No. 632,882. Patented Sept. 12, 1899.

C. C. SCOTT.

ILLUMINATED DISPLAY SIGN.

(Application filed May 15, 1899.)

(No Model.)

Fig. 1.

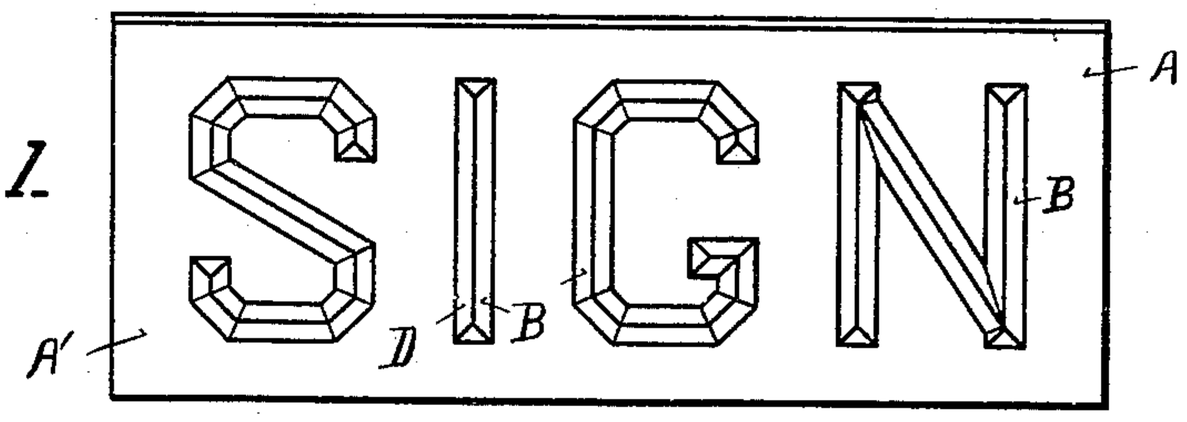


Fig. 2.

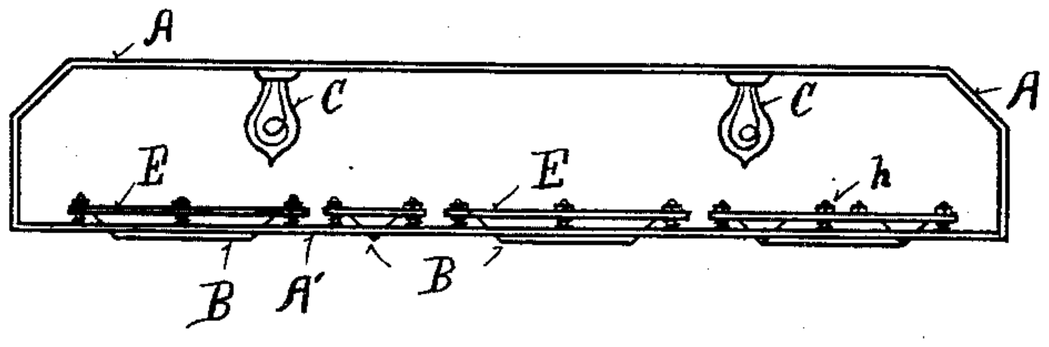
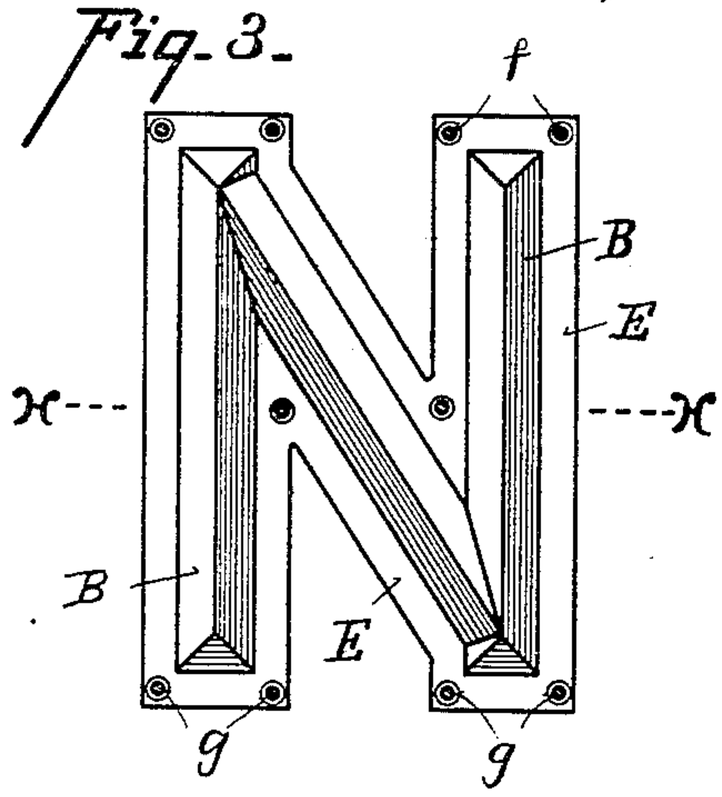


