United States Patent [19]

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[54] **PLASTIC SIGN SYMBOL**

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[21] Appl. No.: **97,440**

Related U.S. Application Data

[63] Continuation of Ser. No. 754,118, July 30, 1968, abandoned.

[52] **U.S. Cl.** ..... **40/130 D**

[51] **Int. Cl.** **G09f 13/06**

[58] **Field of Search** 40/130

[56] **References Cited**

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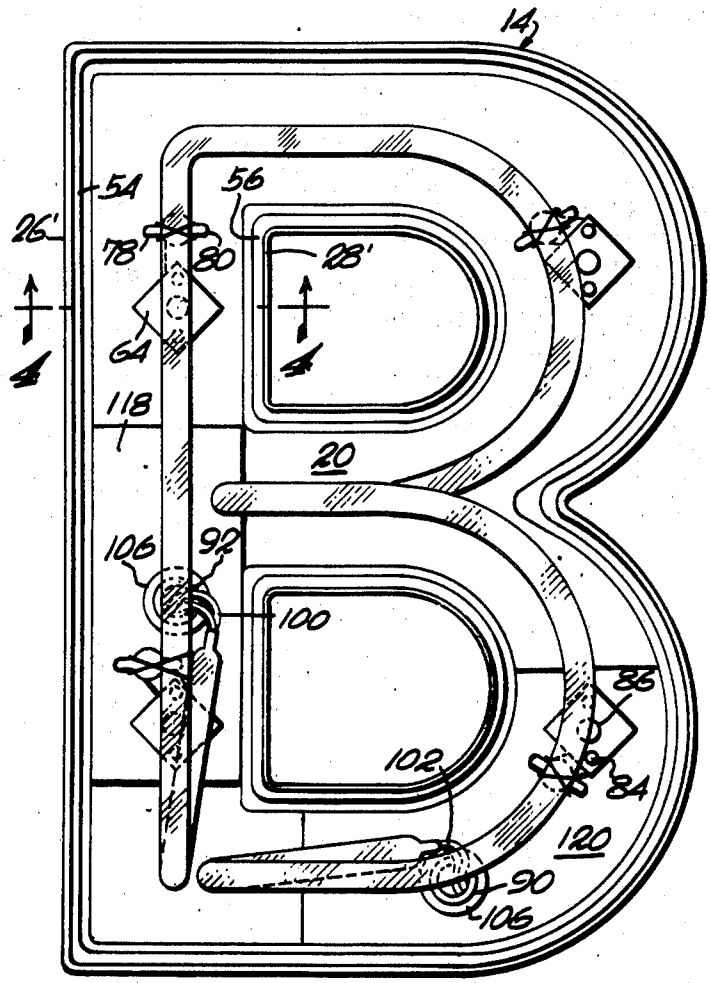
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[57] **ABSTRACT**

A plastic sign symbol composed of an open channel-defining carrier and an outer translucent cover member sized to cover the channel, the said members being formed by molding thermoplastic material in sheet form and said symbol including means to interconnect the members. Electrical means may be supported within the carrier, which is opaque and of non-conductive, flame resistant thermoplastic material, to illuminate the symbol.

