

A. MACKENZIE & T. M. NORTON.

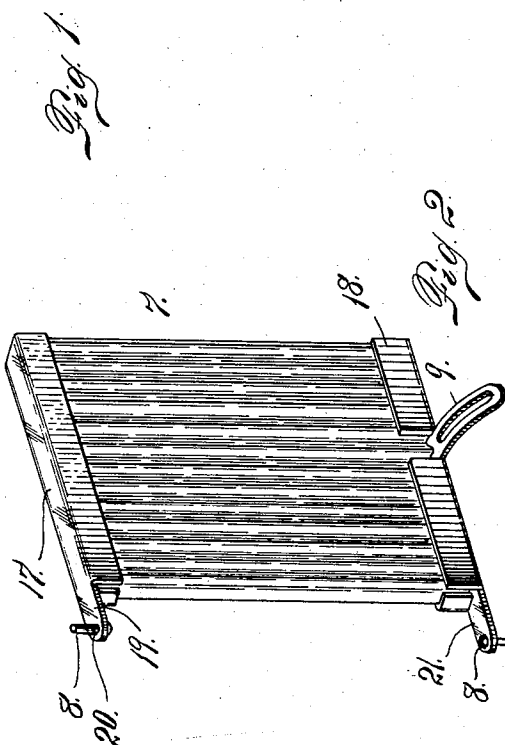
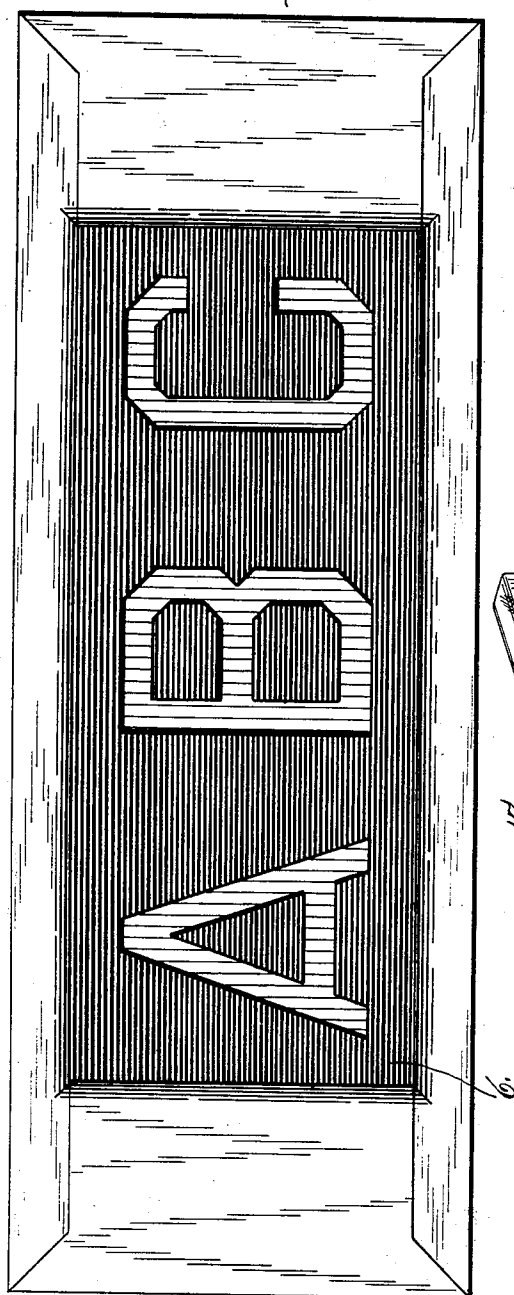
ILLUMINATED SIGN.

APPLICATION FILED AUG. 5, 1909.

977,665.

Patented Dec. 6, 1910.

