Jan. 6, 1953 C. F. MARTIN 2,624,141

ILLUMINATED SIGN STRUCTURE

Filed March 11, 1950

Fig. 1

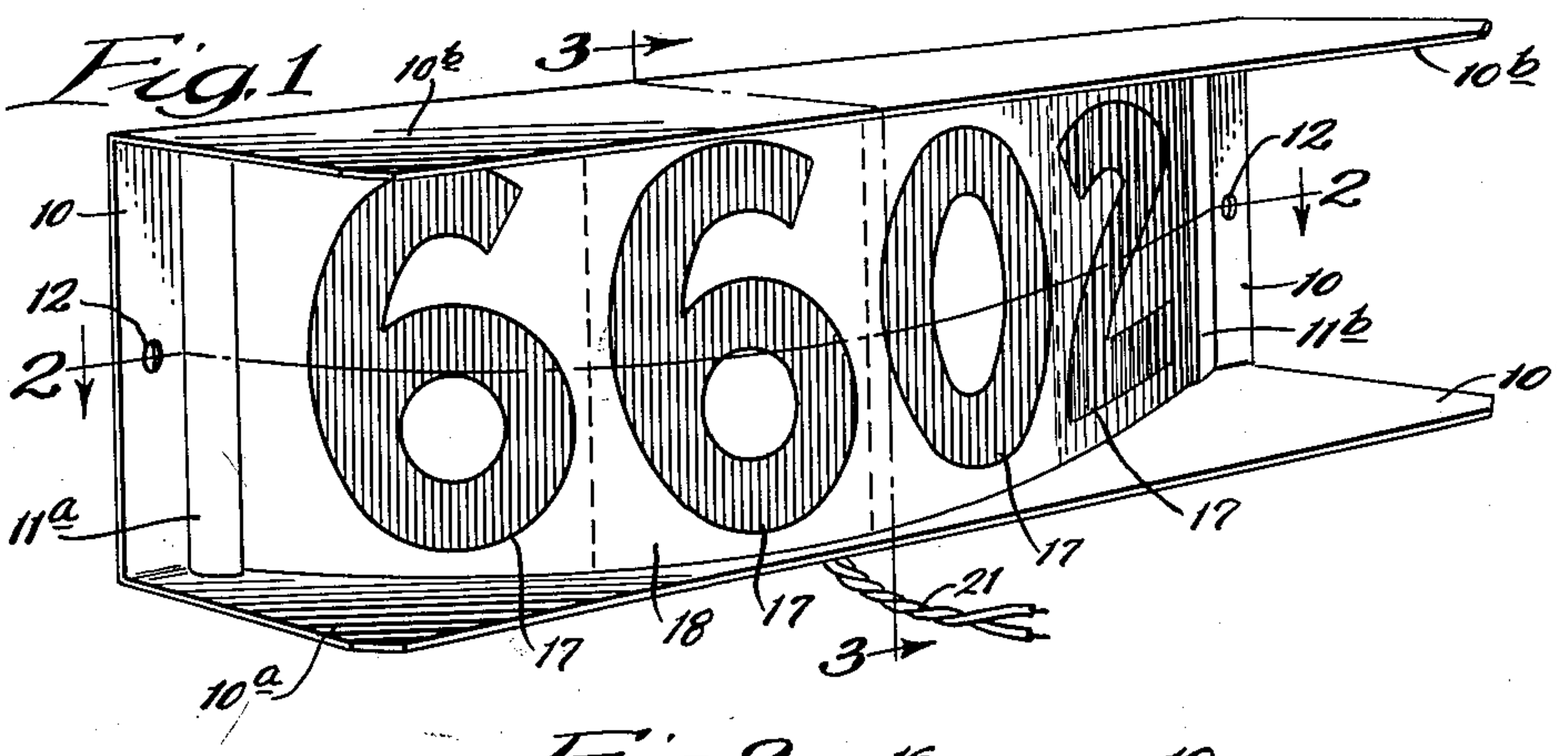


Fig. 2

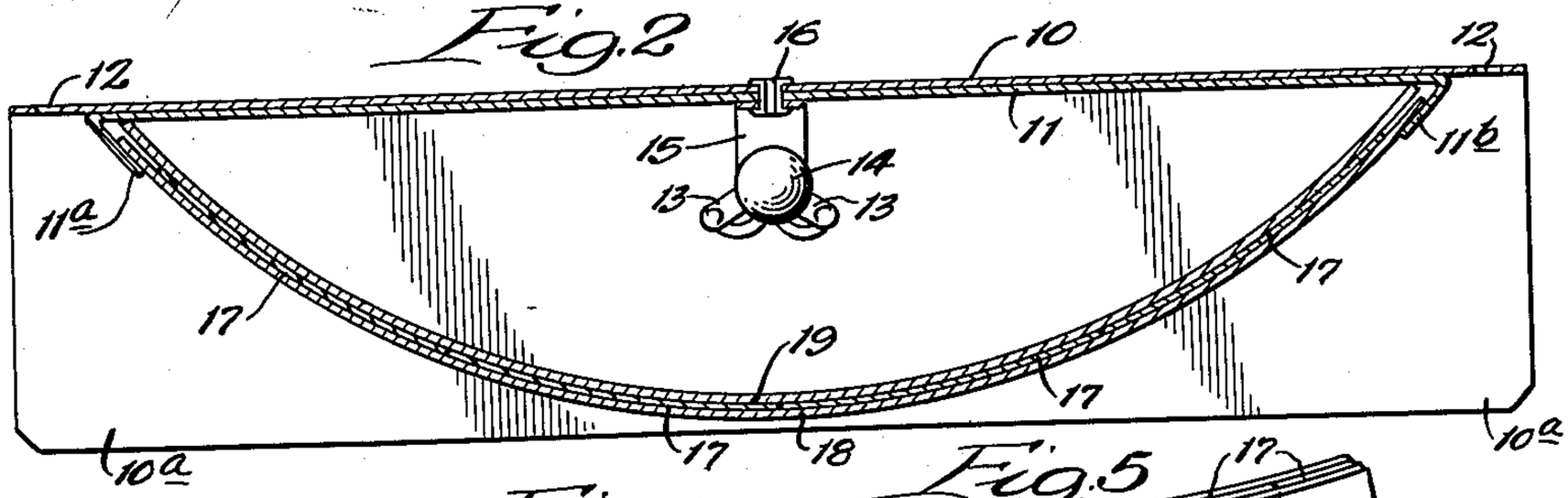


Fig. 3

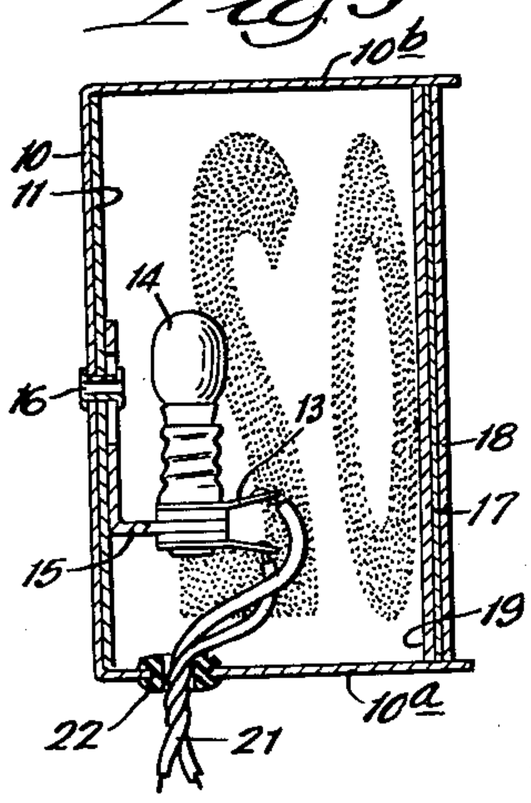


Fig. 4

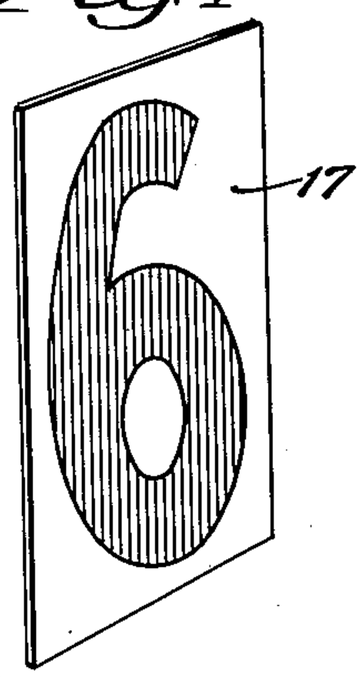


