

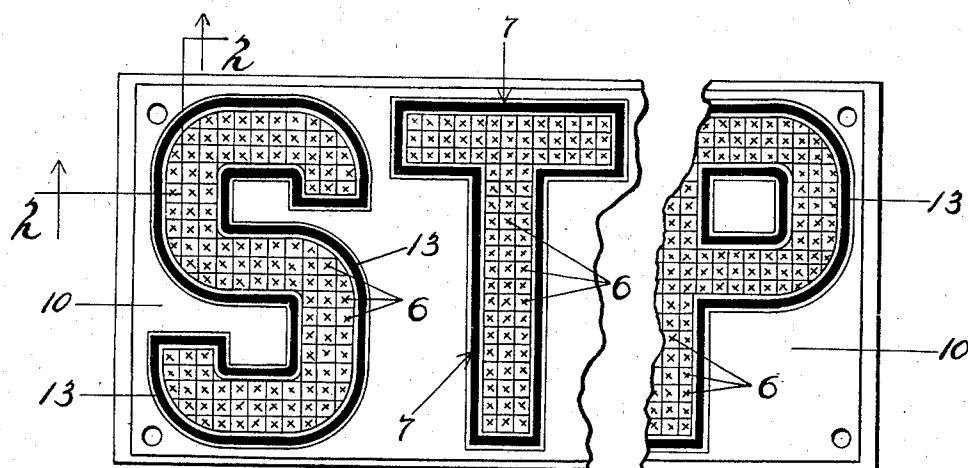
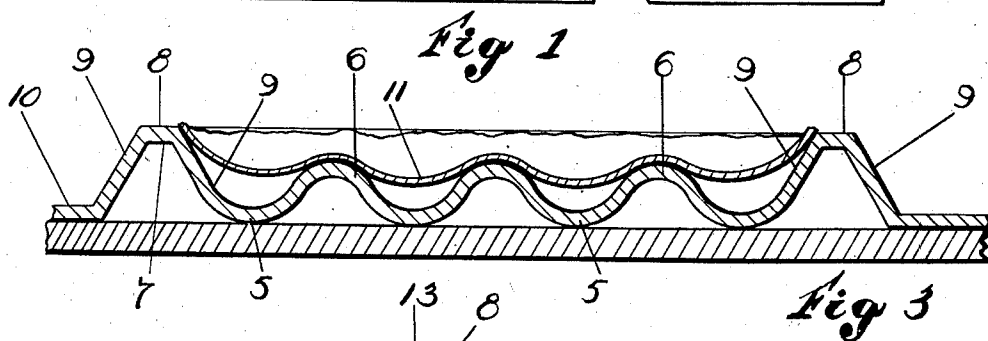
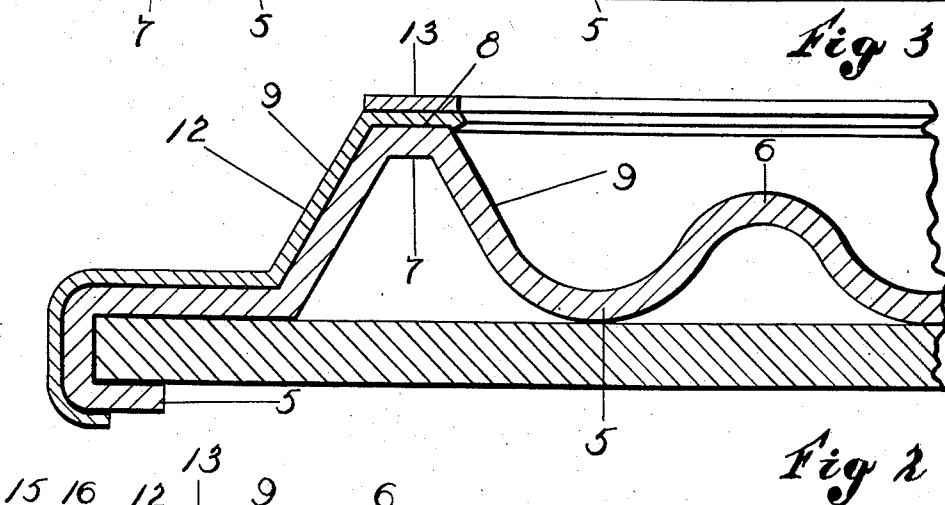
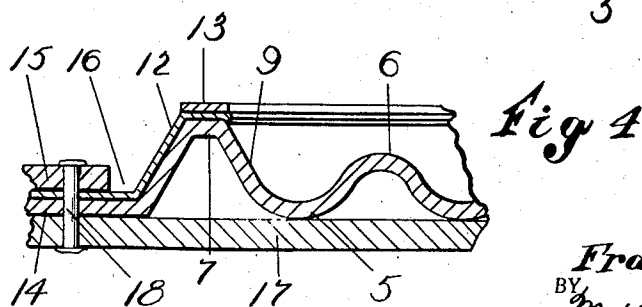
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LIGHT REFLECTING SIGN AND METHOD OF MAKING IT