6 Claims, 8 Drawing Figures



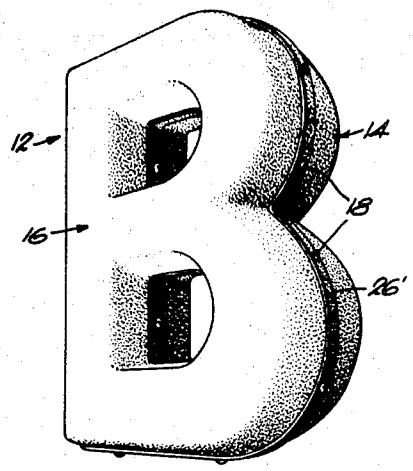


Fig. 1

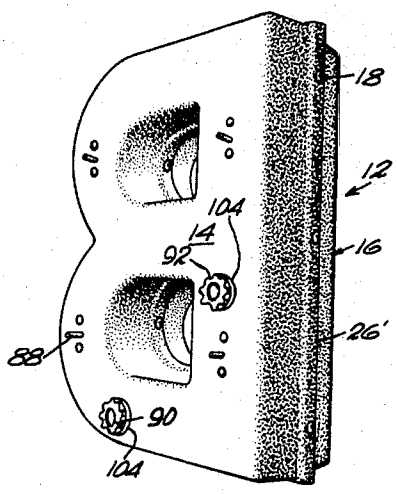


Fig. 2

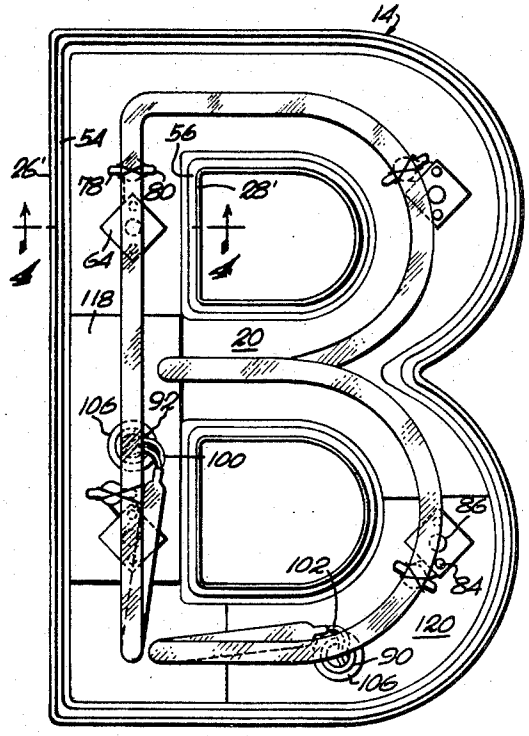


Fig. 3

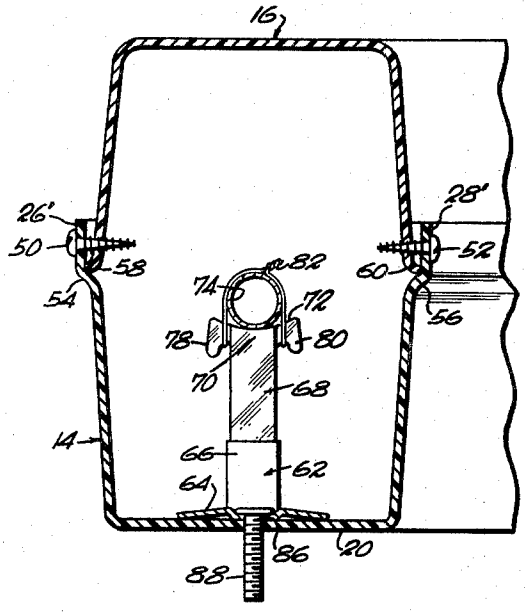


Fig. 4

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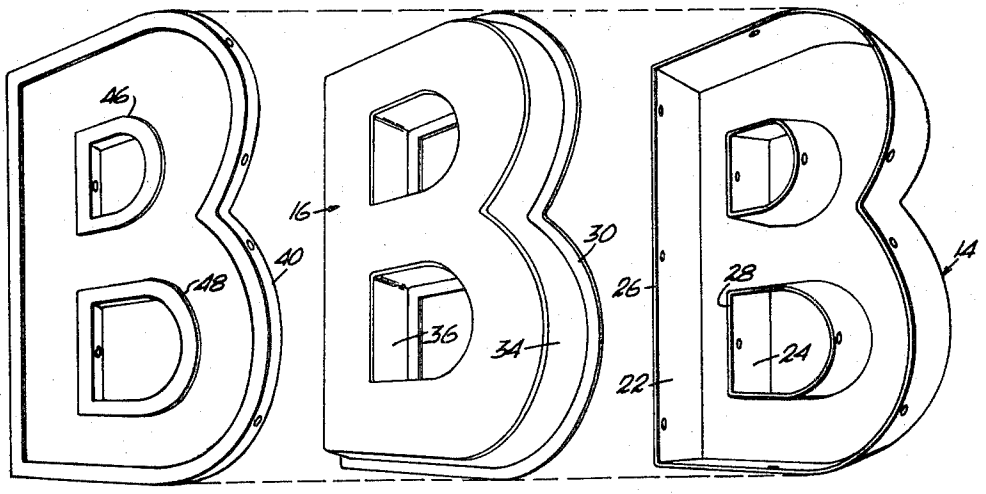


