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ADVERTISING SIGNS AND METHODS OF MAKING SAME

Original Filed Sept. 23, 1954

FIG-1

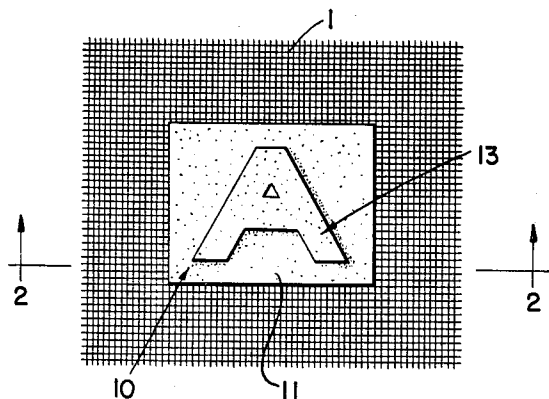
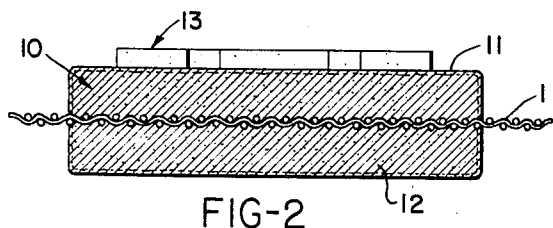


FIG-2

FIG-3

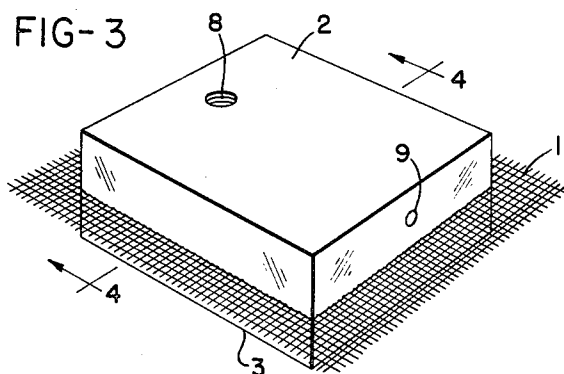
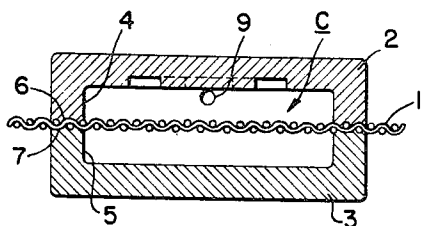


FIG-4



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2,938,290

ADVERTISING SIGNS AND METHODS OF MAKING SAME

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Original application Sept. 23, 1954, Ser. No. 457,861, now Patent No. 2,858,572, dated Nov. 4, 1958. Divided and this application June 27, 1955, Ser. No. 518,051

1 Claim. (Cl. 40—136)

This invention relates to certain new and useful improvements in advertising signs and methods of making the same, and is a division of application Serial No. 457,861, filed September 23, 1954, now Patent No. 2,858,572.

In recent years, it has become an accepted practice among certain types of advertisers to employ what has come to be known as screen door advertising. Many commercial establishments, such as grocery stores, meat markets, and the like, employ screen doors across the entrance ways and such doors present a large expanse or area which is viewed by all persons entering and leaving. Consequently, such screen doors present a desirable place for an advertising message.

Various types of advertising signs, therefore, have been applied to the screen door, but it is essential that such signs be of relatively small mass and light weight, because the screen wire has very limited physical strength. When the door is swung to-and-fro or slammed, the inertia of the sign imposes substantial stress upon the screen wire. If the sign is solid, aerodynamic forces will also be brought to bear upon the sign and the supporting screen wire, which tend to increase the disruptive effect upon the screen wire and the points of securement thereof to the door frame. These problems have made it necessary to limit screen door advertising signs to relatively small areas of the screen door and to relatively light, thin, flat types of signs of small mass or weight. Consequently, it has been considered impossible to obtain marked relief or intaglio effects and attention-getting designs. Although signs have been made with some relief or intaglio effect, the raised or depressed portions are usually no more than one-sixteenth to one-eighth of an inch above the general plane or level of the signs and cannot be said to give a truly three-dimensional effect or visual appearance. The stresses and strains set up in the screen wire and in the sign mounted thereon as the screen door swings to-and-fro also tends to disintegrate the material out of which the sign is made. In addition to the cost of the screen wire and the expense of making the sign, the cost and attendant difficulties in installing the sign make frequent replacements almost prohibitive so that signs which tend to disintegrate become entirely impractical.

It is therefore, the primary object of the present invention to provide screen door advertising signs which are extremely light in weight even though relatively large in bulk and which, therefore, impose minimal stresses and strains upon the supporting screen wire during actual use.

It is another object of the present invention to provide screen door advertising signs having marked relief and intaglio effects so as to possess a very marked, attention-getting, three-dimensional visual effect.

It is a further object of the present invention to provide methods of making screen door advertising signs of the type stated which methods are simple, sufficient, economical, and practical.

With the above and other objects in view, my inven-

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tion resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claim.

In the accompanying drawings:

5 Figure 1 is a fragmentary plan view of a screen door advertising sign constructed in accordance with and embodying the present invention;

Figure 2 is a transverse sectional view taken along line 2—2 of Figure 1;

10 Figure 3 is a fragmentary perspective view of a section of screen wire with a two-part mold applied against both sides thereof for carrying out the method of the present invention; and

Figure 4 is a transverse sectional view taken along line 15 4—4 of Figure 3.