Fig. 3.



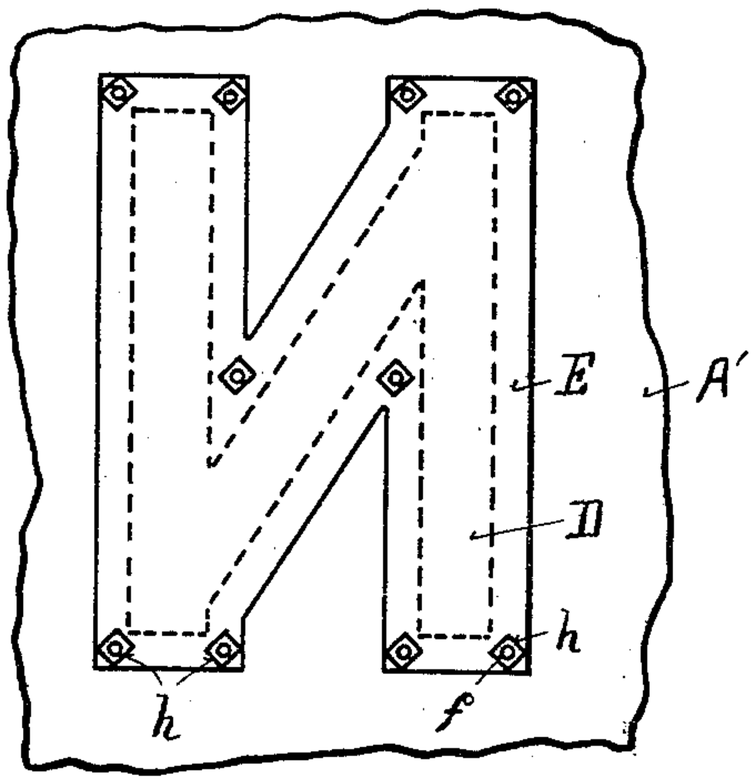
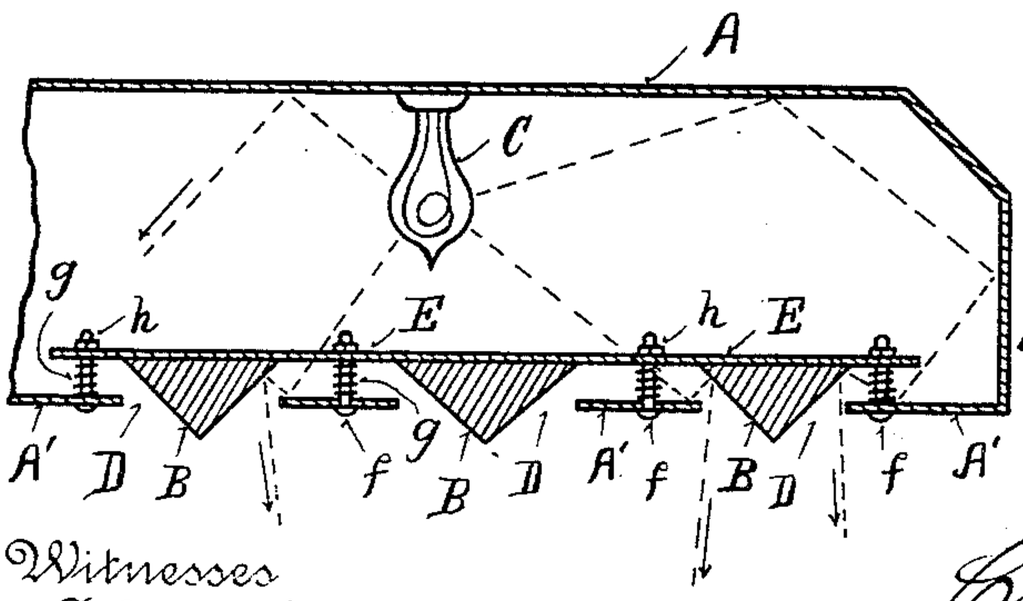


