No. 673,647. Patented May 7, 1901.

E. A. MEACHAM.

ILLUMINATED SIGN.

(Application filed Nov. 26, 1900.)

(No Model.)

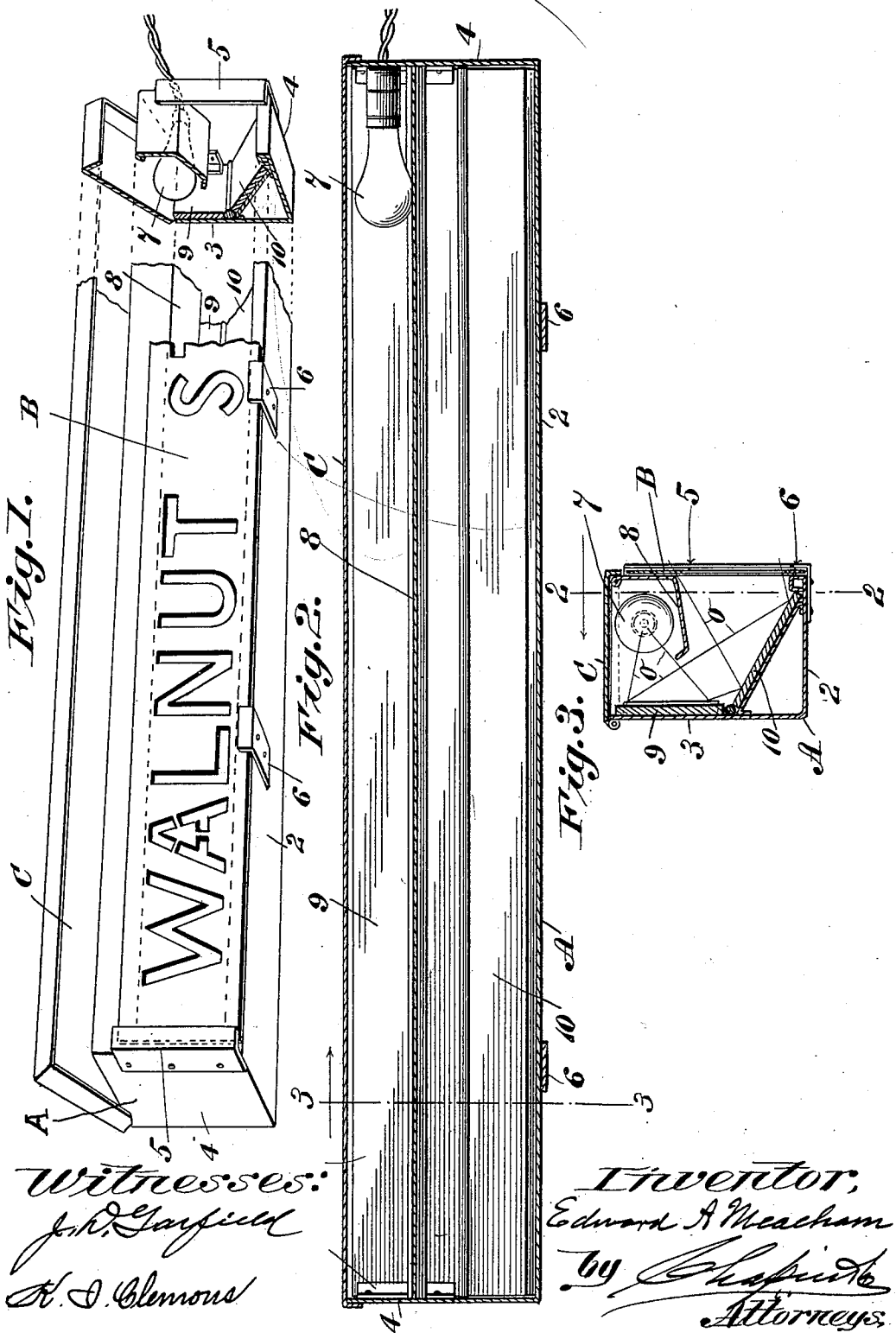


Fig. 1.

Fig. 2.

Fig. 3.

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UNITED STATES PATENT OFFICE.

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ILLUMINATED SIGN.

SPECIFICATION forming part of Letters Patent No. 673,647, dated May 7, 1901.

Application filed November 26, 1900. Serial No. 37,727. (No model.)

To all whom it may concern:

Be it known that I, EDWARD A. MEACHAM, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Illuminated Signs, of which the following is a specification.

