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J. T. COCHRAN

1,990,224

SIGN AND METHOD OF MAKING IT

Filed Oct. 17, 1932

Fig. 1

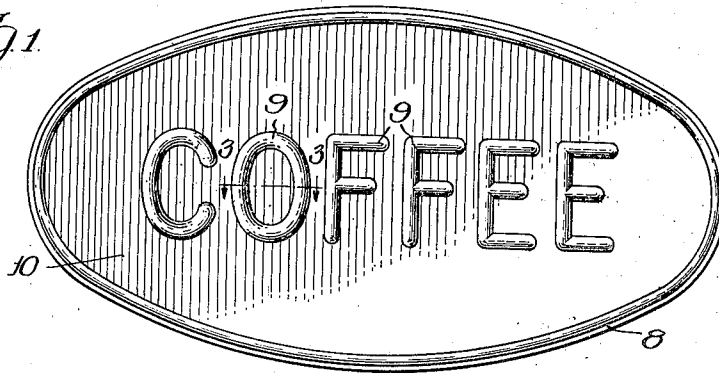


Fig. 2

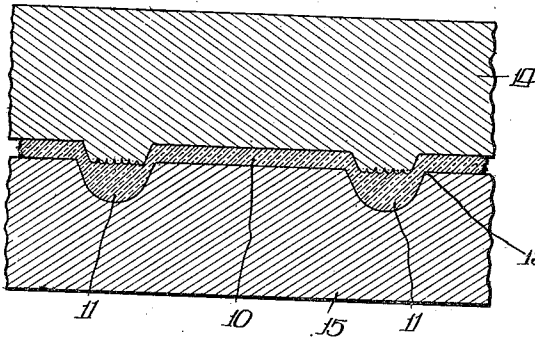


Fig. 3

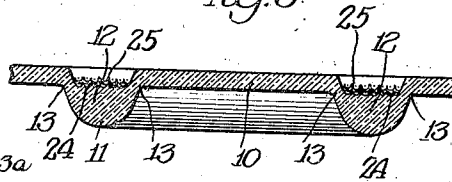


Fig. 4

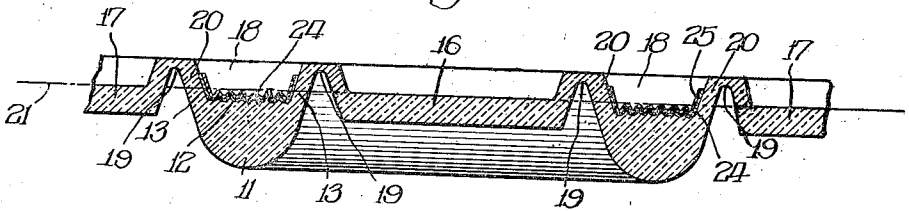
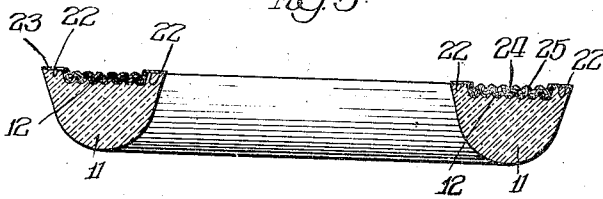


Fig. 5



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# UNITED STATES PATENT OFFICE

1,990,224

## SIGN AND METHOD OF MAKING IT

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Application October 17, 1932, Serial No. 638,140

4 Claims. (Cl. 40—136)

This invention relates in general to the making of signs and sign characters of glass or other material and has more particular reference to signs or sign characters made of glass or other transparent and reflecting material.

One of the principal objects of the invention is in the making of a sign letter or character by pressing it out of molten glass with accurately formed edges which are cut or ground at the rear side thereof.

A further object of the invention is in the provision of an entire sign made up of a number of letters, characters and designs which may be cast at one time with a connecting plate or background.

A further object of the invention is in the provision of an accurately formed letter or character with a reflecting surface at the proper location with respect to a front lens portion, the formed rear edges of which may be cut or ground, providing a protecting surface for the reflector at the rear of the letter and also providing means by which the letter may be attached to a supporting plate or sign without appreciably affecting the concentration or reflection of light rays.

Other objects of the invention will appear hereinafter, the preferred construction and the method of forming the letters or signs being illustrated in the accompanying drawing.

