C. B. EHNBORN.

ILLUMINATED SIGN.

APPLICATION FILED MAR. 28, 1921.

1,406,626. **Patented Feb. 14, 1922.**

3 SHEETS—SHEET 1.

FIG. 1.

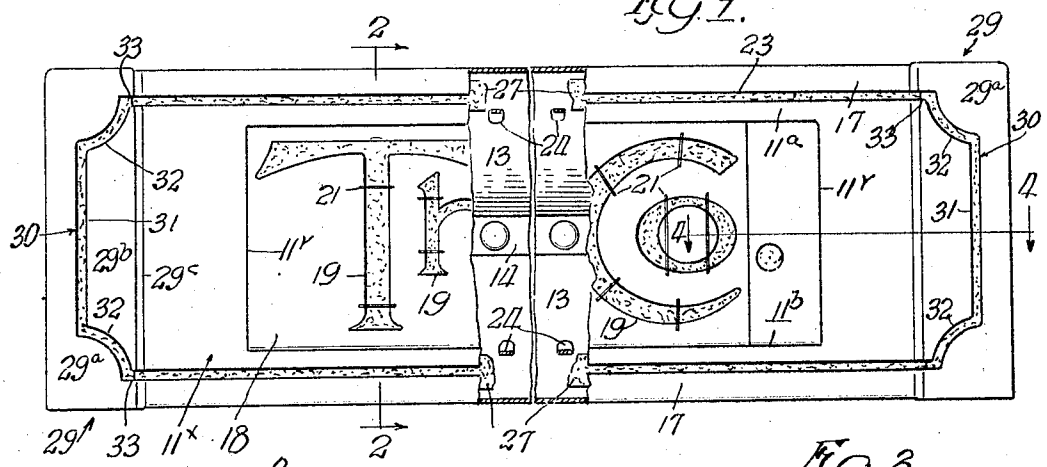


FIG. 2.

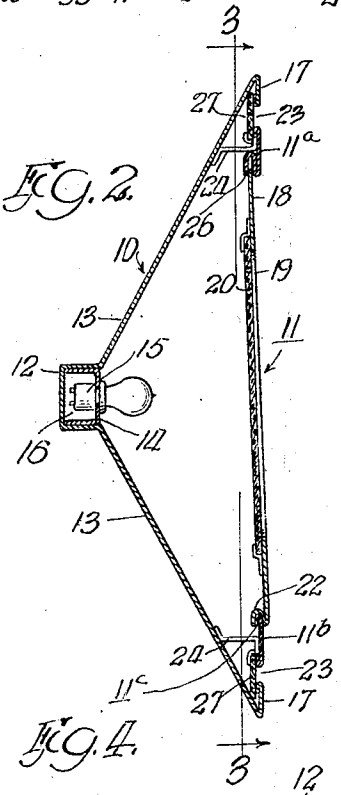


FIG. 3.

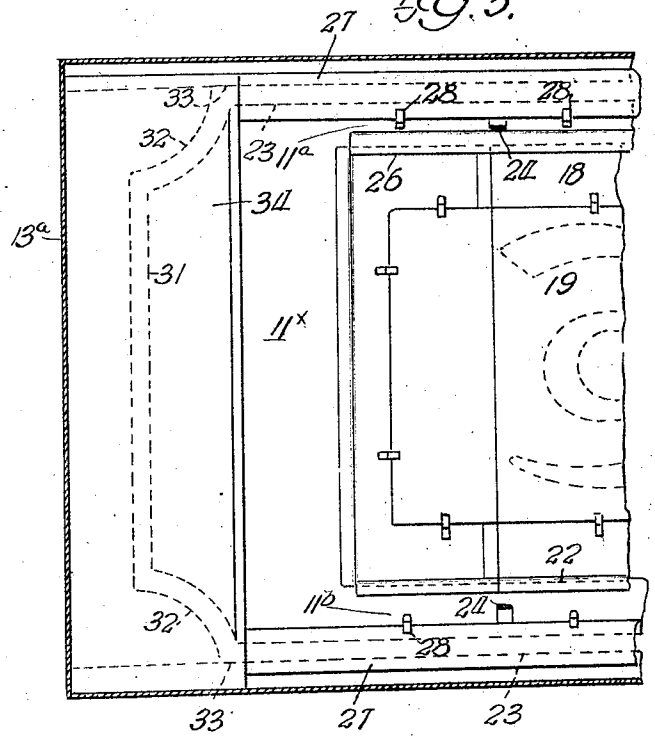
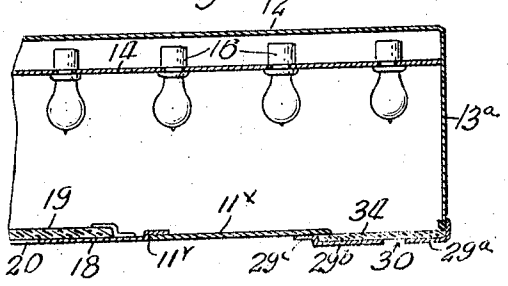


