A. M. KNAUBER.

SIGN LETTER AND FRAME.

APPLICATION FILED AUG. 28, 1919. RENEWED NOV. 7, 1921.

1,408,210. **Patented Feb. 28, 1922.**

3 SHEETS—SHEET 1.

Fig. 1.

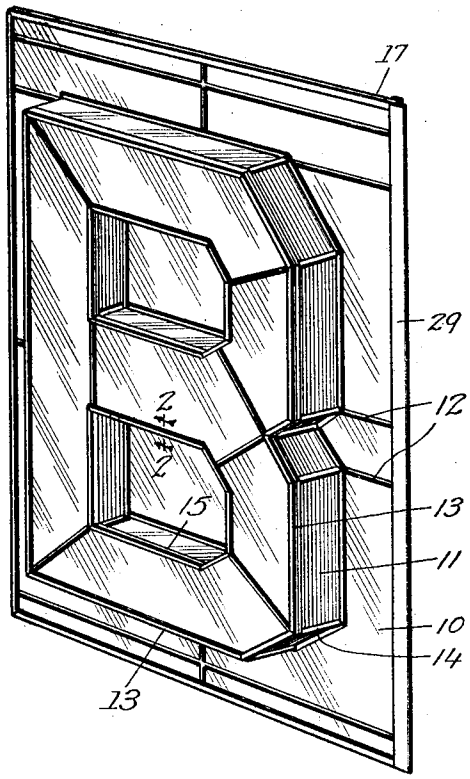


Fig. 2.

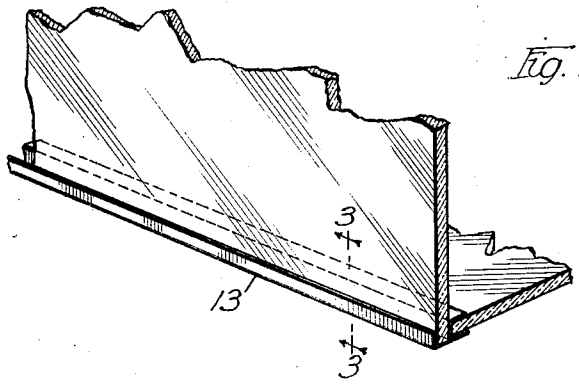
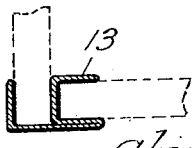


Fig. 3.



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3 SHEETS—SHEET 2.

Fig. 4.

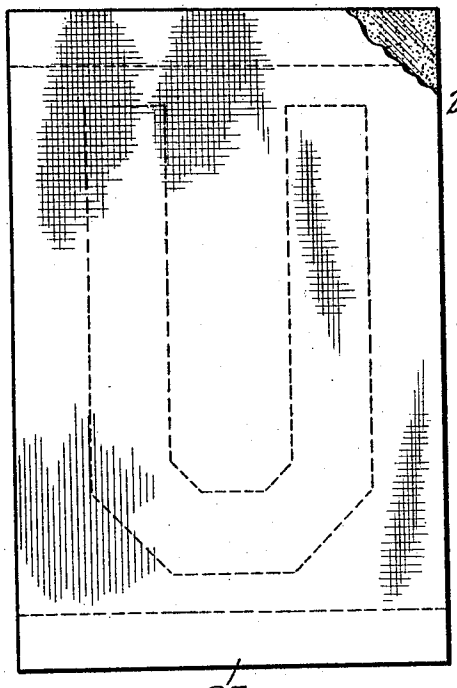


Fig. 5.

