No. 803,750. PATENTED NOV. 7, 1905.

G. J. FREY.

SIGN.

APPLICATION FILED JAN. 20, 1905.

FIG. 1



FIG. 2.

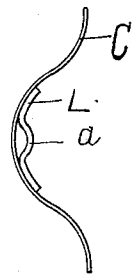


FIG. 3.

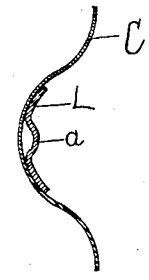
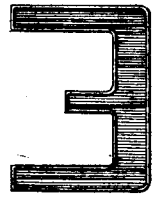


FIG. 4.



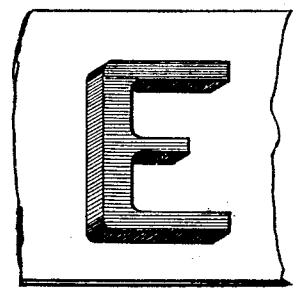


FIG. 5.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE J. FREY, OF ROCHESTER, NEW YORK, ASSIGNOR OF ONE-HALF TO THOMAS R. LEVIS, OF ROCHESTER, NEW YORK.

SIGN.

No. 803,750. Specification of Letters Patent. Patented Nov. 7, 1905.

Application filed January 20, 1905. Serial No. 241,911.

To all whom it may concern:

Be it known that I, GEORGE J. FREY, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented an Improved Sign, of which the following is a specification.

This invention relates to signs, whether for advertising generally or for display-cards or for price-lists such as are used in barber shops, restaurants, stores, and similar places.

It is the purpose of my present invention to provide a sign in the construction and use of which there may be eliminated many of the objections found in signs as usually heretofore constructed and one in which the tendency toward flatness of appearance shall be overcome by the use of a letter struck out from a sheet of suitable material and cemented to a facing transparent, or nearly so, such letter and facing made of such materials that by the employment of a suitable cement they may be so united as to become practically one and the same piece, the cement of course being impervious to water at the usual temperatures. I prefer also that the facing should be of a material readily flexible, so that it may be bent, and, further, that it may be of such a material that it can be readily formed to any desired shape or curvature and have imparted thereto a strong tendency to maintain its original shape. I have found that celluloid answers admirably for such a facing and that letters when stamped out of celluloid may be cemented to such a facing by means of a solvent, preferably a latent one of the celluloid, whereby the letter and the facing may be united so as to become practically one and the same piece, impervious at their union or joints to water at usual temperatures. Such a sign may be readily bent or conformed in suitable dies, and when thus conformed it may have imparted to it a strong tendency to retain its shape. I have also found it desirable oftentimes to print upon the facing an outline of the letters of the sign in order to produce an ornamental effect by the combination of such printing and the letters also in relief.

Such a sign as above described may be constructed very economically. It is durable, it may receive a fine polish, and it may be washed as often as desired. On account of the character of the material comprising the face or support of the letters and the letters themselves and the character of the cement used for uniting them it is possible to produce many varied and pleasing effects by permitting the letter and the facing or support to be separated throughout a part of their coincident surfaces. This result may be readily secured on account of the insoluble character of the cement, as the letter will not become removed on account of the cement being attacked by water at usual temperatures used for washing purposes or on exposure to the weather.

My sign comprises, then, the following features, viz: Two superimposed sheets of similar and suitable material, such as celluloid, of different color, united at their contacting surfaces by a cement constituting a solvent thereof, whether latent or otherwise, one of such sheets comprising a character exhibited in such sign. The drawings show one of the many arrangements which may be adopted in the manufacture and use of a sign in accordance with my invention. In the style of sign illustrated in the drawings a letter or character "L" is shown as cut from a sheet of celluloid of one color and cemented to a second sheet of different color, as C. Such a sign may be exhibited by reflected light or by transmitted light, either one alone or by both reflected and transmitted light.

The character and use to which the sign is put, whether intended to be exhibited by reflected light or by transmitted light, either one alone or by both transmitted and reflected light, will determine largely the more desirable color values to be given to the different elements thereof. When a sign thus constructed is curved either after the letters have been united to the face or support or during the process of uniting them, the different angles of the reflecting-surfaces of the letters when seen by reflected light and the different thickness of the material in the direction of the rays of light that pass therethrough and the different angles of refraction in the case of transmitted light constantly changing according to curvature produce very many different shades of color, and thereby a very pleasing effect may be secured.

