May 24, 1932. J. BOYCE 1,859,911

SIGN AND SIGN CHARACTER

Filed April 14, 1930 2 Sheets-Sheet 1

Fig. 1.

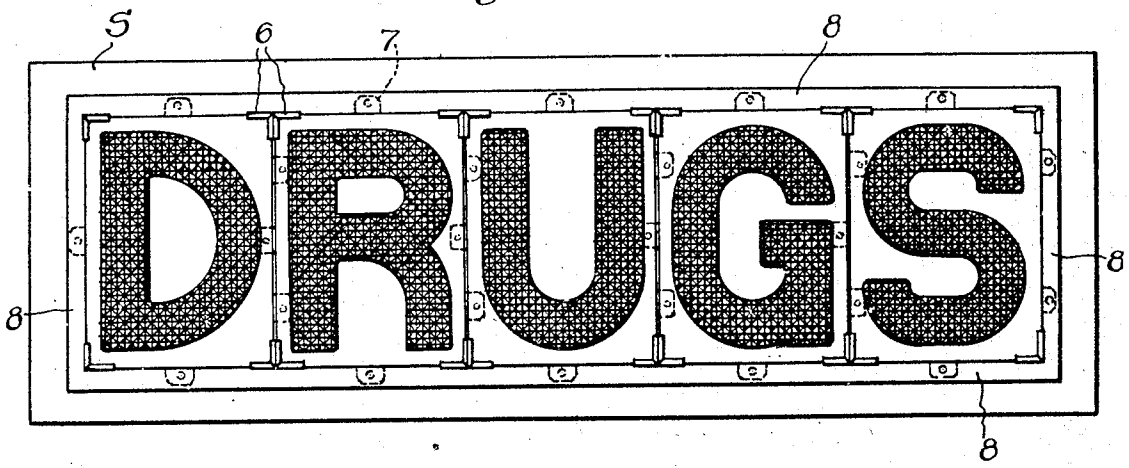

Fig. 2.

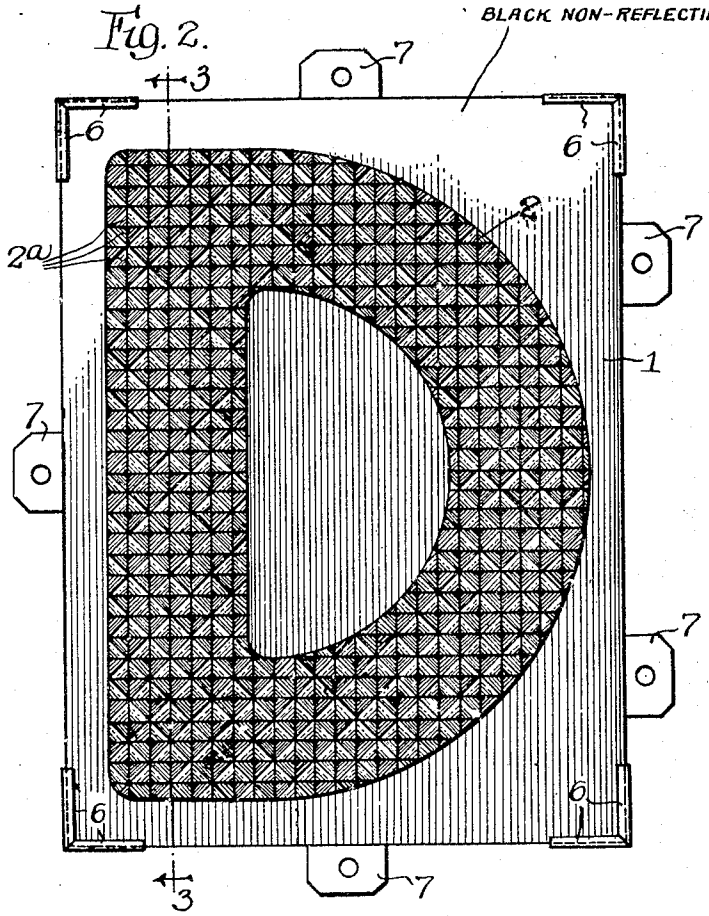

Fig. 3.

