

[54] **ADVERTISING DISPLAY DEVICE**

[76] Inventor: **Marvin W. Braun**, 1738 78th Court,  
Elmwood Park, Ill.

[22] Filed: Feb. 3, 1972

[21] Appl. No.: 223,235

### Related U.S. Application Data

[63] Continuation-in-part of Ser. No. 888,761, Dec. 29, 1969, abandoned.

[52] **U.S. Cl.**.....**40/132 D, 40/63 R, 220/46 MS**

[51] **Int. Cl.**.....G09f 13/04

[58] **Field of Search**.....40/63, 132 D, 132; 49/485;  
220/45, 46 MS

[56] **References Cited**

## UNITED STATES PATENTS

2,753,640	7/1956	McConnell.....	40/132
3,341,975	9/1967	Tylisz .....	49/485

2,029,221	1/1936	Burgess et al.....	40/132 D
3,379,332	4/1968	Anderson.....	220/46 MS

*Primary Examiner*—Robert W. Michell

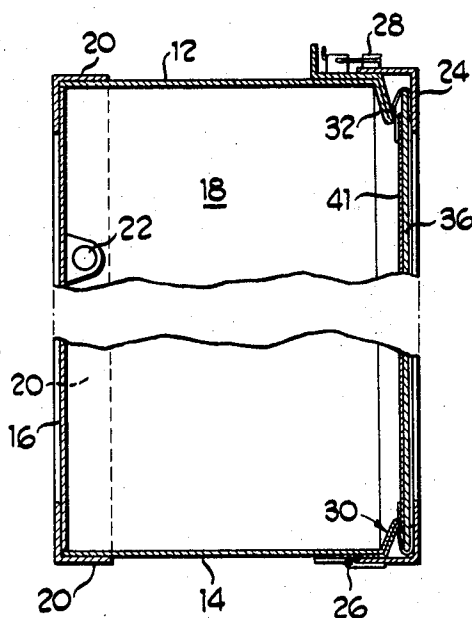
**Assistant Examiner—John F. Pitrelli**

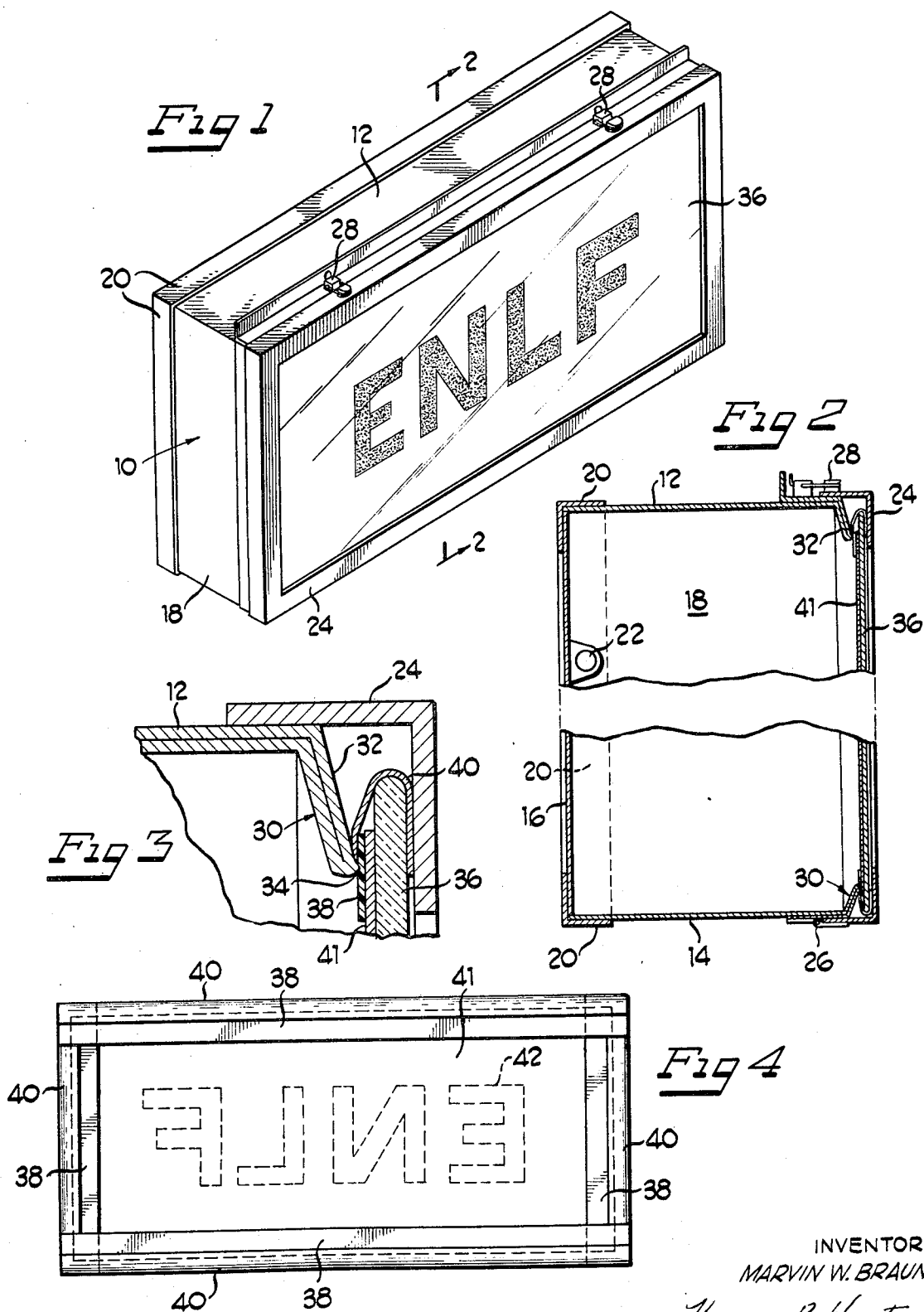
**Attorney—**Thomas B. Hunter

[57] **ABSTRACT**

An advertising display device, particularly adapted for portable, backlighted signs, includes a clear, protective pane covering a translucent sign or card on which the copy is imprinted. The pane is provided with marginal flaps and sealing strips which envelope the edges of the sheet. When the assembled sign and pane are inserted in position in a hinged door frame panel, and the frame closed against a housing, the sealing strips are brought into sealing engagement with a flange extending from the housing to hold the sheet firmly in place, thus preventing entry of moisture and foreign matter.

### 2 Claims, 4 Drawing Figures





INVENTOR  
MARVIN W. BRAUN

BY *Thomas B. Hunter*  
ATTORNEY

# ADVERTISING DISPLAY DEVICE

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of my copending application Ser. No. 888,761 filed Dec. 29, 1969, now abandoned.

## BACKGROUND OF THE INVENTION

### 1. Field of the Invention

This invention relates generally to advertising display panels and is especially useful in the construction of portable, backlighted signs for outdoor applications, such as exteriorly mounted signs on taxi cabs, buses and other transport vehicles.

### 2. Description of Prior Art

McConnell — U.S. Pat. No. 2,753,640

This patent discloses an illuminated sign in which the sheet of advertising material is sandwiched between two panes of glass and sealed by a continuous U-shaped rim of rubber or similar material. The subassembly comprising the two panes, the sheet and the rim is held by the front hinged panel and urged into sealing engagement by an inwardly directed flange on the panel. Burgess et al. — U.S. Pat. No. 2,029,221

This patent discloses a sign in which the indicia bearing sheet is disposed between two panes of glass and clamped into the front portion of the sign housing by mechanical fasteners. The edges of the sign subassembly are not sealed so as to permit replacement by slipping the sign out of and into the space between the panes.