It is of course impossible in drawings to bring out and illustrate fully effects resulting from the various applications of my invention. I shall therefore illustrate only a curved sign, such as may be used in cities for street-signs

and the like and with the supporting-face and the letters curved and with the letters removed or distant from the face over only a portion of their surface.

The drawings show only the mechanical arrangement of the parts and as mechanical drawings are confined substantially thereto. They illustrate only one of the many and varied modified arrangements in which my invention may find embodiment.

The drawings are as follows: Figure 1 is a face view, and Fig. 2 an edge or end view from the right-hand side, and Fig. 3 a vertical sectional view, of such a sign. Figs. 4 and 5 show details to be explained.

Similar parts are referred to by similar letters in the drawings.

Referring to the drawings, C represents the facing or groundwork of the sign curved as indicated, and in the case shown in the drawings the letters "L" are cemented, or rather united, as the character of the cement used serves to unite the letter and the groundwork into practically one and the same piece. Portions of the letters at or about the middle of their vertical height are seen at *a* as curved backward from the face of the sign, so as to leave a space between such letters and their facing or support.

For the cement to unite the letters and the background the well-known alcohol-and-camphor solvent may be made use of, or camphor and an essential oil may be used, such as oil of cassia or oil of cinnamon, and in some instances the non-volatile gums or rosins may be used, and if it is desired to use pressure without heat a cement may be composed of chlorid, acetate, and chloracetate of amyl, or chlorid of amyl may be used with camphor, or a cement may be made of a solution of pyroxylin in acetanilid. When it is desired to give to the letters a gilded effect, there may be mixed with the cement a very fine bronzing-powder.

When a latent solvent is desired—that is, one requiring the application of moderate heat to effect the cementation or union between the facing and the letter—the well-known camphor solvent may be used.

By separating the letters from the facing or support over a portion of their surfaces additional effectiveness may be secured for the sign when seen either by transmitted or reflected light.

When seen by reflected light, the shadings in color, producing a very fine effect, are caused by the changing angles of reflection at different points in the letter. A somewhat similar effect is also produced when seen by transmitted light, the effect in this case coming from the different thicknesses in the line of the rays of the material through which the light is caused to pass and added to that the changing angles of refraction at the different points in the letter. From the foregoing it will be seen that one skilled in the art can readily produce, in constructing a sign in accordance with my invention, many varied and pleasing effects by the curvatures of the surfaces and the character as to color of the letters used.

On account of the character of the cement used it will of course be understood at once that the sign may be used with either face thereof toward the observer or with either face exposed to the weather.

I have sometimes found it desirable to form the letters with a flange around the free edges, extending in this case backwardly from the facing or support. The effect of such a flange is to give to the letters an appearance of solidity or massiveness. Such an arrangement is indicated for a single letter in Figs. 4 and 5, Fig. 4 showing a direct view from the back and Fig. 5 showing a single letter "E" in perspective, as seen from the front.

I desire to call especial attention to what I consider the more essential features of my present invention, comprising a facing or support for letters, such letters cut from a separate sheet of material, such letters and such facing united by a cement which is a solvent and preferably a latent solvent of the material composing such facing or support and the material composing such letters, either one or both, and preferably both. The result of the use of such materials and cement in the way indicated is that the union between the letters and the facing is of such a character as to render them substantially one and the same piece and impervious to the action of water at their union or junction. It is also important that such facing and the letters as well be of a flexible and elastic material—that is, one capable of being conformed to any desired curvature and capable also of having imparted thereto a strong tendency to maintain such original form or curvature. Such materials should also be insoluble and tough or elastic and infrangible. They should also be light and inexpensive. I would have it understood that I do not limit myself to the use of celluloid for the above purposes, although it answers admirably and is perhaps the most satisfactory yet used.

In the appended claims the term "solvent" is used in its broad sense as implying any substance or material adapted to effect the desired cementation by fusion whether such solvent be a latent one or otherwise, as above mentioned, although in many instances it is desirable to make use of a latent solvent which may be carried by or contained in the materials or substances comprising the sheets of my sign.

What I claim is—

1. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together, one of

such sheets comprising a character exhibited in such sign.

2. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

3. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

4. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together, one of such sheets comprising a character exhibited in such sign.

5. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

6. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

7. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

8. A sign consisting of two sheets of thin, flexible, elastic and light transmitting and reflecting material impervious to water and of different color and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

9. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together by means of a cement comprising a solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

10. A sign consisting of two sheets of thin, flexible, elastic and light-reflecting material impervious to water and of different color and cemented together by means of a cement comprising a latent solvent of such sheets, one of such sheets comprising a character exhibited in such sign.

GEO. J. FREY.

Witnesses:
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