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LIGHT REFLECTING SIGN AND METHOD
OF MAKING IT

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The present invention relates to so-called light reflecting signs and has for an object the provision of a novel and effective sign of this character and an inexpensive and simple method of making the same.

An object of the invention is to provide a light reflecting sign in which the characters are of high visibility under both daylight and night conditions.

Another object of the invention is to provide a sign of this character which is durable and which will remain effective under long periods of exposure to the elements and under the abuses to which such signs are frequently subjected.

Another object of the invention is to provide a method of making signs of this character utilizing relatively inexpensive dies and a minimum of operations.

These and other objects are attained by the means and method herein described and disclosed in the accompanying drawing, in which:

Fig. 1 is a fragmentary elevational view of the sign embodying the invention.

Fig. 2 is a view taken on line 2—2 of Fig. 1.

Fig. 3 is a sectional view similar to Fig. 2 showing the surface sheet after its embossing operation and prepared for the decorating operation.

Fig. 4 is an enlarged cross-sectional view showing the construction of a composite sign embodying the invention.

Signs embodying the so-called reflecting metals of various types have been heretofore known and used. Furthermore, the so-called reflecting metal sheets are available on the open market. In the fabrication of signs of the present invention for various purposes, e. g., for highway signs indicating direction, caution, stop signals, and the like, I prepare either the whole sign or one or more insertable indicia for a composite sign by utilizing reflecting metal sheets initially having an overall pattern of uniform protuberances with the face of a sheet polished to mirror-like brilliance presenting facets or light reflecting surfaces at predetermined angles. The protuberances may assume various shapes, for example, as shown in United States Patents No. 2,004,181 and No. 2,043,690.

On a reflecting sheet initially having such protuberances extending uniformly over the entire surface, I emboss a ridge-like outline of a desired letter, numeral or other indicia in block type. By utilizing dies having a rough or matt finish, the protuberances are flattened and eliminated and the polished surface is deleted and a dull, matt, plane surface is presented in lieu

thereof. When the sign is made from the unitary sheet, the background portion of the sign is likewise flattened to present a plane, matt surface. The body of the block letters or other indicia are untouched by the dies and therefore retain all of the protuberances with their mirror-like, polished, light-reflecting surfaces. The bordering ridge about each letter is appreciably higher than the tops of the protuberances so that a considerable degree of protection for the light-reflecting surface is afforded during handling, packing, and in use. The dull, matt surface, furthermore, provides an excellent bond for a desired color coating of enamel paint or the like. I also prefer that the top of the ridge-like border present a flat surface which is susceptible of distinctive coloring with a minimum of time and effort.

According to the method of the invention, the female dies are rough and unpolished, the surface thereof being inexpensively formed by the mere omission of polishing and grinding operations. The areas in the die corresponding with the desired light-reflecting block letter surface in the sign are hollowed away completely so that they remain untouched in the embossing operation. It will be apparent that a relatively simple pair of embossing dies will not only produce the matt, plane background but it will also produce the raised ridge as an outline about the letter and it may likewise include the provision of a turned edge flange bordering the sheet if desired or required. After the sheet has been embossed in one operation, it may be suitably affixed on any desired backing material, whereupon the sign is ready for decoration. In the decorating process letters or indicia corresponding to those of the sign are cut from flexible sheet material having a tacky coating thereon and to provide protective masks. The masks are of a size as to cover the light-reflecting areas and adhesively contact the adjacent inclined wall of the bounding ridge. The covering material or coating, such as enamel, paint or the like, may then be applied by spraying, brushing, dipping, or by any other method to cover the exposed face of the sign. After drying or baking the background of coloring material, the letters or indicia may be brought out in strong relief by passing a coating roller carrying a contrasting color over the tops of the bounding ridges only. When this is dry and hardened, the masking material is removed and the sign is complete.