FIG. 4.



Inventor
Charles B. Ehnborn
by Clarence E. Wehlhope
Atty.

C. B. EHNBORN.

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3 SHEETS—SHEET 2.

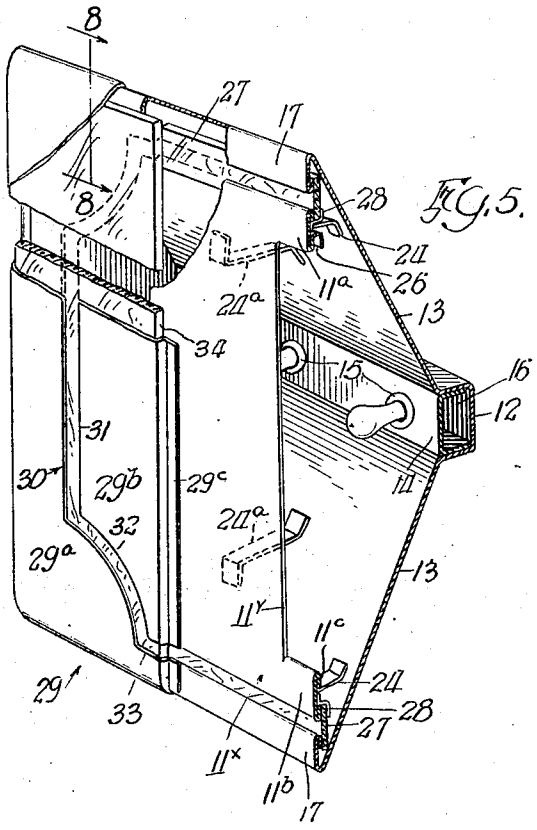


FIG. 5.

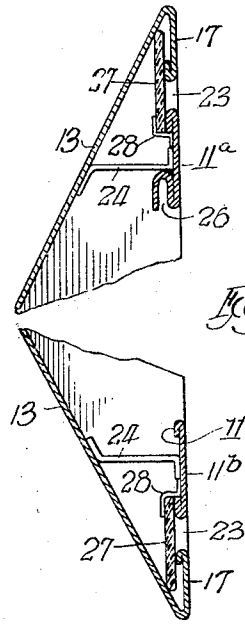


FIG. 6.

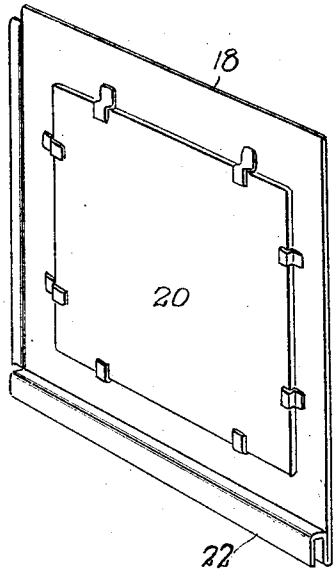


FIG. 7.

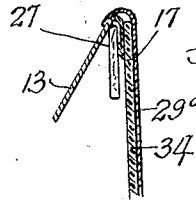


FIG. 8.

Inventor
Charles B. Ehnborn
by Clarence E. Mehlhope
Atty.

C. B. EHNBORN.

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3 SHEETS—SHEET 3.

FIG. 9.

