April 7, 1936. S. SLUTSKY 2,036,612

SIGN

Filed Jan. 30, 1935

Fig. 1.

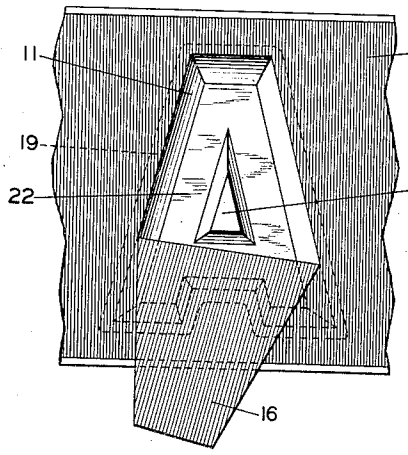
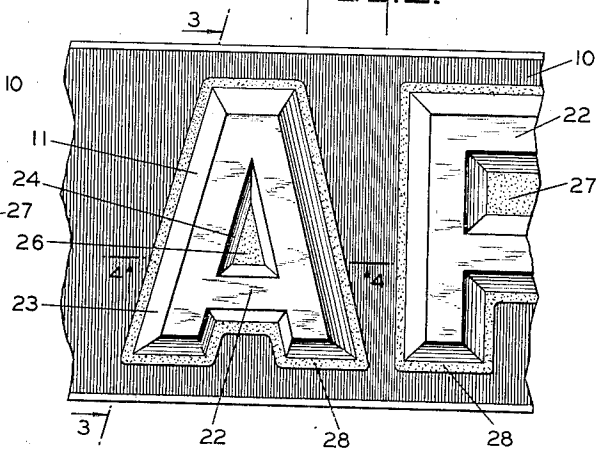


Fig. 2.



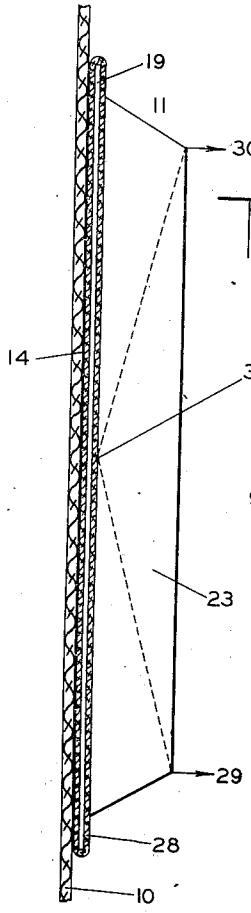
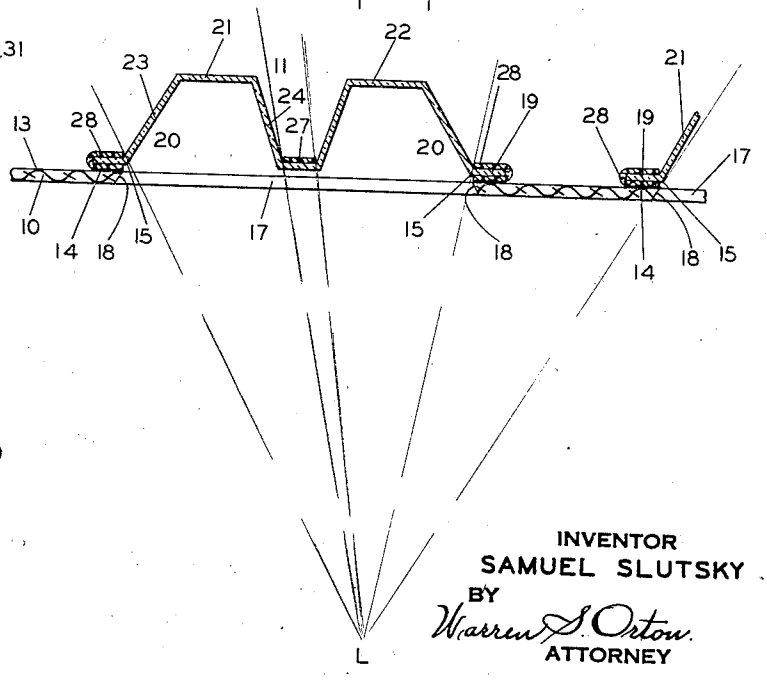


Fig. 3.