Fig. 5

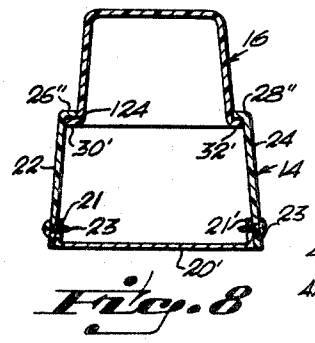


Fig. 8

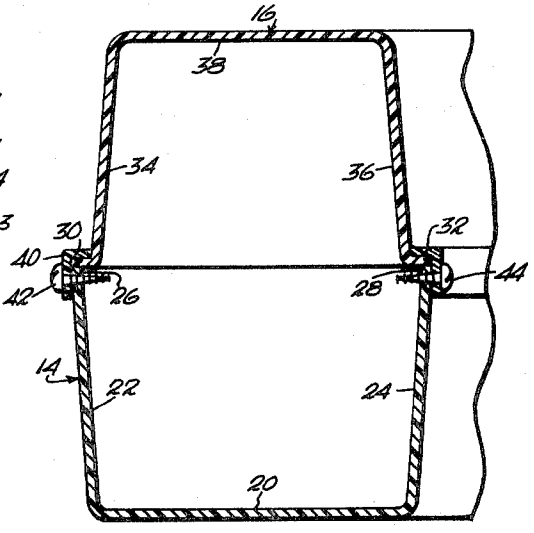


Fig. 6

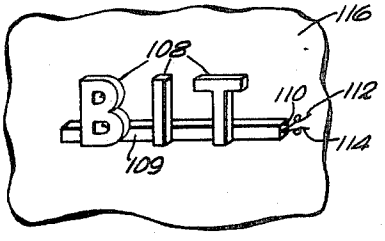


Fig. 7

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PLASTIC SIGN SYMBOL

This is a continuation of U. S. Pat. Application Ser. No. 754,118, filed July 30, 1968 now abandoned.

In the past, there have been numerous types of signs composed of symbols to be mounted to a building for use in advertising purposes. Many such signs include a relatively rigid metal base of channel form defining an opening base over which there is positioned a translucent outer sign or cover portion of a configuration to mate with that of the base. Illumination means may be arranged in the hollow between the members to light the sign, the cover being of translucent material. Since the manufacture of the base from metal requires considerable individual time and effort by skilled artisans, the cost of such symbols is relatively expensive compared to the type of symbols to be described hereinafter, which are molded from sheets of plastic material thereby permitting mass production molding techniques to be employed. In such molding techniques, individual attention to each symbol by a craftsman is not required, and once a mold has been made for a symbol, duplicates of a letter may be made inexpensively by repetitive molding so that the symbols become inexpensive. Thus, intricate, fancy symbols, such as old English style numerals and letters, may be made as well as special trademarks for use, for instance, by franchise businesses to promote uniform use of the trademark in stylized form throughout the system at reduced cost. It will also be appreciated that preferred types of standard, commonly used letters and numerals may be manufactured with the same reduction in cost and consequent savings. Additionally, because a plastic material may be selected of the color desired, the finishing of the metal is obviated; that is, no painting or anodizing is required. Also, by reason of the molding of the symbols from plastic sheets, the weight of a sign is reduced considerably, which is a considerable advantage in many installations because it reduces the complexity of mounting techniques as well as shipping expenses in the case of franchise users in various parts of the country.

It is an object of this invention to provide an improved plastic sign symbol which includes a channel defining carrier of opaque material and a cover member for the channel of translucent material, each of the members being formed by molding thermoplastic sheet material.

It is another object of this invention to provide a plastic sign symbol composed of intermating members, each formed by molding thermoplastic sheet material, an opaque channel member and a translucent cover member for spanning the channel, wherein said carrier member is of non-conductive material and includes means to support a light source, such as a light tube, arranged so as to extend along the central portion of the hollow between the members.