Fig. 5

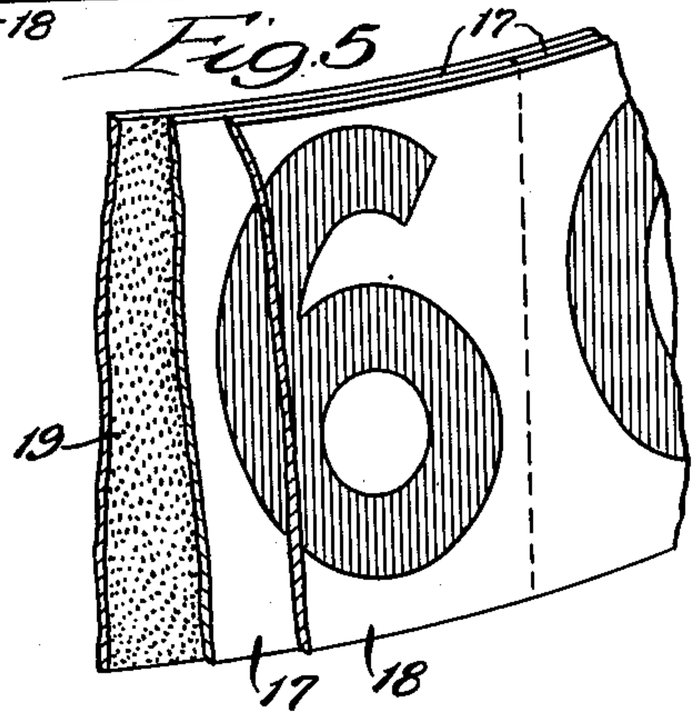
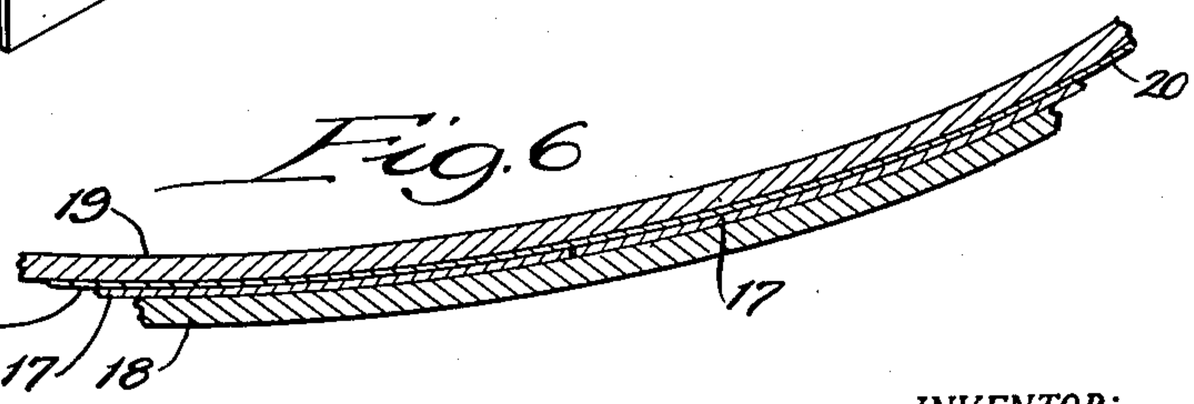


Fig. 6



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UNITED STATES PATENT OFFICE

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ILLUMINATED SIGN STRUCTURE

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Application March 11, 1950, Serial No. 149,103

2 Claims. (Cl. 40—132)

1

This invention relates to illuminated signs; in particular, it concerns a simple, inexpensive illuminated sign particularly adapted for use as a street number sign for private residences.