2 SHEETS—SHEET 1.



Witnesses

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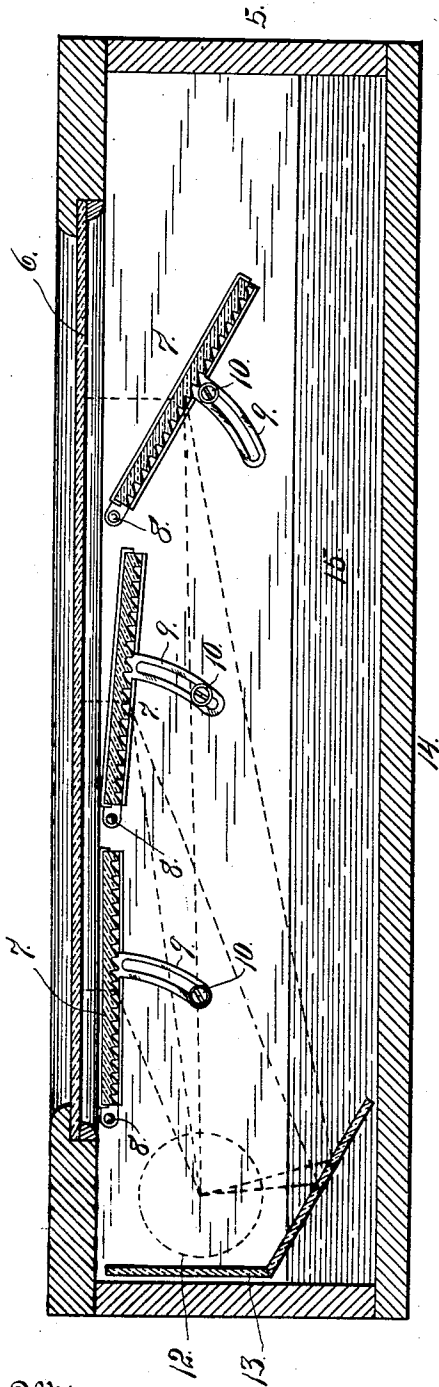


Fig. 3.

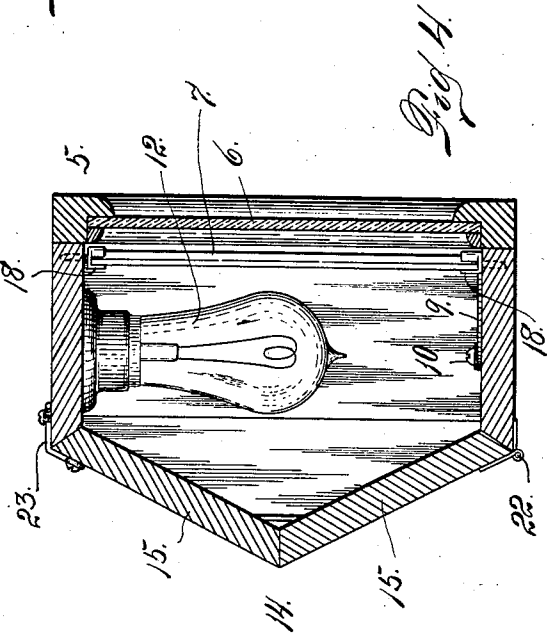


Fig. 4.

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UNITED STATES PATENT OFFICE.

ARCHIBALD MACKENZIE AND THOMAS M. NORTON, OF DENVER, COLORADO.

ILLUMINATED SIGN.

977,665.

Specification of Letters Patent.

Patented Dec. 6, 1910.

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To all whom it may concern:

Be it known that we, ARCHIBALD MACKENZIE and THOMAS M. NORTON, citizens of the United States, residing in the city and county of Denver and State of Colorado, have invented certain new and useful Improvements in Illuminated Signs; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon, which form a part of this specification.

Our invention relates to improvements in illuminated signs, our object being to economize light for use in connection with signs of this character, and this we accomplish by the use of adjustable prisms located in the rear of the plate in which the sign is formed. By virtue of the adjustability of these prisms, a single lamp located in the reflecting case in the rear of the sign, may have its rays so directed that after passing through the prism, they will strike the letters of the sign in lines at right angles to the plane of the sign plate.

A reflector or reflectors of any desired shape may be employed in connection with the prisms in order to accomplish the aforesaid object.

It is well known that the greater the number of rays of light which can be made to pass through a given opening or transparent space, the more brilliant will be the illumination, hence, in order that the best results may be obtained, it is desirable that the rays of light shall, as far as possible, be caused to strike the letters of the sign in lines at right angles to the surface of the plate in which the letters are formed. By locating a lamp at one extremity and in any desired location, in a relatively long reflecting case, it is possible by the use of our adjustable prisms to produce the desired result and utilize the rays of a single lamp, so that a degree of illumination shall be obtained therefrom, equal to that resulting from a number of lamps when used without our improvement.

Having briefly outlined our improved construction, we will proceed to describe the same in detail, reference being made to the accompanying drawing, in which is illustrated an embodiment thereof.

In this drawing: Figure 1 is a front view of a sign adapted for use with our improvement. Fig. 2 is a perspective detail view of one of the prism members. Fig. 3 is a horizontal section taken longitudinally through the sign and the reflecting case. Fig. 4 is a cross section of the same.