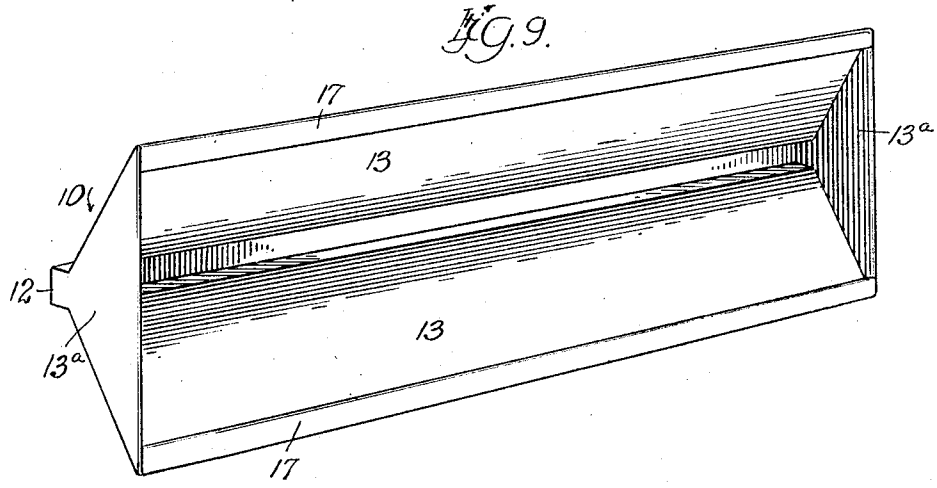
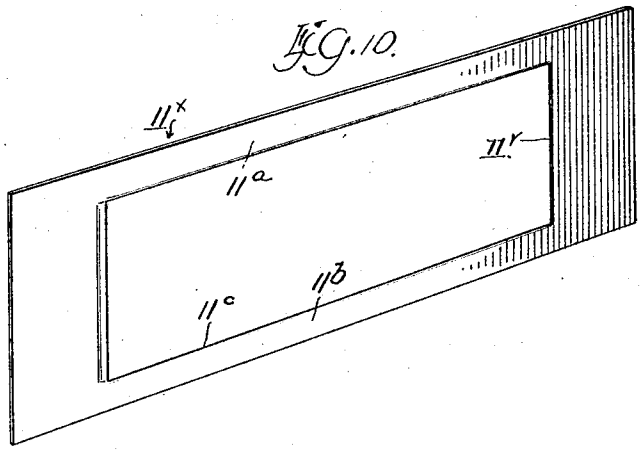


FIG. 10.



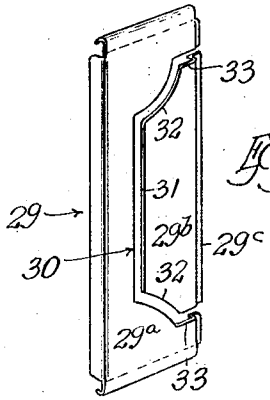


FIG. 11.

Inventor
Charles B. Ehnborn
by Clarence E. Mehlhope
Atty.

UNITED STATES PATENT OFFICE.

CHARLES B. EHNBORN, OF GLEN ELLYN, ILLINOIS, ASSIGNOR TO THOS. CUSACK COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF NEW JERSEY.

ILLUMINATED SIGN.

1,406,626. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed March 28, 1921. Serial No. 456,078.

To all whom it may concern:

Be it known that I, CHARLES B. EHNBORN, a citizen of the United States, and a resident of Glen Ellyn, in the county of Du Page and State of Illinois, have invented certain new and useful Improvements in Illuminated Signs; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in illuminated signs, and consists of the matter hereinafter described and more particularly pointed out in the appended claims.

The invention relates especially to an electrically illuminated sign, preferably of sheet metal construction, on which is depicted, in addition to the letters, designs or symbols constituting the main central body of the sign matter, a surrounding scroll or border about the main part of the sign intended usually to present a panel effect.

In signs of this kind, it has been customary to provide supplemental or additional lamps located back of the scroll or border to illuminate and set forth the same, but this method of illumination has been unsatisfactory, and has produced a spotty or uneven result instead of the desired clear, uniform outline of the scroll.