It is another object of this invention to provide an improved sign composed of symbols, each of intermating plastic members formed by molding thermoplastic sheet material, an opaque channel member and a translucent cover member for spanning the channel, wherein said carrier member is of non-conductive material and includes means to support a light source, such as a light tube, arranged so as to extend along the central portion of the hollow between the members.

It is another object of this invention to provide an improved sign composed of symbols, each of intermating plastic members formed by molding thermoplastic sheet material and including electrical means secured between the members to illuminate the symbol.

It is another object of this invention to provide an improved plastic sign symbol which is simple in construction, inexpensive to manufacture and is adapted to be mass produced by reason of the fact that the constituent elements of the sign are composed of molded thermoplastic material which may be stored in sheet form and molded.

In accordance with these and other objects which will become apparent hereinafter, the instant invention will now be described with reference to the accompanying drawings in which:

FIG. 1 is a front perspective view of a plastic sign letter constructed in accordance with this invention;

FIG. 2 is a rear perspective view of a plastic sign letter constructed in accordance with this invention;

FIG. 3 is a view of the embodiment seen in FIG. 2 with the cover member removed;

FIG. 4 is an enlarged cross-sectional view taken along the plane indicated by the line 4—4 of FIG. 3 and looking in the direction of the arrows;

FIG. 5 is an exploded perspective view of one embodiment of the instant invention somewhat modified with respect to the embodiment seen in FIG. 4;

FIG. 6 is a view in cross section, similar to FIG. 4, of the embodiment of FIG. 5;

FIG. 7 is a perspective view of a plurality of letters arranged in word form and mounted to a side of a building, and

FIG. 8 is a view in cross section of an alternative embodiment of the instant invention which has been somewhat modified so as to include a metal web for the channel carrier member.

Referring to the drawings, wherein like reference characters designate like or corresponding parts throughout the different views, it is seen that a plastic sign letter 12 is provided in FIG. 1 which is composed of (a) a channel defining carrier member 14 in the form of a letter, (b) a cover member 16 also preferably of channel form and secured in spanning relation of the opening of the channel of the carrier member 14 and (c) fastening means 18 to secure the members together. It will be helpful, initially, to refer to FIG. 6 in which it is seen that the carrier member includes a web 20 and flanges 22 and 24 terminating in upper lips 26 and 28 respectively, adapting the member for mating engagement with confronting lips 30 and 32 of the flanges 34 and 36 extending from the web 38 of the cover member 16. In the embodiment shown in FIG. 6, an angle member 40 is employed to overlay the adjacent and abutting portions of the carrier member for securement thereto by screws 42 and 44, preferably of the self-tapping type. It will be apparent that utilizing this construction, various types, sizes, configuration and styles for letters may be employed. Referring to FIG. 4, it will be seen that the fastening means for connecting the members 14 and 16 may include screw means 50 and 52 which are passed through overlapping portions of the members with the lips being companionately formed for nesting, mated engagement, the lips 26′ and 28′ being provided with a shoulder 54 and 56 to receive and support flanged feet 58 and 60 on the cover member.

In the embodiment of FIGS. 2, 3 and 4, the floor or web 20 provides support for a support means such as

the member 62 composed of a pad 64 to overlay the web and including an upstanding socket 66 to receive an upstanding spacer 68 of insulation material. Preferably, the distal end 70 of the insulation material is concave to define a seat 72 to cradle a tube 74 to be illuminated which extends centrally along the medial portion of the sign letter and is secured to ears 78 and 80 of the upstanding spacer 68 by suitable means, such as the wire fasteners 82. The pad 64 of the member 62 is secured to the web in the embodiment shown by rivets, such as 84, and through a central aperture 86 a mounting screw 88 may extend outwardly of the web portion of the channel to adapt the sign letter for mounting to a surface. A pair of terminal bushings 90 and 92 are provided to accommodate the leads 100 and 102 for providing energy to illuminate the tube 74. The terminal bushings are secured by flange portions, such as 104 and 106, on opposite sides of the web.