## SUMMARY OF THE INVENTION

In the construction of signs and related advertising displays for vehicles, there are several problems which must be considered. First of all, even at moderate road speeds, the signs are subject to substantial wind loads which may cause the sign to become accidentally dislodged from the sign holder. Even if the sign is securely mounted, the air currents may cause it to flutter, thereby annoying the passengers with the resulting noise. Moreover, since the signs are exposed to the elements, they must be protected from rain, snow, dirt and grime which may seep in behind the protective cover and come into contact with the placard, poster or other indicia bearing sheet material, hereinafter referred to, for convenience, as the sign. Other considerations include the obvious desirability for having a display device which is inexpensive to manufacture and install, and one in which the sign can be quickly removed and replaced without using tools.

In the present invention, the sign is supported in a hinged frame attached to a housing which may contain a lamp or other source of illumination for a backlighted sign. In front of the sign is a clear pane, preferably a rigid sheet of acrylic plastic, or other transparent material, which serves as a protective cover for the sign. In order to protect the sign from moisture and dirt, without laminating the sign between two clear panes, as shown in the aforementioned McConnell and Burgess et al patents, each edge is sealed by a flexible connecting flap carrying a sealing strip. The sealing strip engages a flange projecting from the housing when the frame is returned to its closed position. The flange

presents a relatively sharp edge to bear against the strip, which is preferably made of a malleable, ductile metal such as aluminum. The strips may be deformed slightly by the flange to provide a fluid tight seal around the entire periphery of the sign and positively grip the sign to prevent wind flutter. To remove and replace the sign, the hinged frame is opened and the connecting flaps are lifted to release the sign and permit its removal. This may be done in just a few seconds without tools of any kind and, further, without even taking out the protective pane, since the flaps are accessible when the frame is in its open position. Elimination of the second pane behind the sign thus not only reduces the expense of the apparatus, but also facilitates replacement of the sign.

Accordingly, it is a principal object of the invention to provide an improved portable advertising display or sign construction, which is capable of withstanding severe wind loads encountered at high road speeds when mounted on the roof, sides, or rear deck of a vehicle.

Another object of the invention is to provide an improved sign mounting in which the edges of the sign are positively sealed against the entry of moisture and grime between the cover pane and the sign and into the housing.

Additional objects and advantages will become apparent from reading the following detailed description of the invention taken in conjunction with the drawings.

## DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the improved display device constructed in accordance with the principles of the present invention;

FIG. 2 is a cross-section view taken along the plane of line 2—2 in FIG. 1;

FIG. 3 is an enlarged cross-section view showing the edge of the sign, the connecting flaps, and the sealing strips in sealing engagement with the flange; and

FIG. 4 is a plan view of a subassembly including the cover pane, the sign, the connecting flaps and the sealing strips.

## DETAILED DESCRIPTION OF THE INVENTION

Referring now to FIGS. 1 and 2, the display device, which is especially adapted for use as a backlighted sign, includes a housing 10, constructed of sheet metal panels providing top 12, bottom 14, rear 16 and side walls 18. Although the housing illustrated is rectangular in form, it is obvious that other geometric designs may be used, such as, for example, a triangular configuration as shown in U.S. Pat. No. 2,077,585 issued to J. C. Rivers on Apr. 20, 1937.

The walls of the housing are supported and reinforced by a frame of L-shaped angles 20, preferably aluminum extrudings, which are secured to each other and the sheet metal panels by any conventional fasteners. If the sign is to be backlighted, a lamp 22 is disposed in the housing, said lamp being powered by a self contained battery pack or from an external source, such as the vehicle electrical system.

The front of the housing is normally enclosed by a frame 24, also formed of angles, which is attached to the lower front edge of the housing by hinges 26 and is

capable of being locked in its closed position by latches 28 securing the upper edge of the frame. It should be expressly understood that while only one hinged frame is used in the construction illustrated, there may be as many frames as can be substituted for the wall panels. The particular embodiment shown might be useful for mounting on the trunk lid of a taxi cab or the rear or side of a bus. If a roof mounted design is employed, there would normally be more than one sign carried by the device. In the case of a triangular sign mentioned above, all three sides could be provided with hinged frames so that the only housing walls would be the top and bottom walls.

As best shown in FIG. 2, the front of the housing is reinforced by folding over the edge of the top, bottom and side walls adjacent the front to provide a double thickness of sheet metal. The edge, designated at 30, has an inturned flange 32 which inclines inwardly from the top, bottom and side walls and outwardly from the front. While the degree of incline is somewhat exaggerated in FIG. 3, it can be seen that the flange presents a relatively sharp edge 34 which is utilized to seal the sign and its associated cover pane. This feature will now be described in more detail.

Referring to FIGS. 3 and 4, the clear, protective pane 36 has flexible connecting flaps 40 secured to all four edges by any suitable means, for example, by adhesive bonding. The flaps may be made of any suitable material, preferably waterproof. Even paper-based "masking" tape has been found to be practical for this purpose. Sealing strips 38 are attached, also preferably by adhesive bonding, to the opposite edges of flaps 40. The sealing strips are preferably made of aluminum or other ductile, malleable metal which is capable of flexing to conform to the engaging surface against which it bears. A softer metal, such as aluminum, will also deform under pressure to effect better sealing. The flaps are cut so as to overlap at the corners, but the corners could be mitered so long as they completely cover the corner area and do not permit passage of fluid between the mitered edges.

In the sign subassembly shown in FIG. 4, the sign 41, which is preferably a sheet of translucent polyethylene film or acetate paper having the indicia 42, usually advertising copy, printed on the surface thereof, is laid flat against the cover pane 36. The connecting flaps 40 are folded up around the edges so as to form an envelope which wraps underneath and around the entire periphery of the sign. When this subassembly is in-

serted into the frame 24, and the frame then closed and locked, the sharp edges 34 presented by flanges 32 engage the metal strips 38 in sealing engagement (FIG. 3) to positively prevent the entry of moisture and to grip the sign and cover assembly under pressure along all four sides. To remove the sign, the frame 24 is first unlocked and moved to its open position. The flaps are then lifted away from the edges to release the sign 41, without even removing the cover pane. A different sign can be inserted quickly and conveniently.

While the invention has been described in connection with a certain specific embodiment thereof, it is to be understood that this is by way of illustration and not by way of limitation; and the scope of the appended claims should be construed as broadly as the prior art will permit.

What is claimed is:

1. A display device comprising: a housing having an open side, said side being defined by upper, lower and side panel structures; a source of illumination in said housing; a sign supporting frame hingedly secured to one of said panel structures, said frame being movable from an open position which permits access to the interior of said housing to a closed position wherein said frame encompasses said open side of said housing, and wherein portions of said frame surround said upper, lower and side panel structures; a sign subassembly including a sign member having indicia thereon, a single transparent cover pane overlying said sign and a plurality of sealing strips extending along each edge of said sign subassembly and directly contacting the rearwardly facing surface of said sign member; means for securing said sealing strips to said cover pane, said means including a flexible connecting flap attached to the front surface of said cover pane and extending around the marginal portions of said cover pane and said sign, said sealing strips being secured to said connecting flaps to retain the entire marginal edge of said cover pane and said sign in a water-tight condition; a plurality of flanges projecting forwardly of said housing carried by each of said panel structures to present a relatively sharp linear edge on the inside surface of each said sealing strip, said flanges and said sealing strips cooperating to provide a fluid-tight seal when said frame is in its closed position.

2. A display device as defined in claim 1 wherein said sealing strips are constructed of a ductile and malleable metal.

\* \* \* \* \*

50

55

60

65