The object of the invention is to provide a sign in which the said outline of the surrounding scroll or border will be evenly and uniformly lighted throughout, so as to present the same brilliant appearance as the letters, characters or designs of the main body of the sign matter. In addition, the invention embodies certain novel and improved features of mechanical construction and arrangement for providing the outlines, scroll or other surrounding matter, and for supporting the parts defining the scroll and the glass or transparent backing through which the light from the illuminating lamps is diffused.

In the drawings:

Figure 1 is a view representing a front elevation of the improved sign.

Figure 2 is a vertical section through the sign on an enlarged scale in a plane indicated by the line 2—2 of Figure 1.

Figure 3 is a partial longitudinal section through the sign in a plane indicated by the line 3—3 of Figure 2.

Figure 4 is a horizontal detail sectional view through one end of the sign taken on the line 4—4 of Figure 1.

Figure 5 is a fragmentary sectional, perspective view of the sign towards one end, with parts broken away to illustrate the inner construction.

Figure 6 is a vertical section on a still larger scale, through the sign with the sign panels removed.

Figure 7 is a perspective view of one of the sign panels as it appears when looked at from the rear.

Figure 8 is a partial vertical section indicated by the line 8—8 of Figure 5.

Figure 9 is a perspective view of the sign body.

Figure 10 is a perspective view of the front wall plate of the sign.

Figure 11 is a perspective view of the left hand end extension plate of the sign.

Referring now to that embodiment of the invention illustrated in the drawings: 10 indicates the sign box or hollow body which contains the illuminating lamps, and 11 indicates the front wall of said box, said wall including the panels on which are outlined by the light rays from the lamps, the letters, characters or other devices constituting the sign matter.

The sign body 10 as shown, is preferably made of sheet metal, and consists of a shell of isosceles triangular cross section (see Fig. 2) extending the length of the sign, with a longitudinally extending, substantially rectangular channel 12 at the apex of the triangle. 13, 13, indicate the inclined, back walls of the shell, the same being the equilateral sides of the triangle and diverging towards the top and bottom edges of the front wall 11, which corresponds to the base of the triangle. The ends of the sign body are closed by end walls 13^a, which are substantially triangular. In the channel 12, is supported a channel bar 14 with its flanges extending rearwardly and bearing against the sides of the channel 12,—the bar itself being perforated to receive and support a plurality of lamp sockets 15, in a familiar manner. The channel bar 14, and the chan-

nel 12, enclose a longitudinally extending space, which provides a conduit 16 for the line wires (not shown) which supply current to the lamps.

At the forward edges of the rear walls 13, 13, of the shell 10, are provided vertical flanges 17, 17, which extend substantially the full length of the sign body. As shown, said flanges are made integral with the walls 13, 13, and the metal is preferably bent upon itself at the edges of the flanges to stiffen them.

In signs of the kind, the sign letters, characters, symbols, or other devices are provided by cutting out the metal panels, constituting the greater part of the front wall of the sign, to outline said letters, characters or symbols, and the open spaces thus formed to depict the same are backed by plates of glass or of other transparent or translucent material, through which the light from the illuminating lamps is thrown,—the rest of the face of the sign being rendered opaque by the remaining parts of said panels, so that the letters, characters and the like are sharply outlined by light rays.

18 indicates a plurality of panels of the kind referred to (see Figures 1, 3 and 7), each having one or more letters or characters 19, cut out of it, and all of the panels when assembled in place in the front wall of the sign, depicting the main sign matter. Each panel 18 has a glass plate 20 secured to its rear face in any convenient manner (see Fig. 7) so that it will cover the letter, character, or other symbols 19 cut out of the panel. When necessary, the parts of the panel defining the letters and the like are connected by wires 21 in a familiar manner, to prevent the plate from sagging away from the glass adjacent to the outline of the letter. The bottom marginal part of each panel is bent back upon itself to provide a downwardly facing hook flange 22 for engagement with parts of the front wall 11, as will later appear.

