June 2, 1942. B. H. ADLER 2,284,626

SIGN

Filed March 23, 1939 3 Sheets-Sheet 1

Fig. 1

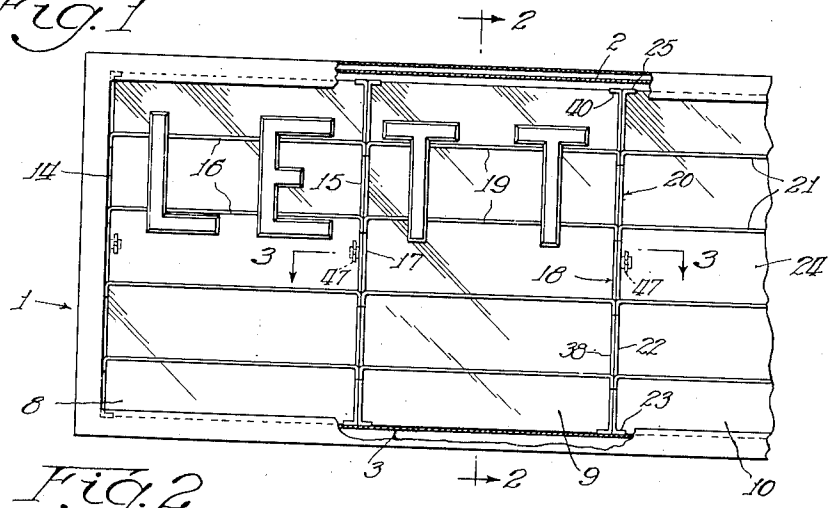


Fig. 2

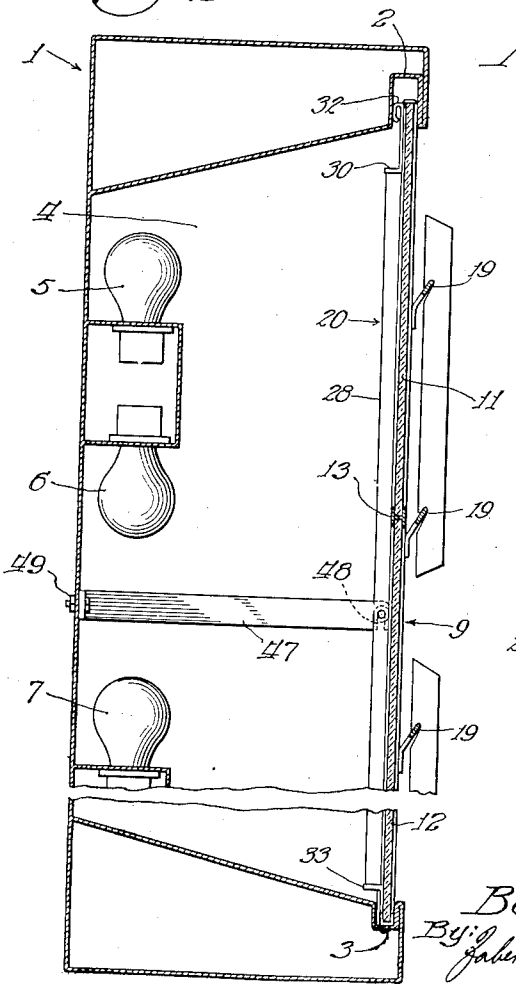
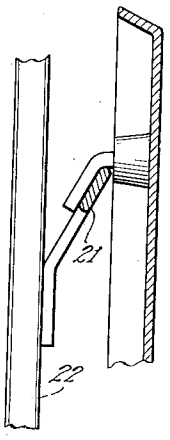


