

No. 878,758.

PATENTED FEB. 11, 1908.

R. R. WILEY.
SIGN LETTER.

APPLICATION FILED JAN. 26, 1906.

Fig. 1.

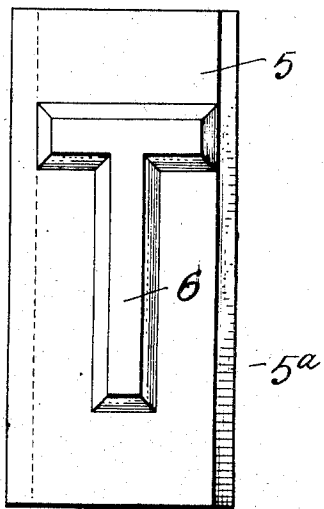


Fig. 2.

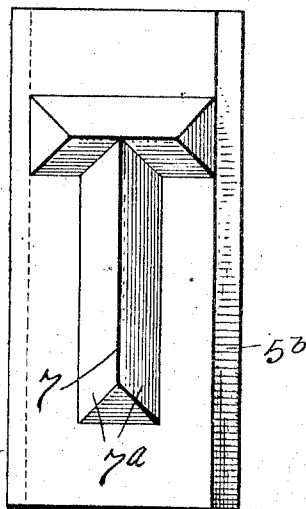
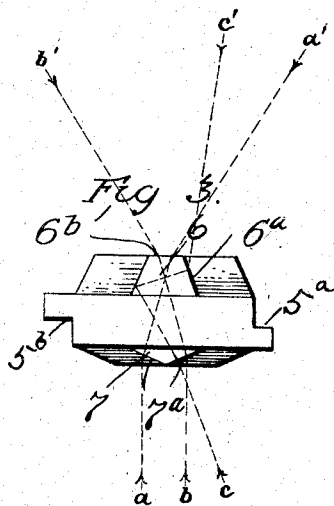
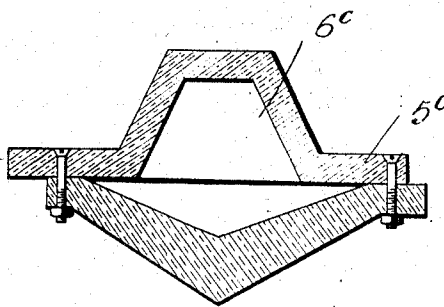


Fig. 4.



Attest:

W. P. Burke

By

Inventor:

Ray Rodney Wiley

By Richard D. [Signature]

UNITED STATES PATENT OFFICE.

ROY RODNEY WILEY, OF ST. CATHERINES, ONTARIO, CANADA.

SIGN-LETTER.

No. 878,758

Specification of Letters Patent.

Patented Feb. 11, 1908.

Application filed January 26, 1906. Serial No. 298,077.

To all whom it may concern:

Be it known that I, ROY RODNEY WILEY, a citizen of the United States, residing at City of St. Catharines, county of Lincoln, Province of Ontario, Canada, electrical engineer, have invented new and useful Improvements in Sign-Letters, of which the following is a specification.

My present invention relates to sign letters of the type designed to be illuminated by a light from the rear.

Among the objects of the invention are to provide a sign letter which shall be extremely legible by day while by night every part of the letter will shine with great brilliancy and be visible from widely varying points.

Another object is to provide a letter of such form that when a series of them are assembled in a suitable case, frame or holder, one or more may be readily removed and replaced without disturbing the others.

A still further object is to provide sign letters which may be easily and economically manufactured and assembled, and which will be extremely durable in use, and which will be extremely economical in operation owing to the high percentage of light which will be utilized for the illumination of the letters.

The general nature of the invention comprises letter-plates of translucent material, shaped to concentrate light rays at the rear, to transmit the rays to the front of the letter and there, to emit them as letter forming divergent rays, the front of the letter being in its specific form, a plane surface, and the rear prismatic, and larger in area, than the front.