The same reference characters indicate the same parts in all the views.

Let the numeral 5, designate a case in whose front wall is set a plate of glass 6, parts of which corresponding with the shape of the letters of the sign are left transparent, while the plate is otherwise rendered opaque. It is evident, however, that the reverse may be true, and that the body of the plate may be transparent, while the parts forming the letters are left opaque. It is assumed, however, that in the sign shown in the drawing, the letters constitute the transparent portion of the plate. In the rear of the plate are adjustably-mounted prism sections 7, each of which is pivoted at the top and bottom, as shown at 8. Extending rearwardly from each prism plate 7, is a slotted arm 9. Through the slot of the arm 9, of each prism plate is passed a screw 10, or other suitable fastening device, which is caused to enter the bottom of the case. By loosening this screw, the prism plate may be adjusted to occupy any desired angle with the plane of the sign plate 6. As shown in the drawing, three prism plates are employed, one being located in the rear of each of the three letters shown in Fig. 1. At one end of the reflecting case 5, is located an incandescent lamp 12, and the prism plates are so adjusted within the reflecting case, that the rays of light, after passing through the prisms, are caused to strike the transparent letter portions of the plate 6, in lines at right angles to the plane of the plate. The upper adjustment for these plates, may if desired, be determined by experiment, in order to give the best results. If we assume that the illuminating device 12, is located at one end of the reflecting case, the rays of light passing from the lamp will strike the sign plates at different angles, and if these plates are in the same position, it is evident, by the proper adjustment of the plates, the rays of light may be caused to strike all of the plates at the same angle.

In order to facilitate the illuminating effect, we employ special reflectors, one of which is shown in the drawing and designed

nated by the numeral 13. The entire rear part 14, of the case 5, constitutes a reflecting surface and is painted white for this purpose. Any desired reflecting substance or
5 surface, however, may be employed for this purpose.

In order to enhance the effect of the rays of light, the rear part of the case is inclined rearwardly from its top and bottom, the
10 two inclined members 15, meeting at a central apex, or other suitable form:

As shown in the drawing, each prism is provided at its upper extremity with a metal member 17, and at its bottom or lower extremity, with a similar metal member 18.
15 Extending from one extremity of the member 17, is an arm 19, which is perforated, as shown at 20, to receive the pivot 8. The member 18, is also provided with a similar extension 21, also perforated to receive a
20 pivot 8. The slotted arm 9; already described, is formed integral with the metal member 18. These two metal members 17 and 18 constitute a holder for the prism
25 plate and make it practicable to adjustably connect the glass plate with the case. One pivot 8, is passed through a perforation in the arm 21, and enters the bottom of the case, while the other pivot passes through an
30 opening in the top extension 19, and enters the top of the case. It is evident that these prism plates may be connected with any frame for the purpose, consistent with their arrangement in the case, in order that they
35 may be freely adjustable, as heretofore explained.

As illustrated in the drawing, the back part of the case is hinged, as shown at 22, while its opposite edge is equipped with a
40 fastening device 23. By virtue of this construction, the case may be easily opened for the purpose of adjusting or changing the prism plates or for changing the electric lamp, as may be necessary or desirable.

45 From the foregoing description, the use of our improved sign will be readily under-

stood and need not be further explained in detail.

Having thus described our invention, what we claim is:

1. An illuminated sign comprising a case, a sign plate, a prism plate located in the case in the rear of the sign plate and adjustable transversely of the sign, and an illuminating device arranged to throw the
55 rays of light upon the prismatic surface of the prism plate, for the purpose set forth.

2. The combination of a case, a sign plate set into the front of the case, and a prism plate adjustably mounted in the rear of each
60 letter of the sign plate, substantially as described.

3. An illuminated sign, comprising a case, a sign plate closing an opening formed in the front of the case, and a series of prism
65 plates adjustably mounted in the case in the rear of the sign plate, each plate having a metal member secured to its top and bottom edge, the said members having extensions, pivots passing through perforations formed
70 in the extensions, one of the metal members of each prism plate having a slotted arm and a fastening device passing through said arm into the case, for purposes of adjustment, substantially as described.

4. An illuminated sign, comprising a case, a sign plate, a prism plate located in the rear of the sign plate, and a slotted guide arm carried by the prism plate, and engaging means on the side of the case, whereby
80 the said prism plate may be adjusted at an angle to the rays of the light, and an illuminating device arranged to throw the rays of the light upon the prism plate, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

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THOMAS M. NORTON.

Witnesses:

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A. EBERT O'BRIEN.