Fig. 12



Fig. 11



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Fig. 3

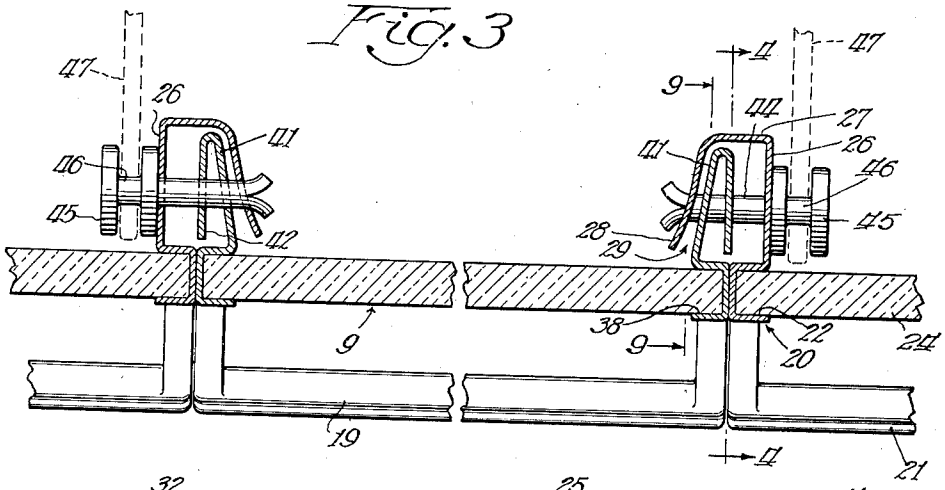


Fig. 4

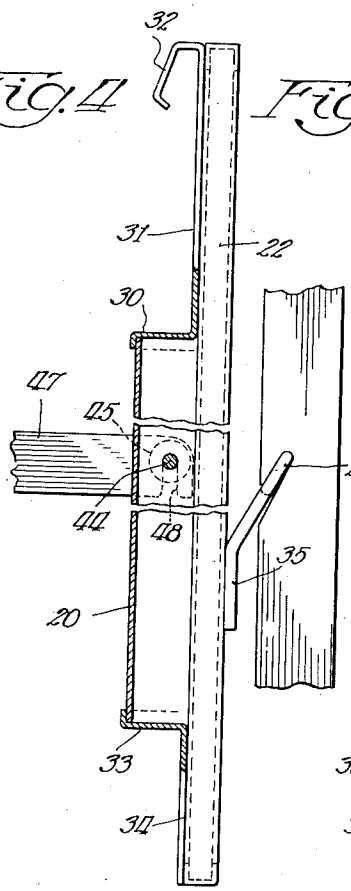


Fig. 5

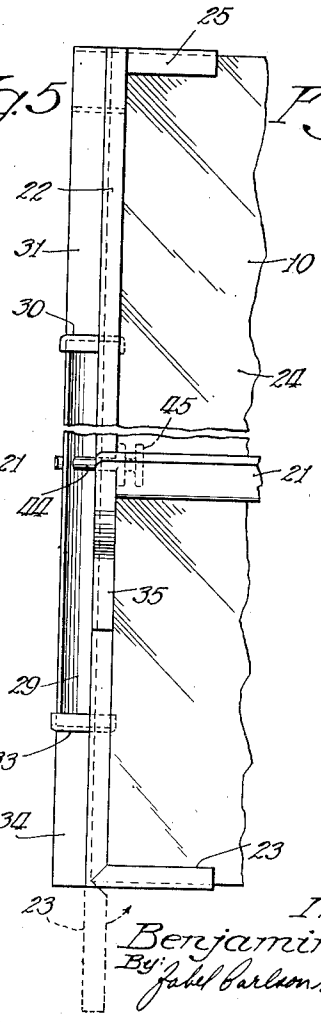
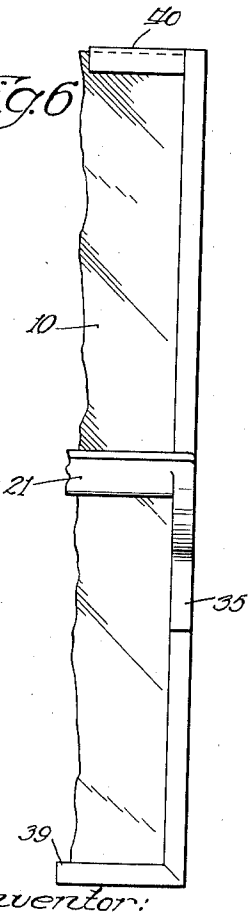