The invention is illustrated in the accompanying drawing in which: Figure 1 is a front view. Fig. 2 is a back view and Fig. 3 is a view of Fig. 1 looking upward from a plane below the sign letter shown in that figure. Fig. 4 is a sectional view of a modification.

According to my invention I mold or otherwise form the glass in such a manner that the desired letter is provided in relief upon the front of a glass plate while a prismatic back is also provided conforming in shape to the raised portion upon the front.

In the drawing the numeral 5 designates a glass plate and 6 a raised flange or relief portion of a configuration corresponding to the desired letter. I have found that the best results are secured by forming this flange of the cross sectional shape shown in Fig. 3 in

which it will be seen to have inclined sides 6^a and a central connecting flat portion *b*. The prismatic back is shown at 7 and consists of a rib or flange of glass having two plain faces 7^a joining in the center of the latter. The front and rear flanges and the plate may all be conveniently formed of a single piece of glass pressed or molded into the desired shape and this is preferable. The side edges of the plates may conveniently be provided with reversely rabbeted portions 5^a and 5^b so that when a number of plates are assembled each will overlap the other. By this construction the plates will assist in holding each other in place and yet each plate may be easily removed when it is desired to substitute a plate bearing some other letter. There will be no cracks between the plate through which light can pass as the entire surface of the plates except that occupied by the prisms or flanges are covered with a coating impervious to light.

Instead of making the letter of a single piece of glass I may form it in the manner shown in Fig. 4. In this the flange on the plate 5^c is formed by pressing or molding the glass so as to provide a hollow flange or rib 6^c with its walls of equal thickness throughout. The prismatic back is molded from a separate piece of glass having its front and rear inclined faces at different angles or degrees of inclination. The edges of the rear plate can be riveted or otherwise secured to the front plate and the rabbeted portions may be formed by having the edges alternately overlap as shown.

When a sign letter, constructed as above described, is illuminated from the rear, the prismatic back by refraction and reflection makes the front raised portion shine with great brilliancy and exceeding legibility when viewed from widely varying points. With a prismatic back, such as shown and described, the rays of light which pass in a line perpendicular to the general plane of the plate, as indicated at *a* and *b*, are refracted by the rear and front prisms so as to leave the front surface on lines sharply inclined thereto. Such rays, however, as strike the rear prismatic surfaces perpendicularly to said surface (and inclined to the general plane of the plate) as indicated at *c*, are reflected and refracted so as to leave the front surface as indicated by the dotted line *c'*. By reason of the refraction above de-

scribed the illuminating light can be placed at other points than immediately in rear of the letter; or a single light may be used in a suitable case or box to illuminate a long row or series of letters without detracting from the brilliancy of the effect. Another important function of the prismatic back is that it so breaks up or distributes the rays that the eye will not readily observe the source of light, and still another function is that it causes the front chamfered or prismatic edges to shine with great brilliancy.

For small letters the front shown in the first three figures is preferable but for large letters that shown in Fig. 4 is desirable as economizing material and reducing in weight.

In order to make the letter or letters legible by day it is desirable to coat the opaque part of the letter plates with bronze or similar finish which will cause the letters to stand out from the background with great distinctness and contrast when the source of light is in front, as in the day time.

It will be obvious that there may be many modifications of the salient features of the invention as shown in the drawings and described in the specification without departing from the spirit of the invention and consequently the invention is not to be regarded as limited to the literal description thereof

except as required by the scope of the appended claims.

Having thus described my invention what I claim is:

1. A sign character comprising translucent material having a front plane surface to form the configuration of a letter, and having a prismatic back surface of larger area than the front surface for concentrating incident rays which are perpendicular to the front plane surface upon said surface.

2. A sign character comprising translucent material whose back portion is in relief, and shaped for concentrating light rays and whose front portion is in relief and shaped for diverging said concentrated rays.

3. A sign character comprising translucent material, shaped for concentrating light rays incident thereon, into the shape of a letter, and for emitting said concentrated rays in the shape of the same letter in diverging lines.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROY RODNEY WILEY.

Witnesses:

A. W. MAGUIRE,
W. STUART LANE.