure 7 is a sectional view of an alternative form of cross strip;

Figure 8 is a front view of the changeable character blanks 23;

Figure 9 is a front view of a complete frame that can be used in the sign, Figures 1 and 7 instead of the arrangement therein shown;

Figure 10 is a vertical fragmental detail view of a side rail showing the end of a cross rail located therein;

Figure 11 is a horizontal sectional view of the same;

Figure 12 is a vertical sectional view of an alternative form of side rail and cross rail fastening;

Figure 13 is a front view of the same; and

Figure 14 is a front view of a complete frame embodying the structures shown in Figures 12 and 13.

Figure 2 is a view partly in section of the sign disclosed in the copending application previously mentioned. It consists, briefly, of a casing or frame 10 having a transparent front panel or glass 11 against the inner surface of which is placed the grid 12 of neon tubing or the like. A reflector 13 is placed behind the grid and the latter and reflector are supported by the rubber pads 14 carried on the support 15 which also supports the transformer 16 having a primary winding connected to a suitable source of current and a secondary winding connected to the terminals of the grid 12.

When suitable current is supplied to the transformer the tube will glow and the front of the device will, because of the combined action of the grid and the reflector, have the appearance of a solid sheet of neon light or glow.

The casing 10 is provided at each end with the vertical rails 17, 18 which extend outwardly over glass 11 a short distance on each end of the sign.

These rails, as shown in Figures 3 and 4, have a main body portion 17 provided with a series of depressions 20 arranged to take the ends of the carrier strips 21 or cross rails which are formed as shown in Figure 5 on their ends 22 so that the strips will lie flat against the glass 11 and the ends 22 of the strips will fit into the depressions 20 in the rails and lie flat with the upper surface 17a thereof.

The strips 21 are bent to form a double channel as shown in Figure 6, the upper channel being indicated at 21a and the lower by 21b. In the alternative form of carrier strip 21c as shown in Figure 7, the upper and lower channels 21d and 21e are formed with a flattened S-bend and consequently overlap each other.

The strips 21 are placed in the sign as shown in Figure 1, if only the extreme top and bottom strips are used, the changeable characters to be presently described would span the space between the strips. If it is desired to have three lines of reading matter, then the strips are arranged as shown in Figure 1. The depressions 20 permit a number of vertical arrangements of the strips

so that one or more horizontal lines of reading matter can be formed.

The changeable characters shown in Figure 8 form an important part of the character forming means for the sign. These consist of a blank 23 of suitable transparent material such as celluloid. This blank has an opaque background 24 through which light from the tube 12 cannot pass but the indicium or character 25 is transparent.

These blanks may be assembled by springing them into place between strips 21, the adjacent vertical edges of the blanks being overlapped as shown at 26 to prevent light escaping from the sign.

The character forming means being put into position as just described, a front glass panel 27 may be put in the open front of the sign and secured therein in any suitable manner such as that shown in the aforesaid copending application. As the surface 17a of the rails 17 is substantially smooth (the ends 22 of the strips being level therewith, as shown in Figure 5) this glass is easily located and lies flat over the blanks 23. When the sign is illuminated, the effect is similar to that of a true neon sign, where each character is made of the neon tubing itself and consequently cannot be changed; but in the present sign the letters and figures are displayed in true neon red as the actual gas glow in the tube 12 is directly viewed by the eye through the transparent portions 25 of the blanks 23 and not indirectly viewed by reflection or otherwise. The background of the sign being formed by the opaque portions 24 of the blanks, the fact that the sign is built up out of blanks—one for each character—is not apparent. There is no apparent difference to the eye between this improved sign herein disclosed and the conventional type in which the characters are formed of neon tubing, except this improved sign is more easily read from an angle. The user can easily rearrange the improved sign as desired. By providing blanks 23 of various heights and changing the position of the horizontal strips 21 in their supporting rails 17, 18, characters of different heights can be used.

The frame 28 shown in Figure 9 provides means by which a complete set of characters may be assembled and placed in the sign as a whole. This frame 28 comprises side rails 29 and 30 permanently secured to top and bottom rails 31 and 32, and one or more carrier cross strips 33 removably attached to the side rails 29 and 30.

Figures 10 and 11 are enlarged views showing the manner in which the cross strips 33 may be properly located and held in position. The side rails 29 and 30 are bent in the form of channels, and have formed on their inner portions 34 a series of inwardly directed bosses 35 adapted to engage slots 36 in the ends 37 of the carrier strips 33. The space 38 between bosses 35 and the front portions 39 of the side rails is smaller than the thickness of the ends 37, which latter in assembly are inserted in the side rails above or below the bosses, then forced over the bosses into the position shown, the metal of the side rails springing sufficiently to allow the passage and thereafter holding the cross strips in position.

If desired a short cross strip 40 having a vertical supporting strip 41 attached thereto may be inserted in the frame 28, thus providing a space 42 for large characters such as price figures.

The frame 43 shown in Figure 14 has the vertical side rails 44 and 45 made of flat metal having

stamped forward thereon a series of upwardly directed hooks 46. The cross strips 21c, which are of the form shown in Figure 7, are pushed downward over the hooks 46 and are held in position thereby as shown in Figures 12 and 13.

While in the drawings the thicknesses of material and the details of construction have been exaggerated for the purpose of clarity, it will be understood that the entire frames are made thin enough to be placed in the space 47 between the front and rear glasses 27 and 11 of the sign shown in Figures 1 and 2.

When the completely removable frames are to be used, the sign need not be provided with the notched rails 17.

While a preferred embodiment of the invention has been described, it will be understood that this is merely by way of illustration, the gist of the invention being the combination with a sign of the class described, of changeable character forming means including individual blanks, each carrying indicia and together adapted to form the sign proper, all as covered by the appended claims.

What is claimed is:

1. In a sign of the character described, a plurality of character blanks of substantially transparent material having indicia outlines thereon and having opaque backgrounds to prevent light from escaping from the sign, and means for holding said blanks overlying the face of the sign comprising side rails having top and bottom rails secured thereto and forming therewith a frame, and carrier strips supported on said side rails, said carrier strips comprising channels adapted to engage said character blanks.

2. A sign comprising a casing having a luminous grid therein and a transparent panel overlying said grid and forming the front of the casing, supporting means in front of said panel comprising a frame including vertically adjustable horizontal members supported on said casing and removable therefrom as a unit, a plurality of character blanks supported on the horizontal members of said frame, and a front panel of transparent material supported on said casing and overlying said frame.

3. In a sign of the character described having a casing including a recessed front, and a frame adapted to fit said recessed front and removable therefrom as a unit, said frame adapted to support a plurality of character blanks and including horizontal strips and means on said frame for supporting said strips in various positions thereon.

4. In a sign of the character described having a recessed front, a frame adapted to fit within said front and to be supported thereby, said frame comprising vertical end rails and a plurality of horizontal carrier strips supported by said rails and shiftable to various positions thereon.

5. A frame for use in an illuminated sign comprising side rails having top and bottom rails secured thereto and forming therewith a frame, and a carrier strip removably supported on said side rails, said carrier strip comprising a channel.

6. The frame as claimed in claim 5 having a vertical supporting strip adapted to be removably supported by the carrier strip.

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