Fig. 6



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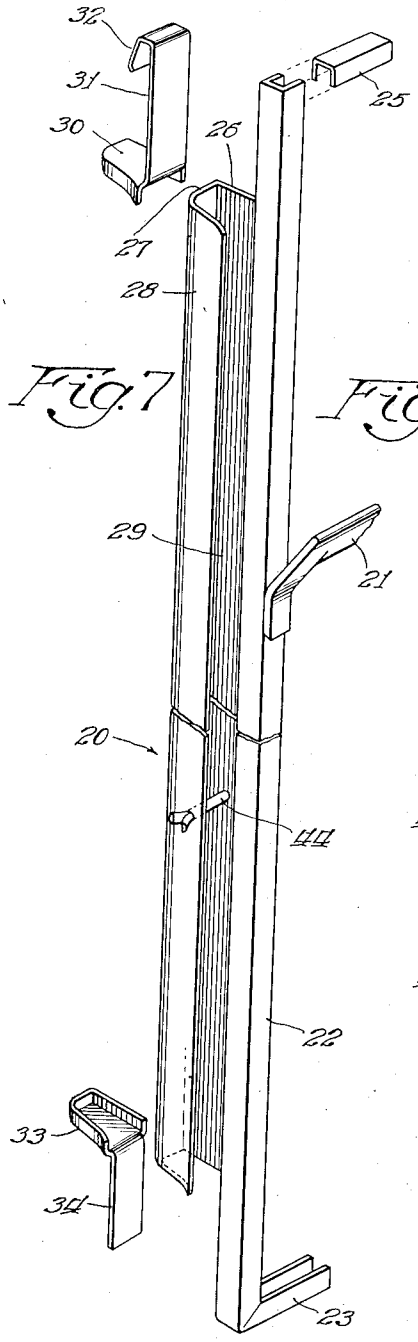


Fig. 7

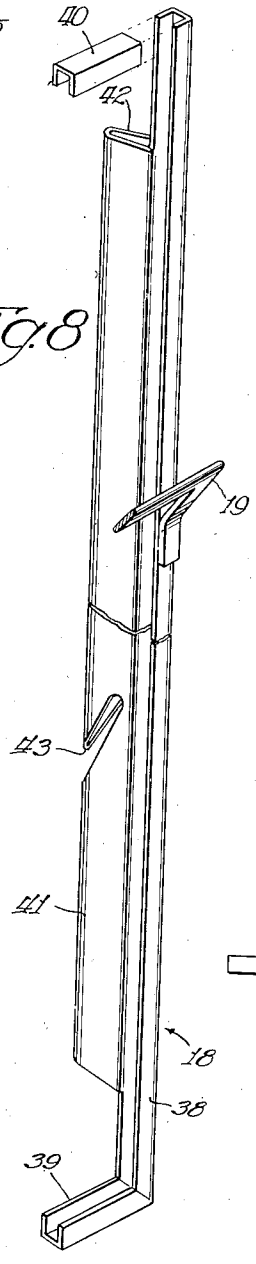


Fig. 8

Fig. 9

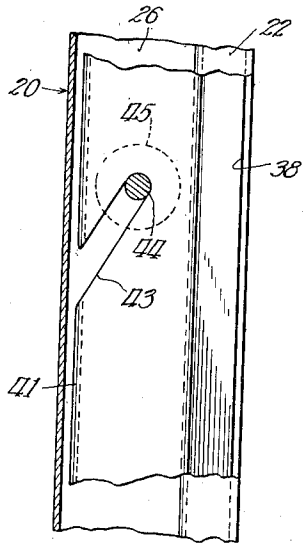
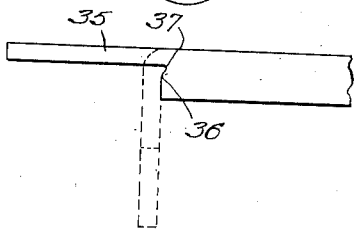


Fig. 10



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UNITED STATES PATENT OFFICE

2,284,626

SIGN

Benjamin H. Adler, Chicago, Ill.

Application March 23, 1939, Serial No. 263,704

5 Claims. (Cl. 40—140)

The present invention relates to signs. It is particularly directed to that type of sign wherein a plurality of panels are arranged in line to provide a large sign area upon which letters, figures or designs are permanently or removably mounted and displayed. The panels usually are composed of frames and sheets of suitable material associated with the frames. The sheet is usually of opaque or translucent type. The translucent type may be illuminated from behind the panels and thus cause the letters that are mounted upon the frames to appear in silhouette in front of the panel. The several panels are arranged to be mounted in or upon a main supporting structure.

It is the principal purpose of this invention to provide a sign frame construction wherein adjacent panels, whether of a single letter height or of the so-called multi-letter height, may be locked together along their adjacent vertical edges so as to exclude the passage of light between the panels.

It is further a purpose of the present invention to provide a frame and panel construction whereby a plurality of the panels may be locked in line so as to form effectively a continuous structure with no breaks at the joints of the several panels. This makes it possible to move letters lengthwise of the sign from panel to panel without lifting them from the letter support.