Fig. 4.



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Patented Apr. 7, 1936 2,036,612

UNITED STATES PATENT OFFICE

2,036,612

SIGN

Samuel Slutsky, New York, N. Y.

Application January 30, 1935, Serial No. 4,022

11 Claims. (Cl. 40—141)

The invention relates in general to display signs of the type which are intended to be viewed either from the front side by light directly reflected from the front side, or viewed by light transmitted therethrough, and the present invention constitutes a development of the canvas signs with their celluloid letters disclosed in my copending application Serial No. 700,209, filed November 29, 1933.

The primary object of the invention is to simplify the method of mounting the preformed celluloid letters, and like sign characters, on a canvas awning or similar flexible support, and the invention also has for other objects the providing of an improved form of sign considered as a whole and an improved form of separate sign character formed of a minimum amount of material, of thin gauge material to facilitate light transmission and at the same time designed to provide integral reinforcements to resist distortion while in use over a long period of time.

In the above identified application the cut-out openings in the canvas support and in rear of the letters mounted on the support had to be preformed before the preformed letters were applied in place on the canvas. In applying separate letters to form a word the different letters are not equally spaced apart but are adjusted and shifted back and forth relative to each other, until they give the visual impression of being equally spaced, or as expressed by the sign men, until the word looks right. As the letters are not actually spaced apart equidistantly, extreme difficulty has been experienced particularly by the inexperienced awning men in properly prelocating the cut-outs in the canvas support and they had to be properly located otherwise the letters themselves would be improperly located.

The present disclosure in its method aspects features the locating of the actual letters and other sign characters to be used in their proper visually corrected location so as to make up the required word, positioning the letters on the sheet of canvas prior to being cut to form the cut-outs, and then securing the letters in their position as so located thus preforming the sign exactly as it will look when completed and when viewed from the front side. Usually the sign characters are provided with a flat narrow mounting flange so that it is simply necessary to cement the letter, flange down to the flat upper exposed side of the canvas support. Then reversing the canvas and with the rear side thereof exposed, and using the inner edge of the attaching flange as a guide, the material stretched back of each of the characters by virtue of the fact that it is secured to the outlining flange is cut away, thus insuring the proper location of each opening relative to the next, and the exactly proper form of individual opening back of each letter or other sign character used.

Celluloid letters of the type under discussion, and even in the half-round channel form disclosed in the above identified application, have a tendency especially after they have been in use for a year or so, to bend or become distorted, the bending usually taking place about an axis extending transversely to the length of the letter or somewhere about the line 4—4 of Figure 2. It has been found that if these channels are of a trapeze form in cross section, being flat on top, that is on the most advanced part of the letter, with flat diverging side walls connecting the flat portion with the flat attaching flange, such forms of letters were not so liable to become bent or distorted as with the older forms.

Another objection to known forms of signs of this character and which the present disclosure is designed to remedy, is that after extended use the canvas support is apt to shrink and where the characters project, as in the prior application from the rear side beyond the front side of the canvas through the preformed openings, the tensioned canvas eventually tends to pull away from the letter, exposing to view a jagged or irregular looking edge which tends to destroy the original neat appearance of the sign. Accordingly the present disclosure features the mounting of the characters on the front side of the canvas support, preferably by cementing the mounting flange to the canvas and which manner of mounting defeats any tendency of the distorted canvas from in any way modifying the original appearance of the letter even if the canvas does become stretched or wrinkled after long use.

Still another object of the invention, and still featuring the objective to provide a neat appearing sign, is to utilize the exposed side of the mounting flange as an outlining display border of a color contrasting with the design or letter forming part of the character and preferably also contrasting with the color of the supporting canvas so as to form a letter with a sharply defined and permanently fixed width of bordering outline.

Various other objects and advantages of the invention will be in part obvious from an inspection of the accompanying drawing and in part will be more fully set forth in the following particular description of one form of structure embodying the invention, and the invention also

consists in certain new and novel features of construction and combination of parts hereinafter set forth and claimed.