Illuminated house-number signs are not broadly new, since such signs, designed for operation from door bell circuits, have been available in the past. The prior-art structures, however, have been complicated, relatively expensive, and unsatisfactory from the maintenance viewpoint. Prior-art structures have been particularly objectionable for their tendency to accumulate within the sign structure refuse, dirt, insect bodies, and other litter.

My invention provides an illuminated sign structure which is wholly enclosed, so that foreign matter can not enter the compartment which encloses the light source. To provide such an illuminated sign is one of the principal objects of my invention.

Another object of my invention is to provide an illuminated house-number sign providing universally interchangeable numerals formed on very thin plastic sheets which may be cheaply made in mass quantities. Still another object of my invention is to provide for such thin plastic numerals a holding mechanism comprising a pair of plastic sheets receiving the numerals sandwich-fashion, which, when assembled, are bent to provide an attractive convex surface for display of the numerals and at the same time elastically to hold the numerals in position.

Other objects and advantages of the present invention will be apparent from this specification and the appended drawing.

I have illustrated, in the accompanying drawing, an illustrative embodiment of my invention; of the drawing, Figure 1 is a perspective view of a fully assembled house number sign embodying my invention; Fig. 2 is a sectional view of the sign of Fig. 1, taken along the line 2—2 of Fig. 1; Fig. 3 is a sectional view of the sign of Fig. 1, the section being at right angles to that of Fig. 2 and being taken along the line 3—3 of Fig. 1; Fig. 4 is a perspective view of a numeral plaque suitable for employment in my invention; Fig. 5 is a fragmentary perspective view of a portion of the sign of Fig. 1, the various layers of plastic therein being broken away to bring out clearly the manner of construction of my sign; and Fig. 6 is a fragmentary sectional view, on an enlarged scale, bringing out the details of my assembly method wherein I employ a water film as a temporary adhesive agent to secure the plastic numerals to the backing sheet.

2

As shown in Fig. 1, the frame 10 of my sign is made from a single piece of metal—preferably aluminum or other non-rusting metal; the stock from which frame 10 is formed may be essentially rectangular in shape; the frame consists of a back portion intended to be secured to the wall which is to carry the sign, and a pair of forwardly extending wings, denoted 10*a* and 10*b* respectively, which are formed by bending the frame 10 forward at right angles to the back portion along lines which are parallel to one another and equally distant from the top and bottom edges of the sheet from which frame 10 is formed.

While I have, in the illustrated drawing, shown frame 10 as substantially rectangular in shape, it will be understood that any desired shape may be adopted; I like, for esthetic reasons, the shape shown, but other shapes may be adopted with equally good functional performance so long as the top and bottom wings are sufficiently large to enclose wholly the space above and below the light source to be described presently.

A plate 11, which may be formed of the same type of metal employed for frame 10, is symmetrically disposed along the forward face of frame 10; the outer ends of plate 11 are bent inward at an acute angle to form a pair of ears or restraining flanges 11*a* and 11*b* respectively.

To facilitate mounting of my sign on a wall, a pair of mounting holes 12 may be provided as shown in the ends of frame 10.

A small light socket 13, adapted to receive a bulb 14, is mounted on plate 11 near the midpoint thereof; in the illustrated embodiment, I have placed light socket 13 at the exact midpoint of frame 10 and plate 11; I have shown socket 13 supported on a bracket 15 and have shown a rivet 16 used to securely join together frame 10, plate 11, and bracket 15. This type of construction has the advantage of great simplicity; it will be understood that other apparatus for holding the various parts of the sign together may be substituted.

It is interesting to note that a single rivet will effectively hold frame 10 and backing plate 11 together, since relative movement of plate 11 and frame 10 in either rotational direction can not occur, because plate 11 abuts wing 10*b* at the top and wing 10*a* at the bottom, along its entire length.

My sign is formed from a plurality of plastic numeral or letter rectangles 17, held securely in position by being clamped between a pair of elastic plastic sheets 18 and 19 respectively. Sheet 18, being the outer of the two elastic plastic

sheets, will normally be formed of clear plastic. Sheet 19, the inner of the co-operating pair of elastic sheets, will normally be formed of a milky, translucent material, colored white or some other light hue.