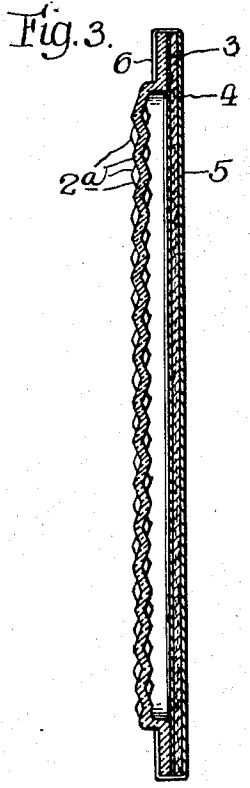

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Fig. 4.

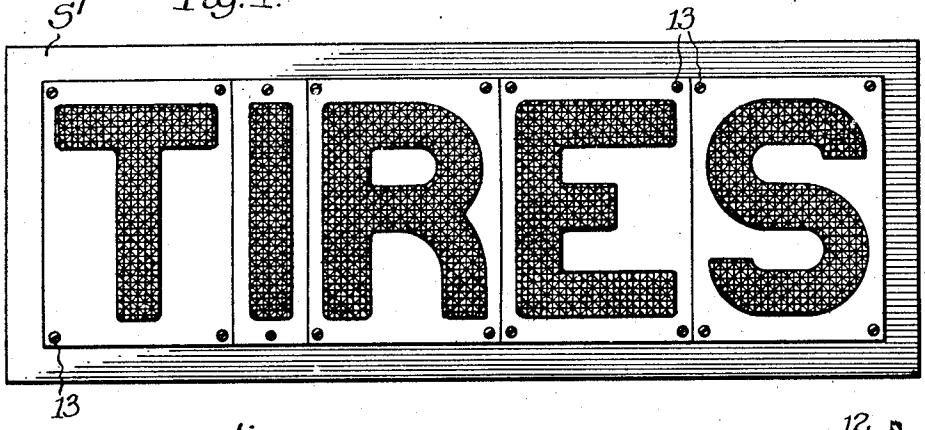


Fig. 5.

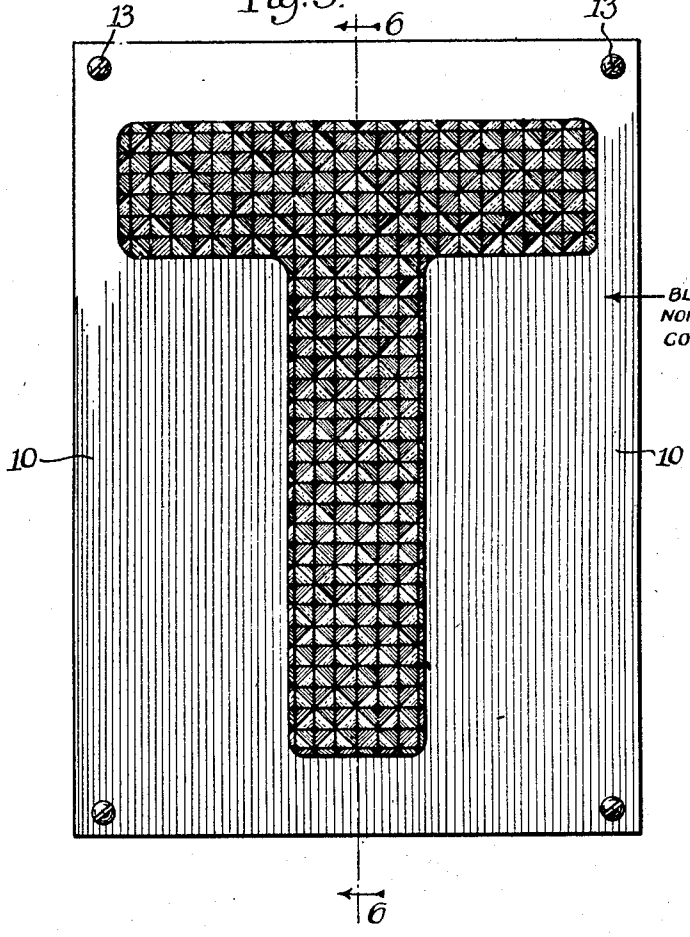
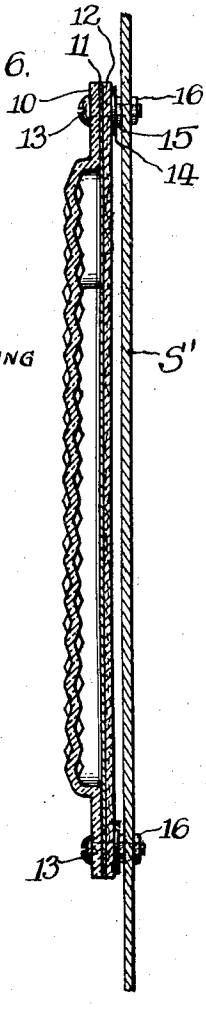


Fig. 6.