The carrier member is formed of opaque, nonconductive and flame resistant, thermoplastic sheet material and adapted to be molded on the application of heat into symbol form; preferably, the material is of polyvinyl chloride and acrylic resin. The cover member is of translucent, moldable plastic acrylic material in sheet form and adapted to be molded on the application of heat.

Referring to FIG. 7, it will be seen that the plurality 108 of the letters may be interconnected by a mounting bar 109 having a hollow 110 within which conductors 112 and 114 are arranged, the said connecting mounter bar being adapted to be mounted on a building surface 116 to be supported thereby and including through holes, not shown, for receiving the mounting screws 88.

Referring to FIG. 3, it is seen that a metal, electrical shield, such as that designated by the numerals 118 and 120, may be provided in overlaying relation of the web 20 and positioned with the central region circumposed about the conductors, as at 90 and 92 in FIG. 3. Preferably, a portion of the plates extends to a zone of metal-to-metal contact with the stud 88 and pads 64 so that the shields serve as a ground for any tendency of the current to arc. The shields may include upstanding walls, not shown, adjacent to conductors.

Referring to the alternative embodiment of FIG. 8, it is seen that the carrier member 14 may be provided with a separate metal web 20'. The web may include side flanges 21 and 21' to overlay the flanges 22 and 24 and screws 23 and to hold the flanges together. Also, the flanges are provided with upper lips 26'' and 28'' which are inturned to mate with companion out-turned flanges 30' and 32' on the cover member 16 for effecting hooked up engagement of the carrier member and cover member as indicated in FIG. 8. The cover member is sized for passage through the space between the flanges 22 and 24 before the plate 20' is positioned, as seen in FIG. 8. It is noted that in this embodiment the flanges diverge with respect to one another between the flanges and the lower terminal edges, to facilitate removal of the carrier member from a mold. The ends of the channel defining carriers in the embodiment shown in FIG. 8 are spanned by end portions in the case of closed letters, such as I, S, and T and, in the case of letters such as the letter B, the adhesive means 124 have been found to be of sufficient holding power to maintain the configuration of the embodiment of FIG. 8 in use.

While the instant invention has been shown and described herein in what is conceived to be the most practical and preferred embodiment, it is recognized that departures may be made therefrom within the scope of the invention, which is, therefore, not to be limited to the details disclosed herein, but is to be accorded the full scope of the claims so as to embrace any and all equivalent apparatus and articles.

What is claimed is:

1. An illuminated sign defining a letter symbol or the like, including in combination:
- a three-dimensional carrier channel member including a transverse web and side flanges,
- a three-dimensional cover member correspondingly including a web and side flanges complimentary to those of said carrier member for forming a hollow sign therewith,
- said side flanges of the respective member including matingly engaged flange-edge portions forming a medial, circumscribing seam between said members,
- said members comprising a molded, thermoplastic, the carrier member being essentially a flame resistant non-conductor of an electrical current and substantially opaque, said cover member being substantially translucent;
- electrical illuminating means mounted on the web of said cover member and including electrical conductor leads insulated from said web and accessible at the outer surface of said web;
- fastening means extending through said carrier member web and projecting therefrom for mounting said sign in an erect position; and
- an electrical, current conducting shield overlying said web and substantially surrounding electrical-conductor leads and said fastening means for grounding the sign and preventing electrical arcing at said terminals.

2. The structure as claimed in claim 1 in which said illuminating means comprises an elongated tube having an illuminable gas sealed therein, said tube being shaped to correspond to the shape of the hollow and in a plane generally coinciding with said seam and intermediately of said matingly engaged flange edges.

3. The structure as claimed in claim 1 in which said fastening means comprise enlarged pads secured to the inner surface of said carrier-member web, said fastening means including a headed screw engaging the inner surface of said pad and projecting laterally from said carrier-emember web.

4. The structure as claimed in claim 1 in which said matingly-engaged flanges comprise at least one outwardly directed flange-edge on one member telescoped within the side flanges on said other member.

5. The structure as claimed in claim 4 including mechanical fasteners extending intermediately through overlapped flange portions adjacent said outwardly directed flange edge.

6. The structure as claimed in claim 5 including supplemental angle elements overlying said outwardly directed flanges and through which said mechanical fasteners extend.

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