11^x indicates a front wall plate having an elongated opening 11^y to receive the panels 18, said opening being defined at top and bottom by longitudinally extending parts 11^a, 11^b. Said plate is supported in such manner that the parts 11^a and 11^b are spaced from the proximate edges of the flanges 17 so as to leave between them longitudinally extending relatively narrow spaces or slots 23, which define lines that form a part of the scroll about the sign matter, said scroll in this case, being an open elongated rectangular figure. The front wall plate 11^x, is supported in position by means of spaced brackets 24, (see Fig. 6) which are fixed at one end to the top and bottom parts 11^a, 11^b, of said front wall plate, and are fixed at their other ends to the angularly disposed rear walls 13 of the sign body. Longer brackets 24^a, similar to the brackets 24, (see Fig. 5) connect the ends of the front wall plate 11 with the walls 13.

The top marginal part 11^a, of the front wall plate, is provided at the back and along its bottom edge with a hooked flange which presents a downwardly opening groove 26 (see Fig. 6). The bottom part 11^b is bent upon itself at its top edge to form a stiff supporting rib 11^c. The groove 26 and the rib 11^c provide supports for the panels 18, which rest with the hooked flanges 22 at the bottom of the panel engaged on the ribs 11^c and the top of the panel engaged in the groove 26. In positioning the panels, the top edge of the panel is inserted into the groove 26, from the front of the opening in the front wall plate 11^x, until the bottom edge of the panel is free to pass the rib 11^c at the top edge of the bottom marginal part 11^b of said plate. A slight inward movement is then imparted to the bottom part of the panel until the hooked flange 22 at the bottom of the panel is aligned with the rib 11^c, when the panel is permitted to fall into position. All of the panels may be positioned in this manner, and when in place, may be shifted longitudinally of the opening 11^y to bring the side edges of the panels into close engagement to prevent the escape of light at said edges overlapping at said side edges in a familiar way as shown in the drawings.

The spaces or slots 23 which form the top and bottom parts of the scroll or border, are closed by strips of opalescent or frosted glass 27. Said strips are supported in position against the rear faces of the metal parts defining said slots. As shown, they are engaged along one edge back of the flange 17, 17, and along their other edges by bendable clips 28 carried upon the inner faces of the parts 11^a, 11^b of the front wall 11, as shown in Figure 6.

The front wall plate 11^x terminates at its ends at lines spaced from the ends of the sign body and spaced within the end part of the scroll. The spaces between the end walls of the casing and the ends of the front wall plate 11^x, are closed by extension front plates 29, which are offset a short distance in front of the plane of said front wall plate. Each extension front plate comprises two supplemental plates 29^a, 29^b, which are cut and spaced to provide slots or spaces 30 between them. Said slots or spaces each include an upright part 31, curved corner parts 32, and short horizontal parts 33, which register with, and thus connect said upright and corner parts with the horizontal slots 23, so as to provide a continuous uninterrupted border or scroll upon the front face of the sign about the panels therein. The supplemental plate 29^a has top and bottom flanges, which are attached to the marginal parts of the in-

clined rear walls, as shown in Figure 8. Each supplemental plate 29[a] also has an end flange, which is engaged upon and attached to the front margin of the adjacent end wall 13[a] of the casing, as shown in Figure 4.

Each supplemental plate 29[b] has an offset flange 29[c] along that vertical margin which is removed from the slot 30. The flange 29[c] overlaps and is secured to the front face of the front wall plate 11[x] near its end (see Fig. 5). Associated with each extension front plate 29, is an upright strip of opalescent or frosted glass 34 which is faced against said plate, and is engaged at one vertical side margin between that plate and the front edge of the end wall 13[a], and at the other vertical side margin between said plate and the end of the front wall plate 11[x], which projects beyond the offset flange 29[c].

Preferably the whole exposed front metallic surface of the sign, as well as the metallic parts of the panels 18, are painted black. This hides the rivet heads and seams upon said front surface, and brings out in strong contrast, the open scroll or border and the open letters cut in the sign panels.

By the construction above described, the lamps 15 not only uniformly light the characters on the sign panels by direct rays, but also light the scroll or border evenly throughout, by rays reflected from the walls 13[a], so that it presents the same brilliant and unspotted appearance as the characters constituting the main sign matter. Thus, when the sign is illuminated at night, the characters and border being brilliantly and evenly illuminated, will show up in sharp, well defined outlines, presenting the appearance of standing alone, the front and blackened face of the sign presenting the illusion of having disappeared. A sign so constructed, not only makes a practical and desirable night sign, but also makes a desirable day sign by reason of the clear, sharp outlines of the characters and border.