In the drawing:

Fig. 1 is a view of the rear side of a portion of the sign illustrating a preferred embodiment of the invention and showing the rear side of the letter "A" in position on the opposite or front side of the sign and with the outlining opening back of the "A" partly cut away and illustrating a step in the method feature of the present disclosure;

Fig. 2 is a view in front elevation of a portion of the sign showing the reverse or front side of the letter "A" from that shown in Fig. 1, and showing part of the next succeeding letter of the word; and

Figs. 3 and 4 are each enlarged transverse sectional views taken respectively on the lines 3—3 and 4—4 of Fig. 2.

In the drawing and referring first to Fig. 1 there is shown an awning having a depending front apron or flap 10 formed of canvas or similar flexible fabric constituting a flexible support for the sign or letter characters, one of which "A" is shown at 11 in the several figures and a part of a different one "P" is partially shown at the right of Fig. 2. It will be understood that the sign is formed by positioning a strip of the canvas 10 on a flat support so as to stretch it free of wrinkles and the like, and the necessary characters 11, etc. are laid in line or as otherwise required on the top face 13 of the sheet of canvas 10. Following known practices the letters are spaced apart and adjusted in line relative to each other to give the proper appearance to the spaced letters. The positions of the letters are then conventionally chalked or marked on the canvas and an adhesive 14 is applied to the rear edge of the character and each character replaced in its proper marked position on the canvas. In practice a rubber cement is found to be satisfactory and after the character is permitted to lie on the canvas for about an hour, it is permanently fixed in place. Then the sign as a whole is reversed in position so as to bring the rear side uppermost as indicated in Fig. 1 and then by means of a scissors guided along the outlining rear edge 15 of the letter, the intervening material 16 is cut away as indicated in Fig. 1, leaving the opening 17 having the outline form of the letter. In this way the opening 17 with its outlining edge or periphery 18 will be of the proper configuration and size and will be properly located in rear of its associated character as the character itself forms the templet or pattern for cutting the opening. As the cut-out portion 16 is held stretched during the act of cutting it from the canvas, there is no pulling of the remaining portions of the canvas out of place in the region about the letter and no particular skill is necessary in forming the cut-out as was the case where the cut-out had to be preformed in order that the letter might fit snugly into the cut-out. In those cases where the letter is provided with an outstanding mounting flange 19 as in the illustration, this flange provides at its inner edge 15 a rugged guide strip for guiding the scissors or other cutting tool along the inner edge of the letter. As the adjacent part of the character is hollow, as shown in Fig. 4, clearance is provided at 20 to receive the intruded end of the shears blades.

The characters are of similar construction except for their obvious differences in configuration so that the detailed description of one will suffice for any of the others. The characters are each an integral pressing from a thin sheet of celluloid and are each semi-flexible and of relatively light weight. The character in the illustrated case forms primarily a translucent letter or design forming part 21 forming a letter of a block character. Each character is formed primarily of corrugations, trough-shaped in cross section and which includes a flat web 22 and diverging side walls 23 and 24 and which design forming part is outlined by the outstanding mounting flange 19. As noted in Fig. 2 in the case of the letter "A", the depressed portion 26 formed in the angle between the legs of the "A" is covered by an opaque filler 27 of a color contrasting with the design forming part 21.

Rather than fasten the celluloid flange directly to the canvas, it is herein suggested that the flange be covered on both sides by an edge lapping opaque binding 28 preferably formed of fabric and in the illustrated case it is the inner face of the binding 28 which is coated with the adhesive 14 in the mounting of the character in place on the awning before the cut-outs have been formed.

The character is made much deeper considered from front to rear than has been possible before due to the trapeze form giving the necessary structural strength even when the material has been excessively thinned out in the pressing operation in forming the character.

In one popular form of the invention the translucent design forming part is made of bright red translucent and almost transparent, thin sheet celluloid. The filler 27 and the outer exposed side of the binding 28 is of dark blue; the red character with the blue background forming a pleasing effect, particularly when positioned on canvas, the front side of which is of some other color contrasting with the blue, such as white.