This invention relates to illuminated signs, the object being to provide an improved construction of said signs, through or by reason of which construction the strength or lighting power of the illuminant required is much less than heretofore necessary under like conditions of space to be lighted and the space illuminated within the sign is without variation of brightness in any part thereof; and the invention consists in the peculiar construction and arrangement of various parts of the body of the sign in respect to the control and equal dissemination of light therein, all as hereinafter fully set forth, and more particularly pointed out in the claims.

In the drawings forming part of this specification, Figure 1 is a perspective view, partly in section, illustrating the construction of an illuminated sign embodying my invention, the cover of the device being shown partly opened. Fig. 2 is a sectional view on line 2 2, Fig. 3. Fig. 3 is a sectional view on line 3 3, Fig. 2.

Referring to the drawings, A indicates a box-like structure, preferably of sheet metal, comprising a bottom 2, a rear side 3, and two ends 4 4. On said ends are two clips 5 5, which with two others, 6 6, attached to the bottom of the box, serve to retain a removable sign-like strip B in the vertical position on the front side of the box. When a permanent lettering is used on the sign, said clips are not required.

A cover C (shown in Fig. 1 partly open) is hinged to the rear wall of the box and when shut protects the illuminating devices from injury.

The light-producing, governing, and disseminating devices of this construction comprise the following-described elements: The preferable source of light for the sign is an incandescent electric lamp 7, as shown in Fig. 1, located at one end of the sign-box and near the top thereof. If deemed best, in an unusually long sign a lamp may be located at opposite ends thereof. This lamp for a sign-box having a length of about five feet and a depth of seven inches and four and one-half inches wide from front to back need not be over eight candle-power. It has been found in practice that the effect in illuminated signs of lamps arranged near and casting their light directly onto the transparent lettered part thereof has been to impair the clearness of the letters, notwithstanding that a number of lamps have been used. The herein-described construction, however, obviates the said lack of clearness of the light upon the sign-words by reducing the volume of light and by so directing the rays thereof by reflection that an absolutely uniform luminous effect is developed upon the inner side of said letter-bearing part, while no part of the latter is reached by any direct rays of light from the lamp.

An opaque shield 8, preferably of metal, is fixed within the front side of the sign and extends between the opposite ends thereof. Said shield has the form shown in Figs. 1 and 3, and as there shown extends from a point above said lamp downwardly and thence inclinedly under said lamp and in a direction across the box toward the rear wall thereof and beyond said lamp, thereby preventing any of the rays of light from said lamp from acting directly downwardly therefrom toward the bottom of the box. The purpose of said shield is especially to prevent the light from said lamp from striking directly upon any part of the interior of the box A, excepting upon the part of the rear side thereof above the lower edge of said shield and more or less upon the inner side of the end of the box opposite that in which the lamp is located. The above-referred-to means for directing the light from the rear side of said shield upon the front lettered part of the sign are as follows: Two reflecting elements 9 and 10 are employed, which may be strips of ordinary glass mirrors or of polished metal. Said element 9 is suitably supported on the inner side of the rear wall of the box A and extends between the ends 4 of the box, as shown, the lower border thereof being considerably below the lower edge of said shield 8. The reflecting element 10 is suitably supported in an

angular position between a point at the lower edge of said element 9 and the lower corner of the front side of the box A, as shown in Figs. 1 and 3. The lines *o* indicate, as far as they may so do, the evident direction which the light from said lamp takes in reaching the front side of the box—that is to say, it is first thrown against the reflecting element 9 and thence from the latter upon the reflecting element 10, and thence against the inner side of the letter-bearing portion of the sign, with the result that, as aforesaid, an absolutely uniform luminous effect is produced thereupon in which are no shadows whatever.

An incandescent electric lamp, as described, is not essential to the successful illumination of the within-described sign; but other descriptions of lamps may be used, if preferred, but in every case the light is located substantially as indicated in the drawings.

Having thus described my invention, what I claim, and desire to secure by Letters Patent of the United States, is—

1. In an illuminated sign, a suitable box, an illuminating element therein, a lettered part on one side of the box, a shield extending substantially from end to end between said illuminating element and said lettered part and cutting off direct rays of light from the latter, and a reflecting-surface exposed to said illuminating element whereby light may reach said lettered part only by reflection from said surface, substantially as described.

2. In an illuminated sign, a suitable box, an illuminating element located in one end of said box near the upper side thereof, an opaque shield extending from a line above said illuminating element downwardly and thence under and beyond the same toward the rear wall of the box leaving a light-passage between said wall and shield, a reflector attached to the inside of said box opposite said lamp and shield, a second reflector extending from the lower edge of said first-named one in an inclined direction to the junction of the bottom of said box and the front wall thereof, substantially as described.

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