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UNITED STATES PATENT OFFICE

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SIGN AND SIGN CHARACTER

Application filed April 14, 1930. Serial No. 444,017.

This invention relates to improvements in flood-lighted or externally-illuminated signs, and particularly to a sign of this type which comprises glass characters. Among the salient objects of the invention are to provide sign characters which shall be exceptionally brilliant and attractive, whether illuminated by direct or diffused light, to reduce to a minimum the necessity of cleaning, painting or otherwise "servicing" the sign, to provide a simple and inexpensive method of combining the characters into the form of a sign, to produce fastening means which shall obviate the danger of breakage of the glass elements during the construction of the sign, and to provide improved means for building up letters which are of sectional construction.

In the accompanying drawings,

Figure 1 is a face view of a sign constituting one embodiment of the present invention.

Fig. 2 is a face view of one of the sign units.

Fig. 3 is a section on line 3—3 of Fig. 2.

Fig. 4 is a face view of a sign constituting another embodiment of the invention.

Fig. 5 is a face view of one of the sign units employed in the construction of the sign shown in Fig. 4.

Fig. 6 is a section on line 6—6 of Fig. 5.

Referring to the species illustrated in Figs. 1 to 3, inclusive, the sign therein illustrated comprises units each consisting of a glass plate or panel 1 having a character stroke 2 embossed thereon. The panel 1 with its integral character stroke 2 is preferably formed of crystal (i. e., transparent colorless) glass. If desired, the character stroke may be colored by applying to the inner or under side of the character stroke a transparent colored enamel fired into the glass.

In order to enhance the brilliancy of the character stroke, facets 2^a of any desired form may be molded therein, as indicated in the drawings.

Behind the character stroke is placed a reflector consisting, in this instance, of a sheet of aluminum foil 3. The aluminum foil, being very smooth and bright, constitutes a very effective reflector, and not being subject to corrosion it retains its reflecting qualities for an indefinitely long time.

In order to prevent reflection of light from the portions of the panel surrounding the character stroke, I apply to the outer face of the panel a fired-in coating of black, non-reflecting, i. e., matt enamel.

Behind the reflecting sheet is placed a sheet of resilient waterproof material, as, for example, a sheet of tarred felt 4. This sheet serves to protect the reflecting sheet 3 and forms a cushion between the glass panel and the supporting surface and thus aids in preventing breakage of the glass during the handling and mounting of the letters, and while the sign is in use.

The panel 1, the reflecting sheet 3 and the waterproof cushion sheet 4 are secured together to constitute a unitary article of merchandise which may be sold to builders of signs. The means for securing together the parts of the unit, in this instance, is shown as consisting of a metal sheet 5 having narrow integral flanges 6 at its corners which overlie the edges of the panel 1 and serve to hold the elements of the unit together.

The unit just described is provided with means whereby it may be mounted upon any preferred support, as, for example, the wall of a building, a wooden panel, or the like. In Fig. 1 a support S is indicated. In the present instance the securing means consists of lugs 7 on the margins of the backing sheet 5, these lugs being perforated to receive screws, nails or the like. In order that sign units may be placed close together, edge to edge, the lugs on opposite sides are offset with respect to each other. In this instance, there is a centrally located lug on one lateral edge of the unit and two lugs on the opposite edge, said two lugs being spaced so as to permit of the single lug on the adjacent edge of the next unit to be inserted behind the first-mentioned unit. It will be seen that the underlapping lug assists in holding the second-mentioned unit in place.

In Fig. 1 the spaces between adjacent units have been exaggerated for the sake of clearness. In practice these spaces or crevices may

be filled or covered in any preferred manner, as, for example, by means of cement.

