

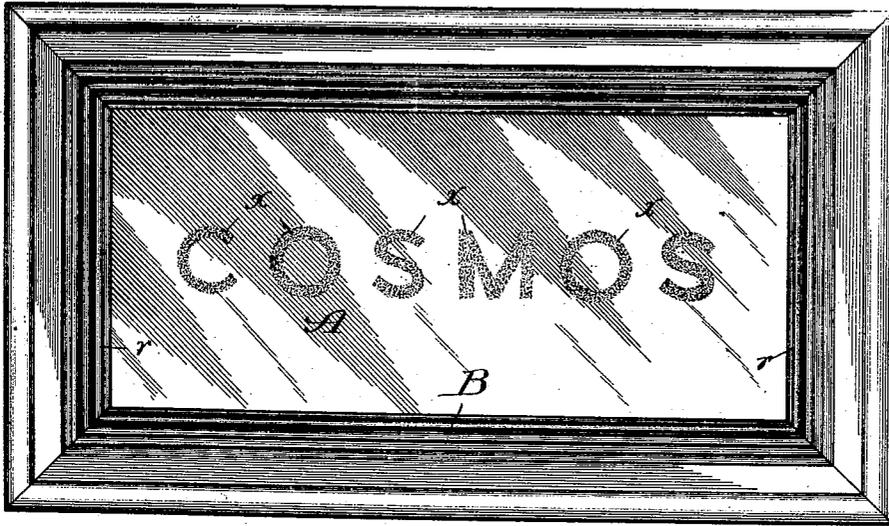
(No Model.)

W. HOSKINS.  
LUMINOUS SIGN.

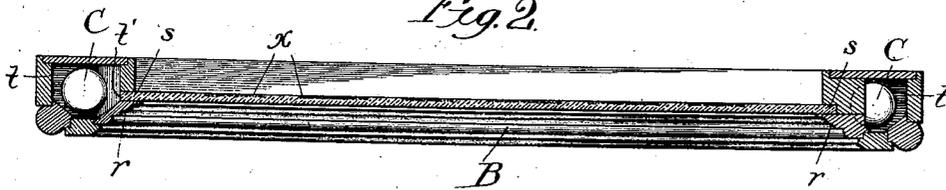
No. 529,073.

Patented Nov. 13, 1894.

*Fig. 1.*



*Fig. 2.*



Witnesses:  
*Chas. C. Clark*  
*Geo. S. Alter*

Inventor:  
*William Hoskins,*  
By *Dyrenforth & Dyrenforth*  
*Attys*

# UNITED STATES PATENT OFFICE.

WILLIAM HOSKINS, OF CHICAGO, ILLINOIS.

## LUMINOUS SIGN.

SPECIFICATION forming part of Letters Patent No. 529,073, dated November 13, 1894.

Application filed May 1, 1894. Serial No. 509,710. (No model.)

### *To all whom it may concern:*

Be it known that I, WILLIAM HOSKINS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Luminous Signs; of which the following is a specification.

My object is to provide a sign or display device of novel and improved construction, comprising a plate of transparent or pellucid material provided with light reflecting characters, and having illuminating means disposed at one or more of its edges to cast rays of light edgewise through the plate against the light reflecting characters or representations, and cause the latter to stand out prominently or luminously.

In carrying out my invention I prefer to employ a plate of transparent or pellucid glass, having formed or imposed thereon the characters or representation to be prominently displayed, and an opaque frame about the glass-plate having one or more chambers, each open to the adjacent edge only of the plate, and containing an illuminator as, for example, an incandescent electric lamp, whereby the illuminator is shielded against shedding its rays elsewhere on the plate than to the edges thereof, and through which the rays are accordingly projected between the surfaces of the glass against the reflecting characters. The character to be displayed may be any representation, as a name, picture, ornamental design, or the like, and may be formed of opaque or translucent material imposed upon the surface of the glass-plate, or may be cut into or formed upon one or both of its surfaces, or be between the surfaces; and the rays from the illuminator passing edgewise through the plate will by reflection, refraction or absorption cause the characters or representations to stand out prominently, or become visible by contrast.

In the drawings—Figure 1 shows a sign made in accordance with my invention; and Fig. 2, a central longitudinal section of the same.

A is a glass plate provided upon its rear surface with the word "Cosmos," the letters  $\alpha$  thereof being cut into the glass, as by the sand-blast process. Around the plate A is a frame B, which may be hollow throughout,

to afford a continuous chamber  $t$ , or chambers  $t$  may be provided therein at desired locations. The plate A fits at its edges into a recess  $s$  around the inner side of the frame, and the chambers  $t$  are provided with openings  $t'$  at the recess  $s$ . The frame is formed of wood, or other opaque material, and the chambers  $t$  should be substantially light-tight at all sides except at the openings  $t'$ , which latter are closed by the adjacent edges of the glass-plate. In the chambers  $t$  I provide illuminators C, which may be, and preferably are, incandescent electric lamps.