In the drawing, Fig. 1 is a face view of a sign embodying the principles of this invention;

Fig. 2 is a fragmentary sectional view illustrating the method of casting or forming a sign of this kind;

Fig. 3 is a section of a letter as taken on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view of a single letter as formed by this method of casting before the surplus material is removed; and

Fig. 5 is a section of a letter or character after the surplus material is cut or removed from a letter.

In forming letters or characters from glass or similar material, and for making complete signs, the most satisfactory results are obtained by locating the reflecting surface of the letter at a certain point with respect to the outer or lens portion which requires that the reflecting surface be inset with respect to a common plate of the same material in the formation of a complete sign embodying a number of letters or characters, and this principle of inseting the reflecting surface in forming the letters or characters is utilized in the formation of single letters thereby providing a method of accurately forming the

edges of a letter, and by grinding or cutting the rear surface of a letter only at the rear edges of the letter which does not materially affect the reflecting surface, provides a means for accurately limiting the reflecting surface and the material applied thereto, affords side protecting edges for the reflecting surface and also provides a rear surface by means of which a letter or character may be accurately applied or attached in making up any sign as desired.

Referring now more particularly to the drawing, a sign 8 is represented in Fig. 1 as cast in a single piece of glass comprising a number of letters 9 carried by a plate 10 of the same material, the face of the plate usually being colored after the formation of the sign between and around the letters by the application of paint or any other suitable coloring medium which makes the letters stand out clearly from the surface of the plate 10 whether the sign is illuminated or not. The letters 9 of the sign are each formed with an outwardly rounded continuous lens portion 11 and with a rear reflecting surface 12 comprising a plurality of small, circular depressions. Each letter is attached to the plate by a thin connector or neck 13 so that the rear reflector 12 of the letter is substantially flush with the outer face of the plate 10 and the reflecting surface 12 is in effect depressed from the rear of the plate 10 conforming to but slightly less in size than the outer exposed portion of the letter.

A sign of this kind is produced by upper and lower molding parts 14 and 15 which are moved together with molten glass therebetween and have the corresponding depressions and projections to produce the letters and characters of the sign, as desired.

In the formation of individual letters it has been found that the thin neck 13 if located within the plane of or behind the reflecting surface 12, as referred to the front lens portion 11, has little or no effect upon the reception or dispersion of light rays by the lens portion 11.

On the other hand it is very difficult to cast letters of glass or similar material without adhering portions 16 and 17 between and outside of but connected to the letter. If this surplus material is attached close to the reflecting surface it must be chipped or broken away from the remainder of the letter which leaves the edge very rough and unsightly, causing many of the letters to be discarded because of imperfections. It is also difficult and costly to remove the adhering surplus from the edges of

or artificial light the letters will glow or shine at a wide angle thereby producing a sign which is strikingly brilliant and attractive, but actually simple and inexpensive in construction, readily replaceable if broken, and subject to a wide variation of colors and effects at a minimum cost.

**I claim:**

[illegible]

2. A glass sign comprising a plate having characters formed therefrom, each comprising a front convex lens portion projecting from the

[illegible][illegible]

1. Die erste der drei Bedingungen ist die, daß die beiden zu vergleichenden  
 Aussagen dieselbe Aussage beinhalten, die sich nur in der Reihenfolge der  
 Glieder unterscheiden. Diese Bedingung ist notwendig, weil nur dann  
 die Aussagen miteinander verglichen werden können. Wenn die Aussagen  
 nicht dieselbe Aussage beinhalten, dann ist der Vergleich nicht möglich.  
 2. Die zweite der drei Bedingungen ist die, daß die beiden Aussagen  
 dieselbe Aussage beinhalten, die sich nur in der Reihenfolge der Glieder  
 unterscheiden. Diese Bedingung ist notwendig, weil nur dann  
 die Aussagen miteinander verglichen werden können. Wenn die Aussagen  
 nicht dieselbe Aussage beinhalten, dann ist der Vergleich nicht möglich.  
 3. Die dritte der drei Bedingungen ist die, daß die beiden Aussagen  
 dieselbe Aussage beinhalten, die sich nur in der Reihenfolge der Glieder  
 unterscheiden. Diese Bedingung ist notwendig, weil nur dann  
 die Aussagen miteinander verglichen werden können. Wenn die Aussagen  
 nicht dieselbe Aussage beinhalten, dann ist der Vergleich nicht möglich.

[illegible]

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