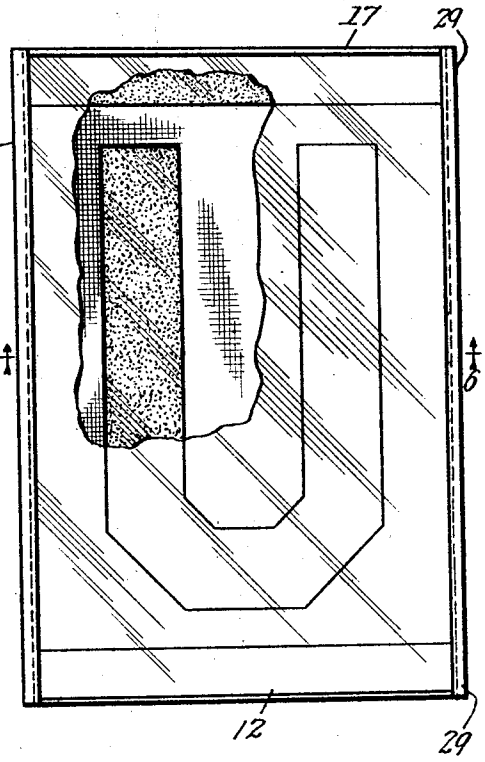
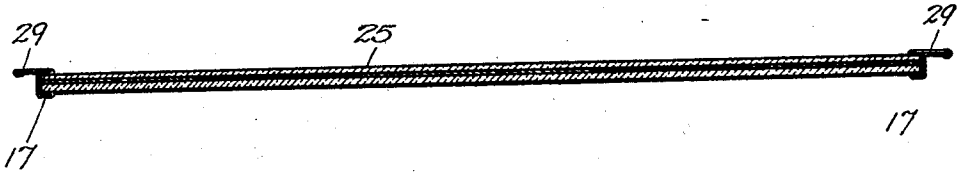


Fig. 6.



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3 SHEETS—SHEET 3.

Fig. 7.

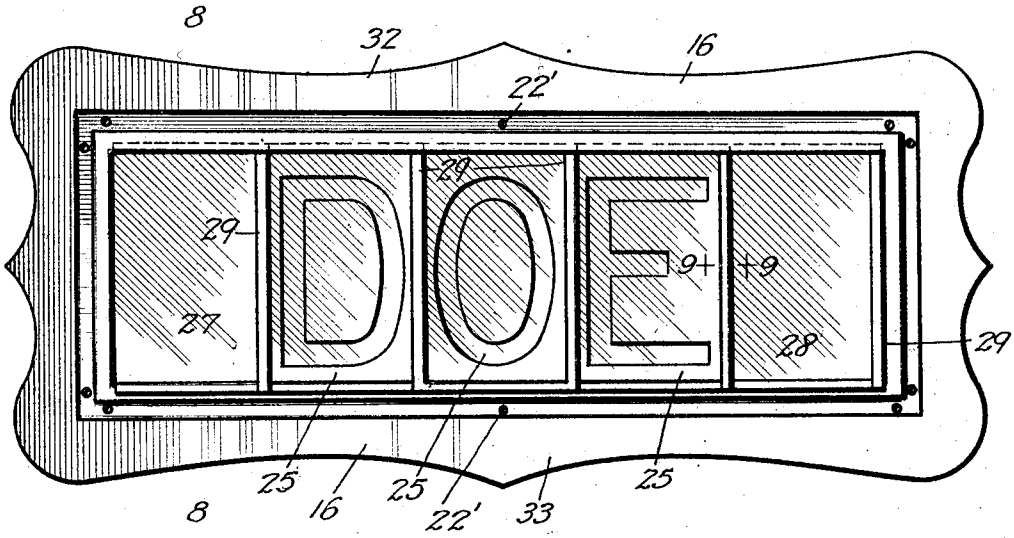


Fig. 8.

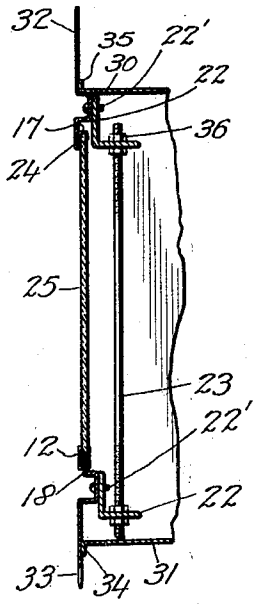


Fig. 9.