To obtain the most pronounced display of the characters  $\alpha$ , the glass-plate A should be as clear and transparent as possible, with parallel smooth and polished surfaces, and polished edges; and the frame at the strip  $r$ , shown, should so far overlap the edges of the glass-plate as to shield the lamps from the view, through the slits or openings  $t'$ , of an observer standing in front of the device.

In practice the rays of light from the lamps C pass through the openings  $t'$  into the edges of the plate A and are presumably reflected at the inner surfaces of the strips  $r$ . The angles of incidence and reflection of the rays, as they pass through the glass, are sufficiently oblique to cause the rays to zig-zag between the opposite parallel surfaces of the glass without passing, at least to any material extent, beyond said surfaces. Any change in character of the surface, or any parts or particles of a different density between the planes of the parallel surfaces, will effect a change in angle of the rays which strike them, and will by causing the rays to issue beyond the surface of the plate, be brought prominently to view. Thus when a colorless and approximately clear glass-plate is employed, presenting smooth and parallel surfaces, with characters provided thereon as described, the plate itself will be invisible so far as the influence of the light from the lamps is concerned, and the characters will become prominent. The plate will be visible, if colorless, in proportion only to the degree of light which it may reflect from outside sources. When all light is excluded from the plate, except that from the lamp through its edge or edges, the characters will stand out especially bright and prominent. They will appear to be un-

ported and the source of their illumination will be invisible.

If desired the plate A may be curved, and so long as the degree of curvature is confined within proper limits, the rays from the lamps will be confined between its surfaces.

As any change in density of the glass will become apparent through the change in angle of the rays, the plate, to be invisible, should be as free as possible from specks, bubbles and flaws of every nature.

Either one or more lamps may be employed, and of course the degree of luminosity of the characters will be governed by the number and intensity of the rays of light they reflect. A novel and striking effect may be produced by having differently colored lamps disposed in chambers about the glass-plate, whereby the rays of light from the different lamps will meet and blend at the characters, the primary colors being more pronounced toward the sides from which they are cast. If desired the plate may be colored and thus rendered pellucid, rather than transparent, with the effect that the plate will appear luminous without exposing the source of its illumination.

If desired the plate shown in the drawings may be roughened at all parts except at the word "Cosmos," the letters  $\alpha$  being left clear. The effect would be a luminous plate and transparent letters which would appear only by contrast. This and other modification, both in the character of the display, and construction of details, will be within the spirit of my invention as defined by the claims.

What I claim as new, and desire to secure by Letters Patent, is—

1. A luminous sign, comprising, in combination, a character displaying plate of transparent or pellucid material and an illuminator at the edge of the plate mounted to cast its light laterally through the plate by way of the edge thereof, thus obtaining substantially the effect of total reflection to produce illumination of the character substantially as described.

2. A luminous sign, comprising, in combination, a plate of transparent or pellucid material, having smooth and parallel surfaces and provided with the character to be displayed, and a shielded illuminator at the edge of the plate mounted to cast its light laterally through the plate by way of the edge

thereof, thus obtaining substantially the effect of total reflection to produce illumination of the said representation substantially as described.

3. A luminous sign comprising, in combination, a plate of transparent or pellucid material having smooth surfaces, a character representation in the surface of the plate and a shielded illuminator in the edge of the plate mounted to cast its light laterally through the plate by way of the edge thereof, thus obtaining substantially the effect of total reflection to produce illumination of the said representation substantially as described.

4. A luminous sign, comprising, in combination, a display plate of transparent or pellucid material provided with the representation to be displayed, a chamber having an opening at the edge of the plate, and an illuminator mounted in said chamber to cast its light laterally through the plate by way of the edge thereof, thus obtaining substantially the effect of total reflection to produce illumination of the said representation substantially as described.

5. A luminous sign, comprising, in combination, a display-plate, of transparent or pellucid material provided with the representation to be displayed, a frame for the plate provided with a chamber opening to the adjacent edge of the plate, and an illuminator mounted in the chamber to cast its light laterally through the plate by way of the edge thereof, thus obtaining substantially the effect of total reflection to produce illumination of the said representation substantially as described.

6. A luminous sign, comprising, in combination, a display plate of transparent or pellucid material, provided with the representation to be displayed, a frame about the plate provided with illuminator chambers each open only to the adjacent edge of the plate, and an illuminator in each chamber mounted to cast its light laterally through the plate by way of the edge thereof, thus obtaining substantially the effect of total reflection to produce illumination of the said representation substantially as described.

WILLIAM HOSKINS.

In presence of—  
M. J. FROST,  
W. U. WILLIAMS.