The fact that the flat sides 23 of each corrugation extend at an angle to their flat tops 22 has the effect of causing the exposed design to have a high-light face contrasting with a relatively shaded face, depending on the direction of the impinging light with the result that a pleasing contrast is provided in different parts of the character. For instance, the red letter is a bright red on the side facing the reflected light and a darker red on a side or sides extending at an angle to the line of impinging light. To a less extent this difference in shading in the different flat faces is also noticeable at night when the character is illuminated by light transmitted from a source in rear of the sign.

The apparently rearwardly positioned front side of the flange 28 and the facings 27 forming the fillers in those forms of letters which have internal openings, are of the same dark color, blue in the illustrated case, and thus form a background which has the effect of more prominently displaying and apparently projecting forwardly the brighter colored letter or design forming part.

The trapezoidal form of letters herein illustrated does not become bent into a distorted set form even when subjected to severe climatic changes. It is assumed that the resistance to bending is due to the flat walls forming the sides of the channels. For instance, wall 23 acts as a truss to defeat or tends to defeat the prior warping of similar forms of celluloid lettering. In the known forms the points corresponding to the points 29 and 30 moved outwardly in the direc-

tion indicated by the arrows while the mid-portion about 31 remained in place. In the form of letter herein disclosed the points 29 and 30 do not move outward and the letter is maintained in its original form. This is explained on the theory that the side walls 23 act as a truss with the points 29 and 30 tied to the point 31 as if a pair of tie rods extended along the dotted lines as shown in Fig. 3.

In operation it will be understood that the sign may be viewed conventionally from its front side as shown in Fig. 2 by reflected light in the daytime, and that at night the design forming part 21 of a letter is visible from the front side of the sign by light originating from the source such as the source L in rear of the sign. In any case, there will be displayed to view a neat form of lettering or other design with the sharply defined outlining edges provided which are present in the binding 28 when the characters were originally formed as a factory composition. This outlining binding is put on the flange of the character by machine operation and under conditions where the exposed face is accurately located to give uniform width and the binding is thus permanently and fixedly secured in place. The use of a fabric binding 28 is of advantage in the securing of the letters to canvas and similar fabric awnings in that with the adhesive applied, there is provided eventually a fabric-to-fabric joint which is quite effective in securing the characters in place even where the sign is made up by unskilled workmen.

It is a feature of this disclosure that the sign remains as it was originally constructed even after it has been in use for a long period of time. Even if the canvas stretches or otherwise becomes distorted in the portions thereof between the characters, such distortion has no noticeable effect upon the original arrangement of the characters nor upon the characters themselves. The sign as a whole has practically the same degree of flexibility as if the characters were not present. As the characters themselves are not perfectly rigid but are capable of at least some flexure, the characters are not torn away from the canvas when subjected to the effect of violent winds. The outlining flange 19 is continuous about the entire outline of the character and thus acts as a frame and the corrugations forming the characters give to the article as a whole the reinforcing effect characterizing corrugated sheet plates. This providing of structural strength to the formed character by virtue of its corrugated conformation permits the use of a relatively thin gauge of celluloid or equivalent material and this in turn permits the forming of an extremely brilliant letter when the light passes through the same from the rear source of illumination.

While there have been shown, described and pointed out in the annexed claims, certain novel features of the invention, it will be understood that various omissions, substitutions and changes in the form and details of the device illustrated and in its operation may be made by those skilled in the art without departing from the spirit of the invention.

I claim:

1. In the art of forming signs, the method which consists in laying a sheet of flexible material flat on a support, applying an adhesive to the underside of the outlining flange of a sign character of hollow form, applying the adhesive-applied side of the flange on top of the material, and permitting the character to adhere permanently to the material and then causing a cutting tool to be guided along the inner edge of the flange while cutting out of the material the portion thereof which was originally stretched across the rear side of the character when the character was applied thereby to form in the material and in rear of the character so secured thereto, an opening having the outline of the inner edge or periphery of the flange.