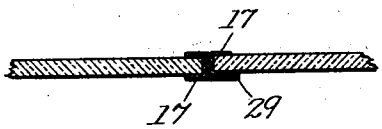
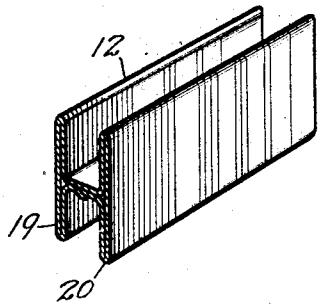


Fig. 10.



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UNITED STATES PATENT OFFICE.

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SIGN LETTER AND FRAME.

1,408,210. Specification of Letters Patent. **Patented Feb. 28, 1922.**

Application filed August 28, 1919, Serial No. 320,397. Renewed November 7, 1921. Serial No. 513,553.

To all whom it may concern:

Be it known that I, ALEXANDER M. KNAUBER, a citizen of the United States, residing at Oak Park, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sign Letters and Frames, of which the following is a specification.

This invention relates to display signs.

It is particularly applicable to illuminated signs.

One of the objects of the invention is to provide an improved display sign.

Another object is to provide an improved changeable character sign.

Another object is to provide an improved framework for supporting the characters of a display sign.

Other objects and advantages will hereinafter appear.

An embodiment of the invention is illustrated in the accompanying drawings, wherein:—

Fig. 1 shows one form of built up letter, projecting from a base plate and made in accordance with my invention.

Fig. 2 is an enlarged section taken on line 2—2 of Fig. 1 showing the corner molding, by use of which the letter is made.

Fig. 3 is an enlarged section through the molding.

Fig. 4 is a view in elevation of an incomplete flat letter.

Fig. 5 is a view in elevation of a completed flat letter showing a part broken away.

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

Fig. 7 is an elevation of the frame for holding the letters in place.

Fig. 8 is a transverse section taken on line 8—8 of Fig. 7.

Fig. 9 is a similar section taken on line 9—9 of Fig. 7.

Fig. 10 is an isometric perspective view of another form of molding used for making my built up letter.

In all the views the same reference characters are employed to indicate similar parts.

In Fig. 1 the letter is shown to be made up of a composite base plate 10 and a laterally projecting portion 11. The parts that are in the same plane are joined together by the molding 12, shown in Fig. 10, while the parts that are in planes at substantial right angles to each other, are joined together by the molding 13. Both types of molding are made of a single piece, or strip of metal, folded upon itself into proper form, so as not to require any soldering. Where the parts of the letter are put together, as at 14, in Fig. 1, either the molding 12 or the molding 13 may be used for this purpose, the parts of either may be bent into the required angle, but where the plates are put together at substantial right angles, as at 15, the molding 13, shown in Fig. 3, is more applicable for this purpose.

The top edge of the base plate of the character is bound or covered by a strip of protecting molding 17. This molding is usually in the form of a U shaped metal channel. The edge of the base plate of the character may be tightly secured within the channel by any of the means ordinarily employed, such as a suitable cement. The bottom edge of the base plate of the character is bound or covered by a substantially H shaped or double channeled molding 12, such as shown in Fig. 10. The base is suitably cemented into the upper channel of the molding leaving the bottom channel open for embracing a cooperating rail 18 of a sign frame 16. The bottom channel straddles rail 18, one leg 19 being on the inside and the other leg 20 being on the opposite side thereof. The frame 16 may be hollow, or box like, and may be constructed on both sides, as shown in Fig. 8. The frame consists of an angle piece 22, above and below, held together by connecting rods 23. On the outside of the angle piece 22 another angle piece 24, which forms therewith a downwardly opening channel for receiving the top edge of a letter 25. The letter 25 is first placed in the position shown in Fig. 8 and then lifted so that the molding 12 can straddle the rail 18 at the bottom part of the frame, after which the letters may be slid in the frame to any positions desired.

The characters are thus readily insertable

into and removable from the sign frame. When inserted, they are held at the top in the channel formed by angle pieces 22 and 24, and at the bottom they are supported on and held by rail 18. The channel in the sign frame, formed by angle pieces 22 and 24, opens downwardly as does the open channel of molding 12 at the bottom of the letter. Consequently water running down the sides of the sign characters is prevented from entering the interior of the sign framework. This construction is important in preventing short circuits due to the presence of water about the electric lamps which may be inside of the frame and the accumulation of ice which might interfere with the changing of the characters in winter.