The present invention contemplates also the provision of a novel frame structure wherein a sheet is mounted in the frame and wherein the frame itself comprises means adapted to interlock with a complementary frame of an adjacent panel to form a light tight joint. In this connection, the contemplated structure provides also that a sheet carrying frame may be removed by a simple sliding movement from its position in a line of panels so that replacement, cleaning or repair of the several parts of the structure, whether they be behind the panels or a part thereof, may be readily accomplished.

Other features and advantages of the invention will appear more fully as the description proceeds, reference being had to the accompanying drawings wherein a preferred form of the invention is shown. It is to be understood, however, that the drawings and description are illustrative only, and are not to be taken as limiting the invention except insofar as it is limited by the claims.

In the drawings, Fig. 1 is a fragmentary front view of a sign embodying the present invention, certain parts of the main sign frame being broken away to illustrate the interior construction;

Fig. 2 is a sectional view taken substantially on the line 2—2 of Fig. 1;

Fig. 3 is a sectional view taken on the line 3—3 of Fig. 1;

Fig. 4 is a sectional view taken on the line 4—4 of Fig. 3;

Fig. 5 is a fragmentary view illustrating one side of the sheet carrying frame;

Fig. 6 is a fragmentary view illustrating one side of a complementary sheet carrying frame;

Fig. 7 is a perspective view, with certain parts disassociated, of the frame shown in Fig. 5;

Fig. 8 is a similar perspective view of the frame shown in Fig. 6;

Fig. 9 is a fragmentary sectional view taken on the line 9—9 of Fig. 3;

Fig. 10 is a detailed view illustrating a step in the formation of the sign frame;

Fig. 11 is an enlarged fragmentary sectional view illustrating a pin type letter supported from the frame of the present invention, and

Fig. 12 is a view similar to Fig. 11 illustrating the frame structure used to support a lug type of letter.

Referring now to the drawings, the present invention is embodied in a sign construction of the type wherein changeable letters are removably supported on the face of panels which may or may not be illuminated. The panels are usually made up of a frame and a sheet which is desirably carried by the frame and strengthenend thereby so as to be more easily handled without damage.

The sign itself is made up by utilizing a plurality of the panels and mounting them within a sign frame such as is illustrated at 1 in Figs. 1 and 2. This sign frame comprises a top channel 2 and a lower channel 3. The frame is hollowed to provide a chamber 4 in which a pluraliy of illuminating devices such as 5, 6 and 7 may be mounted. The opening between the channels 2 and 3 is adapted to be closed by panels such as 8, 9 and 10 shown in Fig. 1. It will be understood that as many of the panels as are necessary for the length of the sign may be placed side by side. Also, where it is desired to have more or less height of panel, the panels themselves are constructed to the desired height. Each panel comprises one or more sections such as 11 and 12, as shown in Fig. 2. Wherever it is desired, because of the height of the panels, they may be divided into a plurality of sections as in Fig. 2, and joined by a special strip 13. This strip is H-shaped in cross section and is

made of a suitable rust-proof material such as stainless steel. The several sections of each panel are mounted in a frame.

As shown in Fig. 1, the left-hand frame comprises two side portions 14 and 15 and letter supporting portions 16 connecting the side portions 14 and 15. The frame for the center panel 9 comprises two side portions 17 and 18 and letter supporting portions 19. The right-hand panel 10 in Fig. 1 is shown as broken away. The frame for this panel, however, would include a side portion 20 at the left-hand side and a right-hand side portion like the portion 15. These two portions are connected by the letter supporting members 21. The frame portions 14 and 15 are the same except that one is right-hand and the other is left-hand. This is also true of the frame portions for the panel 10 which are, of course, a duplicate of the frame portions 14 and 15. The frame portions 17 and 18 are alike except that one is right-hand and the other is left-hand. These frame portions, however, are adapted to telescope with the frame portions 15 and 20, as illustrated in Fig. 3.

Referring now to Figs. 3, 4, 5 and 7, the frame portion 20 will be described in detail. This frame portion comprises a vertical channel 22 having a horizontal portion 23 and is adapted to receive a glass 24. The horizontal channel portion 23 is integral with the vertical channel 22. At the top of the channel 22 a top channel 25 is adapted to be fixed to the channel 22 after the glass is in place so as to permanently mount the glass in the panel. Integral with the channel 22 is a rearwardly extending flange 26 which is bent to provide a portion 27 parallel to the channel 22 and a portion 28 which extends back toward the channel 22. This provides a vertical channel 29 that is closed with the exception of the opening between the edge of the portion 28 and the back of the channel 22.