Fig. 4.

Fig. 5.



Witnesses
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UNITED STATES PATENT OFFICE.

CHARLES CALVERT SCOTT, OF COVINGTON, KENTUCKY, ASSIGNOR TO GEORGE W. HOWELL, OF SAME PLACE.

ILLUMINATED DISPLAY-SIGN.

SPECIFICATION forming part of Letters Patent No. 632,882, dated September 12, 1899.

Application filed May 15, 1899. Serial No. 716,848. (No model.)

To all whom it may concern:

Be it known that I, CHARLES CALVERT SCOTT, residing at Covington, in the county of Kenton and State of Kentucky, have invented certain new and useful Improvements in Illuminated Display-Signs, of which the following is a specification.

The object of my invention is to provide an illuminated sign in which a source of light of small candle-power can be utilized to the best advantage.

The features of my invention are more fully set forth in the description of the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a front elevation of my device. Fig. 2 is a top plan view. Fig. 3 is an enlarged detail elevation of one of the letters and its supporting-frame. Fig. 4 is a reverse view of Fig. 3, showing the latter secured in position in the box. Fig. 5 is an enlarged section on line *x x*, Fig. 3, showing a diagram of light-rays.

For convenience of illustration I have shown a box in which only one face is used for displaying the sign, but in practice generally two sides are provided with the illuminated sign, so as to read from both directions.

The principal object of my invention is to utilize mainly reflected light-rays for illuminating my sign, resulting in an economy of the source of light.

Either a letter, symbol, figure, or design may be displayed, which I include for the sake of brevity under the general term of "sign."

A represents the box having iridescent interior sides; B, the sign; C, the source of light suitably located.

In order to get the fullest effect of reflected light, I preferably form the entire inner sides, top, and bottom of the box of burnished metal or other material having a highly-iridescent surface. The box may be conveniently made of sheet metal and the interior of polished plated metal. The light-rays are thus reflected around the sides of the letters and also around the top and bottom of the letters from one end of the box to the other.

A′ is the face of the box, provided with the sign-openings D, which I have shown as letters spelling the word "sign." The sign-aperture D has of course the outline of the display-sign B, and the display-sign is supported in rear of the aperture. A screen or back E is supported in rear of the sign B. For convenience it is attached to and forms a back for the sign following the outlines, but projecting flange-like beyond the sign and beyond the inside edges of the display-aperture. This screen prevents the direct light-rays from escaping entirely through the aperture. The sign preferably has raised faces, bevel faces being shown, and these faces protrude through the aperture. The reflected rays from the sides of the box pass between the edges of the screen and the edges of the aperture and play upon the raised faces of the latter and are reflected therefrom outwardly, as illustrated by the diagram in Fig. 5. Some direct rays may pass between the edge of this screen and the edge of the aperture; but the screen is made wide enough to prevent these direct rays from passing beyond the apex of the beveled faces, so that no direct rays cross each other and are wasted. It is not essential, however, to have the raised faces, as the edges of the aperture might be inturned and flat or even a concaved-face sign used, the screen serving to throw the reflected rays upon it.