In Fig. 7 there are three letters shown in the frame, the letters D, O and E, and two spaces, filled with blanks 27 and 28, or they may be filled with letters, in the above example, when the word has five letters instead of three. The center letter O is the "key letter" the last to be inserted in the frame, and it is made on its opposite sides, as shown in Figs. 5 and 6, with the molding 17 having a flush lip portion 29. The part 29 covers the joint between the letter O and the letter D on one side, and the letter E on the other side, so that from whatever direction the observer may be coming towards the sign the light will not be seen through the joints between the letters. The letters E and D, however, not being key letters are provided with a part 29 only on one of its vertical edges.

The frame 16 is provided with an upper wall 30 spaced apart from the lower wall 31 and the front face 32 at the top and a similar face 33 at the bottom. The lower wall 31 and the face 33 are joined together, as at 34, and in a similar manner the upper wall 30 and the face 32 adjoin, as at 35, the upper and the lower portions of the frame being held together by the spacing rods 23 that are vertically adjustable by the nuts 36.

In Fig. 6 the lip part 29, for breaking the joint, is shown on the front face of the letter, while in Fig. 9 it is shown on the rear face of the letter. In this instance, only the part 17 is applied to one edge of the letters, the part 17 with an extension 29 is applied at the other edge to cover the joint to prevent the light from showing through the space between the letters, whether the lip be located on the inside of the frame or the exterior thereof.

The particular method of making letters, shown in Figs. 4, 5 and 6, is specifically described and claimed in my copending application, filed contemporaneously herewith.

The letter shown in Fig. 1 may be built up of plates of different colored glass or other suitable material. The interior of the projecting part of the letter, shown in Fig. 1, is illuminated by a light to be contained within the frame 16, and it possesses valuable features over and above that of a flat letter in that a person approaching the sign from almost any angle will observe the projecting illuminated letter, while the flat letter, shown in Fig. 5, is presentable only when one approaches the sign at an angle at which he may observe the flat surface and if he is proceeding in the plane in which the flat surface is contained, the letter is not visible. With the projecting letter, however, it is visible from any direction of approach.

In every instance the letters are semi-transparent or translucent, to a more or less degree, so as to become distinctly visible at night, and they are made of such contrasting colors as to be easily discernible during the day.

While I have herein shown two forms of letters, as a variation which my invention may take, and have also shown and described a frame best adapted in cooperation with the letters, it is manifest that the invention is susceptible of other variations, being limited only by the scope of the appended claims.

Having described my invention, what I claim is:—

1. In combination with a sign frame in which the letters are insertable and longitudinally movable, of an intermediate key letter having a molding, at each of its vertical edges, to cover the joint between it and adjacent letters.

2. In combination with a sign frame, in which the letters are insertable and longitudinally movable, an intermediate key letter having a molding at each of its vertical edges to cover the joints between it and adjacent letters and other letters having a similar molding on one vertical edge, only.

3. A frame, for holding letters, having two parallel, horizontal upper and lower walls leaving an opening therebetween; horizontal, spaced-apart angle bars near the upper and lower edges of said opening, having horizontal legs inturned; bolts engaging said legs, for holding said bars in spaced relation; flanged face plates secured to the vertical legs of the angle bars, one above and one below the opening, the upper flange forming with the bar a groove and the lower flange providing means for supporting letter structures to close the opening.

4. A display sign comprising a framework having an opening therein and providing a downwardly directed channel near the upper edge of the opening and a supporting rail near the lower edge of the opening, and a display character for bridging the opening, said character having its top edge fitting

into the downwardly directed channel and having a channeled molding straddling the rail.

5. A display sign having a framework with an opening therein and providing a downwardly directed channel along the top edge of the opening and a supporting rail along the lower edge of the opening, and insertable characters for closing the opening, said characters having a channeled molding for fitting over the rail and having their top edges fitting into the channel in the framework.

In testimony whereof I hereunto subscribe my name.

ALEXANDER M. KNAUBER.