Broadly speaking, the present invention resides in the discovery that a piece of screen wire can be placed between a suitably shaped two-part mold, the meeting faces of which are contoured for snugly embracing and enclosing the interstices of the screen wire lying therebetween, so that the mold is closed quite securely. A suitable plastisol formed by compounding a synthetic resin with suitable solvents, plasticizers, and pigments can be charged with an inert gas, such as carbon dioxide in a suitable charging vessel or tower and introduced into the two-part mold at atmospheric pressure, whereupon the plastisol will form a fine pored foam which passes freely through the interstices of that portion of the screen wire which is enclosed within the mold, so that the entire mold cavity is filled with the foam. The screen wire and foam-filled mold may then be heat cured for a suitable period of time at a proper temperature. After the heat curing step has been completed and the screen wire and mold are allowed to cool and the mold is removed, the resulting product will be a piece of screen wire with a heat cured plaque or advertising sign molded in situ. The plaque will have a smooth surfaced external contour or shape conforming exactly to the contours of the mold and the interior will be highly porous. Furthermore, the sign will be extremely light in weight due to its porous structure and will have a strong, resilient, rubber-like consistency capable of resisting vibration and shock. Notwithstanding the interior porous structure, the outer surface will be covered with a thin, tough, weather-resistant integument which is attractive in appearance.

Referring now in more detail and by reference characters to the drawings, which illustrate practical embodiments of the present invention, 1 designates a section of screen door wire which may be of any conventional size or shape and may be made of any suitable gauge of aluminum, copper, or galvanized iron. It will, of course, be understood that the size, kind, and shape or wire is not critical so far as the present invention is concerned. Provided for placement upon the section of screen wire 1 is a two-part mold consisting of an upper section 2 and a lower section 3, each respectively having matching interior recesses 4, 5, and meeting faces 6, 7, the latter being contoured or engraved to match the screen wire, so that when the upper section 2 and lower section 3 are placed on opposite sides of the section of screen wire 1, the meeting faces 6, 7, will fit around and through the interstices of the screen wire, so that the mold is tightly and securely closed and will form a mold cavity c on both sides of the enclosed portion of the section of screen wire 1. In other words, the enclosed section of screen wire 1 passes through the mold cavity c. It should also be pointed out in this connection that the meeting faces 6, 7, are sufficiently wide to provide adequate cavity sealing contact through the interstices of the screen wire and around the interwoven wires thereof.

The upper mold section 2 is provided with a foam injection aperture 8 which is large enough to accommodate

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the pipe or nozzle leading from the foaming tower or vessel. In addition, the upper mold section 2 is provided at one end with a relatively small vent aperture 9 to permit the air within the cavity c to flow outwardly as it is displaced by the foam. For convenience, it may be necessary to provide several such venting apertures 9 at different places in the mold, but these venting apertures 9 should be of relatively small bore and placed in such a manner as to avoid interference with any artistic design which may be embossed or engraved on the interior faces of the mold sections 2, 3, because any excess plastisol will tend to flow outwardly through these venting apertures 9 and cause sprue-like filaments which must be trimmed off.

The interior surfaces of the mold cavity c may be contoured to any desired design or shape. In the drawings, for purposes of illustration, the upper mold section 2 is engraved to form the capital letter "A" as an indication of a raised letter sign. Any series of letters or any pictorial representation can be employed equally well. In any case, the finished sign will consist of the screen wire section 1 with a sign-forming plaque 10 extending bodily through the interstices and enclosing a section of screen wire located well within the interior of the screen wire section 1. The plaque 10 has sharply defined outer edges and a thin, tough, integument 11 over its entire outwardly presented surfaces. The main body or interior portion 12 of the plaque 10 has a fine pored sponge-like structure which is tough and resilient, but, nevertheless, very light in weight and the outer surfaces are embossed with suitable indicia 13. Although the plaque 10, as shown in Figures 1 and 2, is of rectangular peripheral shape, it will be obvious that any desired peripheral contour can be used by employing molds having such contours.

Finally, the raised indicia portions can be painted or coated with contrasting colors by screening, printing, hand-lettering, or any other conventional procedure. Similarly, if the indicia are depressed rather than raised to create an intaglio effect, the depressions can be painted, sprayed, or otherwise colored in contrasting colors as is conventional in the sign making art.

Although various types of commercially available plastisols can be employed in the present invention, it has been found preferable to utilize a plastisol consisting of a vinyl resin copolymer (85% polyvinyl chloride and 15% polyvinyl acetate), an aromatic hydrocarbon plasticizer, such

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as Solvaloid C or dioctyl phthalate. The proportions of plasticizer to resin can be varied from a ratio of one to one to a ratio of three to one, depending upon the desired structure in density of the foam. If, for a particular sign, it is desirable to have a fairly dense product after the foam has been heat cured, less plasticizer and more resin should be used.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the advertising sign and in the steps of its production may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

An advertising sign comprising a piece of screen wire having an internal area of finite size and shape, said area of finite size and shape being smaller than the peripheral size and shape of the piece of screen wire, the wires in such area being entirely closed by a heat cured body of vinyl resin plastisol foam, said body having two oppositely presented faces spaced outwardly from and on opposite sides respectively on the surface of the screen wire, legible sign-forming indicia on at least one of said faces, said sign-forming indicia being of substantially similar composition as and integrally formed on said body, and a thin, tough integument integral with and completely covering the outer surfaces of said body and sign-forming indicia, said integument also being of the same composition as said body.

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