The sign may be amply illuminated with but a few lamps and this without showing up any spotted or uneven results.

The panels may be quickly and easily removed and replaced, and this from the front of the sign, so that the sign body need not be taken apart when it is desired to change the advertising matter depicted by the panel characters.

While in describing my invention, I have referred to certain detail of mechanical construction, as well as the form and arrangement of the various parts, I do not wish to be limited thereto except as is pointed out in the appended claims.

I claim as my invention:

1. An illuminated sign, comprising a hollow body including a front wall, constituting the face of the sign, said front wall being constructed to present openings outlining a border and sign matter within the border, the body being of flat isosceles triangular cross section with the front wall corresponding to the base thereof, and a wide obtuse angle at the apex and means providing for the support of a row of lights at the apex of the triangle, said lights illuminating the sign matter openings by direct rays and illuminating the border openings by reflection from the angularly disposed walls of the body.

2. An illuminated sign, comprising a hollow body of isosceles triangular cross section, the outer ends of the angularly disposed walls of which, terminate in flanges arranged in a plane corresponding to the base of the triangle, a front plate in the plane of said flange, and having its edges spaced from the edges of said flanges to provide border openings, said front plate having sign matter openings between the border openings, means supporting said front plate from said angularly disposed walls, and means for supporting a row of lights at the apex of the triangle, said lights illuminating the sign matter openings by direct rays, and illuminating the border openings by reflection from the angularly disposed walls of the body.

3. An illuminated sign, comprising a hollow body of isosceles triangular cross section, the outer ends of the angularly disposed walls of which terminate in flanges arranged in a plane corresponding to the base of the triangle, a front wall plate in the plane of said flanges, and having its edges spaced from the edges of said flanges to provide border openings, means supporting said front plate from said triangularly disposed walls, panels having sign matter openings therein supported in said front plate, translucent means covering the sign matter openings and the border openings, and a row of lights at the apex of the triangle to illuminate the translucent means covering said openings.

4. An illuminated sign, comprising a hollow body having end walls, and angularly disposed rear walls which terminate in top and bottom flanges arranged in a plane corresponding to the plane of the base of an isosceles triangle, an open front wall plate arranged in the plane of said flanges, the edges of said flanges and plate being spaced to provide horizontal parts of a scroll, end extensions of said front plate, each end extension comprising two plates, one of which is fixed to the end of the front plate, and the other of which is secured to the end wall and to the angular walls of the body, the plates of each extension being cut and spaced apart to provide end openings in the face of the sign forming a vertical continuation of the horizontal parts of the scroll, panels having sign matter openings therein sup-

ported on said front plate, translucent means for covering the said scroll and sign matter openings at the rear, and a row of lights at the apex of the sign body for illuminating the translucent covering means.

5. An illuminated sign, comprising a hollow body having angularly disposed rear walls, upright end walls, and top and bottom front flanges, an open front wall plate in the plane of said flanges but spaced therefrom to provide the top and bottom longitudinally extending parts of a surrounding scroll, said front wall plate terminating short of the end walls of the body, means for supporting said front wall plate from said angularly disposed rear walls, panels having sign matter openings therein supported on said front wall plate, end extensions of said front wall plate, each end section comprising two plates secured to the end walls and to the angular walls of the body, the plates of each section being cut and spaced apart to provide an upright end part of the scroll which connects with and forms a continuation of said top and bottom longitudinal parts of the scroll, translucent means covering said openings, and a row of lights at the apex of the sign body for illuminating the translucent covering means.

6. An illuminated sign, comprising a hollow body of isosceles triangular cross-section having end walls, means providing a front wall for the body corresponding to the base of the triangle, said wall being constructed to define a continuous border opening adjacent the margins of said front wall, and to define sign-character openings in the front wall plate within the border, translucent means for covering said openings from the rear, and means for supporting a row of lights at the rear apex of the body for illuminating said openings.

In testimony that I claim the foregoing as my invention, I affix my signature in the presence of two witnesses, this 25th day of February, A. D. 1921.

CHARLES B. EHNBORN.

Witnesses:

T. H. ALFREDS,

CHRISTINA DEANS.