The length of the plastic sheets 18 and 19 is substantially greater than the longitudinal distance between restraining flanges 11*a* and 11*b*. Accordingly, when sheets 17 and 18 are bent sufficiently to permit their insertion between flanges 11*a* and 11*b*, they are held in an arcuate shape, as shown, and the plastic letters or numerals 17 between them are held tenaciously in place by substantial elastic forces.

A typical numeral plaque 17 is shown in Fig. 4. In my sign, those numeral plaques are formed of very thin plastic sheets—about .005 of an inch or less in thickness. The numerals or letters may be placed thereon by any desired process; I have found silk screening to be a highly satisfactory means of marking the numeral plaques 17.

Plaques 17 may be of any desired shape, although I have found a rectangular shape to be quite useful, since a sign with rectangular letters, when once properly assembled, will hold the letters in place indefinitely without any possibility of their being shifted in position, rotated, or otherwise knocked askew.

The manner of assembly of my sign is shown clearly by Figs. 5 and 6; a "sandwich" is formed of the back sheet 19, the plastic numeral plaques 17 (which are normally formed of transparent plastic), and the front plastic sheet 18, also usually formed of transparent plastic. The "sandwich," once assembled, is then bent into an arcuate shape and slipped between flanges 11*a* and 11*b*. It thereby provides, within the space bounded by the sign proper, plate 11, and wings 10*a* and 10*b*, a completely enclosed chamber which houses light source 14. The elements can not reach either light source 14 itself or the metal plate 11 which, in most cases, will be polished to provide a good reflecting surface, and insects and other foreign matter are wholly excluded from the illumination chamber.

It should be noted that the letters or numerals, painted or lacquered on thin plastic sheets 17, are likewise fully protected from the weather, since they are tightly clamped between the relatively thick plastic sheets 18 and 19.

I have found that much labor and time can be saved in the formation of the plastic "sandwich" just described when the back sheet 19 and the numerals 17 are, before assembly, wetted thoroughly. Sheets 17, being extremely thin, are held quite securely to sheet 19 by the film of water 20 which is thus formed between them, and it is accordingly very easy to arrange the numerals in any desired order and position on back sheet 19. The upper sheet 18 can then be placed over sheet 19 and numerals 17, and the plastic "sandwich" is then ready to be bent and inserted between flanges 11*a* and 11*b*. In a short time the

water film 20 evaporates and disappears, but the numerals are then securely held against possibility of movement by the strong elastic forces set up in plastic sheets 18 and 19 by reason of their having been bent into an arcuate shape.

Wires 21 may be connected to socket 13 and introduced into the illumination chamber through a small aperture in wing 10*a*, said aperture being preferably provided with an insulating grommet 22.

While I have in this specification described in considerable detail an illustrative embodiment of my invention, it will be understood that many variations and changes therein can be made by persons skilled in the art without departing from the spirit of my invention. Accordingly, I desire it understood that the embodiment herein described is exemplary only, and that the scope of my invention is to be determined primarily by reference to the appended claims.

I claim:

1. An illuminated sign structure comprising an integral frame having a back portion and top and bottom portions substantially perpendicular thereto, a pair of restraining flanges on the back portion, a light source mounted on said back portion, and a translucent plastic sign comprising a pair of substantially rectangular plastic sheets having secured between them, sandwich-fashion, a plurality of sign indicia carried on thin rectangles of flexible translucent material, said plastic sheets being bent into an arcuate shape and secured between said flanges to form, within said frame, a closed chamber.

2. An illuminated sign structure comprising a frame having a back portion and top and bottom portions substantially perpendicular thereto, a pair of restraining flanges on the back portion, a light source mounted within said frame, and a translucent plastic sign comprising a pair of substantially rectangular plastic sheets having secured between them, sandwich-fashion, a plurality of sign indicia carried on thin sheets of flexible translucent material, said plastic sheets being bent into an arcuate shape and secured between said flanges to form, within said frame, a closed member.

CLARENCE F. MARTIN.

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