The preferred method of securing the screen or back and its sign is by screws *f* tapping the face of the box and holding the back, springs *g* being used on the shanks of the screws to force the back inward against nuts *h*. This affords a delicate means for regulating the position of the sign and back relative to the display-aperture.

The sign or letters are outlined at night when the box is lighted up by the reflected rays falling upon the faces of the letters and being reflected therefrom, and some direct rays fall upon the raised faces; but all the direct rays terminate at one side of the apexes of the raised letters. The appearance presented is unique, attractive, and beautiful, the sign being outlined as though the light were transmitted through a transparent medium. The light produces change-color effects as the sign is viewed from different perspectives. Most of the illumination is due to

a double or even multiple reflection of the light-rays. The rays of light emitted from the faces of the sign appear to radiate as from a common center.

This form of illuminated display-sign results in an economy of light, as a small candle-power light may be used with perfectly satisfactory results. To illustrate, if a single light were placed in the middle of a box in which the lettering in the face consisted of the ordinary transparent medium the sign would be bright in the center and fade away toward each end. With my device the letters from end to end are displayed with equal clearness and prominence, due to the fact that the light received by the letters is mainly light reflected from the sides of the box passing around the screens between the edges of the apertures and the letters and being arrested by the raised faces of the letters and reflected therefrom.

I preferably employ opaque material for the sign, selecting one which will be ornamental and which will contrast with the face of the sign, so as to be obvious and attractive either day or night.

Having described my invention, I claim—

1. In an illuminated display device, the combination of a box having an iridescent interior, a light located therein, a display-aperture in the face of said box, an opaque display-sign supported in rear of said aperture and a screen interposed between said sign and said light, substantially as specified.

2. In an illuminated display device, the combination of a box having an iridescent interior, a light located therein, a display-aperture in the face of said box, an opaque display-sign having raised faces protruding through said aperture and supported in rear thereof and a screen interposed between said sign and said light, substantially as specified.

3. In an illuminated display device, the combination of a box having an iridescent interior, a light located therein, a display-aperture in the face of said box, an opaque display-sign located in said box having raised faces protruding between the edges of said aperture but out of contact therewith, and a screen supported in rear of said display-sign, the said screen being adapted to prevent the direct light-rays from passing beyond the protruding raised faces of the sign, substantially as specified.

4. In an illuminated display device, the combination of a box having an iridescent interior, a light located therein, one or more display-apertures in the face thereof, one or more opaque display-signs corresponding in outlines with the respective apertures supported in rear thereof and having opaque flanges, projecting beyond the margins of said apertures, substantially as specified.

5. In an illuminated display device, the combination of a box having an iridescent interior, a light located in said box, a display-aperture in the face thereof, an opaque sign having raised faces supported in rear of said aperture but out of contact with the edges thereof, and opaque flanges formed around the edges of the sign projecting beyond the inside edges of said aperture, substantially as specified.

6. In an illuminated display device, the combination with a box having an irridescent interior, a light located therein, a display-aperture in the face of the box, a corresponding opaque display-sign supported therein, but out of contact with the edges thereof having raised faces projecting through said aperture and opaque flanges projecting beyond the inside edges of said aperture, substantially as specified.

7. In an illuminating display device, the combination of a box having iridescent interior, a light located therein, a dispay-aperture in the face of said box, an opaque display-sign corresponding in outline with said aperture and supported in rear thereof, opaque flanges formed on said sign extending laterally beyond the edges of said aperture, the said sign having raised faces projecting through said aperture but out of contact therewith forming a space between the edges of the said aperture and display-sign whereby the light-rays are reflected upon said protruding opaque faces, substantially as specified.

In testimony whereof I have hereunto set my hand.

CHARLES CALVERT SCOTT.

Witnesses:

OLIVER B. KAISER,

W. R. WOOD.