If desired, means may be employed to exclude moisture from between the units and the surface upon which they are mounted. Such means may consist of cement or a strip of molding 8 extending around the perimeter of the series of units. Such molding serves to conceal the securing lugs 7. However, in many instances the sign will be of such size and will be at such a distance from the observer that it is unnecessary to conceal the lugs other than by the application of paint thereto when painting the supporting surface.

It will be seen that sign units of the construction herein described may be secured to the supporting surface without the necessity of boring holes through the glass panels, and thus it is possible to attach the units firmly in place without putting any stress on the glass panel.

A glass sign letter of such large size that it is impracticable to form it in one piece may be constructed of a plurality of panel-sections each bearing a portion of the character stroke. Each such panel-section would be a unit comprising a glass panel, a reflecting sheet, a cushion sheet and a backing being equipped with securing lugs as described in connection with the unit shown in Figs. 2 and 3.

Figs. 4 to 7, inclusive, illustrate an alternative form of unit which is intended to be secured in place by means of small bolts. Said unit comprises a glass character-bearing panel 10 which may be like the panel 1. The unit further comprises a reflecting sheet 11 which may be a sheet of aluminum foil. The unit further comprises a waterproof resilient sheet 12. The parts of the unit are secured together by means of bolts 13 extending through openings in the panel, the aluminum foil and the waterproof sheet, a thin washer 14 and a small thin nut 15 on the bolt serving to hold the parts together. The unit may be attached to a wood mounting board or a sheet-metal backing S′ by passing the projecting ends of the bolts 13 through openings in such mounting board or metallic backing. Nuts 16 serve to secure the units to such supporting structure. Inasmuch as the supporting structure is clamped between the nuts 15 and 16, the operation of mounting the units upon the backing places no pressure upon the glass panel.

The outer surface of each panel surrounding the character stroke may be rendered non-reflecting in any preferred manner, as by means of a fired-in coat of black matt enamel.

If desired, the sign units may be assembled behind a sheet-metal stencil of ordinary form which covers all portions of the units except the character stroke and thus conceals the parting lines between successive units. When a stencil is to be used, the non-reflecting coating on the face of the panel may be dispensed with. The sign units would be attached to the stencil by means of the screws 13.

The features of the two species of sign unit herein disclosed may be summarized as follows: The sign character very effectively reflects the light falling upon it. The reflector (formed as it is of aluminum foil or the like) is efficient, durable, and inexpensive. The character stroke may be given various colors by applying to its rear or inner side a permanent coat of transparent colored enamel, preferably fired in. The cushion 4 or 12 protects the glass panel from shock. The assemblage of the various elements into the form of a unit produces an article that may be conveniently shipped, handled and incorporated into a sign. Each unit has securing means of such nature that the sign-builder need not bore holes in the glass panel. Nor need the sign-builder employ the usual expensive sheet metal stencil, although a stencil may be used if desired. The panels are of such dimensions that in the spelling of a word the distances between letters will be uniform.

A sign constructed of my improved units requires a minimum of servicing.

In certain of the following claims the term "support" is used to denote a wooden panel or board, a sheet-metal support, the wall of a building or other supporting means. The term "non-reflector" is used to denote a matt coating on the front side of the glass panel, a stencil which covers all of the panel except the character stroke, or other equivalent means. While the foil 3 is a highly efficient and inexpensive reflector, the term "reflector" is used in the claims to denote, generally, means to reflect light through the character stroke.

I claim as my invention:

1. A sign unit comprising a glass panel having a character stroke embossed on the front side thereof, a sheet of aluminum foil behind the character stroke and extending beyond the edges of the stroke, a resilient sheet behind the foil, a backing sheet behind the resilient sheet, and means to secure said panel, foil and sheets together.

2. A sign unit comprising a glass panel having a character stroke embossed on the front side thereof, a thin flexible reflector behind and extending beyond the edges of the character stroke, a resilient sheet behind the panel, a metallic backing sheet behind the resilient sheet, and means to secure said panel, reflector and sheets together.

3. A sign-unit comprising a glass panel having a character stroke thereon, a reflector behind said panel, a cushion sheet behind the reflector, bolts extending through registering

openings in said parts, a nut on each bolt to hold said parts together, said bolts extending rearwardly of said nuts to constitute means for attaching the unit to a support, and a nut on the rear end of each bolt.

In testimony whereof, I have hereunto affixed my signature.

JAMES BOYCE.