Referring now to the drawing: The sheet of reflecting material 5 has the protuberances 6 of

desired shape and highly polished surface. The border ridge 7 defining the block letter has a flat top surface 8 and oppositely inclined surfaces 9 extending down to the background 10 and to the reflecting surfaces provided by the protuberances 6. The surfaces 8, 9 and 10 all have a dull, matt finish and are entirely free of protuberances, such as 6, as a result of the embossing operation. The mask 11 may be of any suitable material slightly larger than the light-reflecting area of the letter and carrying a pressure active adhesive whereby the same is fixed over the tops of protuberances 6 and on the opposite inclined walls 9 of the ridges 7. The coating of background material 12, e. g., for example, yellow enamel is now applied to all of the exposed matt surfaces and after the drying thereof the flat surfaces 8 which are parallel and offset from the remainder of the sign may be coated by the contrasting colors, e. g., black, by merely passing the sign beneath an applicator roller.

Referring to Fig. 4, the light-reflecting indicia are made up separately with the border ridge 7 bounding a block of the light-reflecting protuberances 6 and having an external flange 14. A sign face sheet 15 is cut out as at 16 to receive the fabricated indicia of the invention and these parts, together with a backing sheet 17, are secured together by any suitable means, such as rivets 18. The decorating process may be carried out simultaneously over the sign face 15 and the prefabricated indicia after assembly or they may be independently decorated prior to assembly.

The inserted indicia are useful in the manufacture of large road signs, etc., carrying light-reflecting direction arrows or the like.

From the foregoing it will be readily understood that the method and means of the invention may be advantageously employed in a wide variety of signs for decorative effects.

What is claimed is:

1. In a sign of the class described a sheet metal element comprising a character shaped area having protuberances and a polished surface, a raised ridge bordering said character shaped area and a background area connecting with the base of the ridge, said background area and said border ridge having a matt flat plane topped surface for bonding with a surface coating material.

2. A metal sign element comprising a metal sheet having a character shaped area and a background area in uniformly spaced relation and in a common plane, a raised border ridge outlin-

ing said character area and having sloping sides connecting with said respective areas, the character area having raised protuberances and a mirror-like surface affording a high degree of light reflection, the surfaces of the top of said border ridge and said background area lying in spaced apart and substantially parallel planes and having a matt surface finish adapted for bonding a coating material thereto.

3. A sign member comprising a formed metal sheet having a character shaped area with protuberances thereon and a polished surface, an integral relatively wide and flat topped border ridge raised above the said polished surface area, a background area surrounding the base of said ridge, a color coating on the background area and a contrasting color coating on the top of said border ridge.

4. The method of making a metal sign of reflecting metal which consists in the step of simultaneously embossing on a faceted and polished sheet of metal a border ridge in the shape of a desired character and imparting a matt surface to said ridge and that portion of the metal outside the ridge.

5. The method of producing reflecting signs which comprises simultaneously embossing a raised border ridge outlining a character shaped area on a sheet of reflecting metal and effecting on the surface of said ridge and of the remainder of the sheet a matt surface finish.

6. The method of producing reflecting signs which comprises simultaneously embossing a raised border ridge outlining a character shaped area on a sheet of reflecting metal and effecting on the surface of said ridge and of the remainder of the sheet a matt surface finish, then coating the matt surface with a selected color coating.

7. The method of producing reflecting signs which comprises simultaneously embossing a raised border ridge outlining a character shaped area on a sheet of reflecting metal and effecting on the surface of said ridge and of the remainder of the sheet a matt surface finish, then coating the matt surface with a selected color coating, and then coating the top of the ridge with a light-absorbing coating.

8. A sign comprising a sheet of light-reflecting metal, a raised outline ridge separating two adjacent contrastingly colored areas, the top of said ridge being flat surfaced and matt finished, and a non-light-reflecting coating on the said top of the said ridge.

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