2. In the art of forming signs, the method which consists in applying adhesive to the underside of a mounting and outlining flange of a hollow sign character of which the portion outlined by the inner edge of said character forms a design, placing the character with the adhesive so applied in contact with an opaque canvas or like support and permitting the character to adhere to the canvas support, then using the inner edge of the flange as a guide cutting away the portion of the canvas support which extended originally across the space outlined by said inner edge of the outlining flange thereby to form in the canvas an opening exactly conforming to the configuration of the design to permit light to pass through the canvas support and through the design forming part of the sign character.

3. In the art of forming signs, the method which consists in applying a hollow sign character to a support by affixing an outlining edge of said character to the support, and then using the edge as a guide cutting away the portions of the support lying within the outline formed by the edge thereby to form in the support a cut-out opening conforming to the outline of the sign character.

4. A sign comprising an opaque sheet of flexible fabric provided with spaced apart cut-out openings, a plurality of separate elements, one for each opening, each element comprising an integral, semi-flexible celluloid-like member of relatively light weight, said member having an attaching flange outlining the same and secured to the front side of the fabric sheet about its respective opening and having a thin translucent, hollow portion projecting from the plane of the securing flange and of a contour to form a definite design, said portion projecting forwardly beyond the front side of the fabric sheet and conforming in outline to and covering its respective opening.

5. A flexible sign including an opaque canvas support having applied to the front side thereof a plurality of separate translucent sign characters each including a display design in a color contrasting with the color of the canvas and said support having a plurality of openings therein, one for each character located opposite its respective display design for permitting light to pass through the support from the rear side, each of said characters provided with an outlining mounting flange exposed on the front side of the sign and forming an opaque border visible from the front side of the sign, contrasting in color from that of the design part of the character and contrasting with the color of the canvas, one of said characters including within the outline of its display design an opaque filler corresponding in color to the color of the border and coacting therewith to form a background to the design.

6. A sign including an opaque canvas support having applied to the front side thereof a plurality of separate translucent sign characters each including a display design in a color con-

trasting with the color of the canvas and said support having a plurality of openings thereon, one for each character located opposite its respective display design for permitting light to pass through the support from the rear side, each of said characters provided with an outlining mounting flange exposed on the front side of the sign and forming an opaque border visible from the front side of the sign, contrasting in color from that of the design part of the character and contrasting with the color of the canvas.

7. A sign including a canvas support having one color and provided with an opening, a hollow celluloid character of a contrasting color secured at its rear edges to the front side of the support, entirely located in advance of the support, covering said opening and comprising translucent parts including relatively raised and depressed areas exposed at the front side of the character and an opaque filler covering certain of the relatively depressed areas and coacting to display the character when light is transmitted from the rear of the sign through the opening and translucent parts of the characters.

8. A flexible sign including an opaque canvas support, a single hollow translucent celluloid letter secured at its rear edges to the front side of the support and projecting forwardly therefrom, said support provided with an opening having the letter outline and located in rear of the same to permit light to pass through the canvas and letter, said opening being cut along the inner edge of the hollow, forwardly projecting portion of the letter, and a layer of adhesive between the rear edge of the letter and the cut edge of the canvas outlining the opening.

9. A sign including a flexible fabric support provided with an opening forming the outline of a character, a preformed hollow sign character covering the opening and provided with an attaching flange secured to the front side of the support about the opening, and a layer of fabric secured to the flange and located between the flange and flexible support to form a fabric-to-fabric joint between the character and its support.

10. A one-piece celluloid sign character including a hollow, transparent or translucent design forming part outlined by a flange and provided with an opaque fabric binding lapped about the exposed edge of the flange permanently secured thereto and adapted to receive an adhesive on its rear side to mount the character to a support, said opaque binding acting to outline the transparent or translucent hollow design forming part.

11. A celluloid-like sign character including a hollow design forming part outlined by a flange and provided within the design with an opaque filler permanently secured thereto and provided with a fabric binding lapped about the exposed edge of the flange and adapted to receive an adhesive on its rear side to mount the character to a support, said filler being of the same color as the fabric binding and both having a color darker than the color of the design to form a dull and apparently shaded background.

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