The top of the channel 29 is adapted to be closed by a cap 30 that is soldered in place or otherwise secured. This cap 30 has an upwardly extending strip 31 thereon. The strip 31 is bent over to provide a spring portion 32. The spring portion 32, as shown clearly in Fig. 2, is adapted to wedge into the channel 2 of the sign frame 1 and thus prevent looseness or rattle at the top of the panel. It will be understood that the vertical strip 31 extends beyond the back edge of the channel 22, as shown in Fig. 5. A similar cap 33 closes the bottom of the channel 29. This cap also has a strip 34 that overlaps the channel 22 and extends to the lower end thereof.

In order to mount sign letters in place upon the frames, the cross bars such as 21 are secured directly to the front face of the channel 22. Each cross bar of the type used for supporting the slotted and pin type letters is made up from a flat strip of metal (see Fig. 10). At its ends this metal is cut to provide a reduced portion 35. The cut is made along a line having a curved portion 36 terminating in a notch 37. The portion 35 is then bent into the position shown in dotted lines in Fig. 10. Owing to the manner in which the cut is made at 36, the metal of the portion 35 can be bent around with ease and without putting too much strain on the outside of the bend. The free end of the portion 35 is then welded directly to the channel 22.

The side frame portion opposite the portion 20 and the side frame portion 15 are like the portion 20 except that they are right-hand instead of left-hand. The portion 14 may, of course, be exactly like the portion 20.

Referring now to Figs. 3, 6 and 8, the side frame portion 18 of the panel 9 will be described in detail. This side frame portion comprises a channel 38 which is adapted to receive the edge of the sheet. This channel has a bottom horizontal extension 39 integral therewith and may have fastened thereto a top channel 40 which will permanently mount the sheet in the frame. The channel 38 has integral therewith a rearwardly extending flange 41 which is doubled back on itself to provide a portion 42 that is substantially in line with the back of the channel 38. (See Fig. 3.) The flange 41 and the portion 42 are notched, as shown at 43, to receive a locking pin 44 which passes through suitable openings provided in the flange 26 of the member 20. The side frame portions 18 and 20 are interlocked in the fashion illustrated in Fig. 3 by shoving the flange 41 into the channel 29. It will be understood, of course, that the flange 41 at the top and bottom terminates before it reaches the end of the channel 38 so that it will not be blocked from entering the channel 29 by the caps 30 and 33. The strips 31 and 34 overlap the channel 38 where it meets with the channel 22 and prevent any light passage at the top and bottom portions of the frame.

In certain instances, it is desirable, because of the extreme height of panels employed, to provide cross bracing in the sign frame. In the present construction, I utilize the pins 44 for this purpose. Each of the pins 44 is provided with a head 45 that is shaped as indicated in Fig. 3 to provide a neck portion 46. A tie bar 47 has a slot 48 adapted to fit over the neck portion 46. This tie bar is secured to the back wall of the frame 1 by a bolt 49 or other suitable means. In this way, it is possible to tie the panels back at each joint. The flanges 26 and 41 serve to lock the several panels in line. They also serve to exclude any passage of light from within the sign between panels. This is highly important, as it eliminates entirely the difficulty of light streaks visible from certain angles in present day signs.

The panel 9, with the present construction, can be removed at will by simply pulling it up and out so that the notch 43 will slide off the pin 44. There is sufficient play provided at the top channel 2 to enable this action to take place. It is obvious, of course, that once the panel 9 is removed either of the panels 8 or 10 are readily accessible for removal or repair.

It is contemplated that in erecting a particular sign installation the panel 9 will alternate with the panels 8 and 10, although of course this is not necessary in all cases. It will be readily appreciated that instead of having the frame portions 17 and 18 both on the same panel, every panel might be equipped with a frame portion like 18 at one side and a frame portion like 20 at the other side.

From the foregoing description it is believed that the construction and operation of the present invention will be readily apparent to those skilled in this art. Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In a sign construction, a sign box having a panel receiving opening therein, a light source within said box, a plurality of adjacent panels mounted in said opening and each comprising a frame, a sheet therein, said frame including sign letter supporting cross bars in front of said sheet,

means on the vertical sides of adjacent frames and at the rear thereof cooperating to block the passage of light between panels, and cross-ties extending from the rear of said box to said means to hold a plurality of panels in vertical alignment.

2. In a sign construction of the character described, a plurality of frames adapted to support sign letters and the like, said frames each comprising upright side portions and cross bars fixed to and connecting said side portions, means at the junctions of the side portions of one frame with another for preventing passage of light therebetween, said means comprising overlapping flanges on said side portions, the flange on certain side portions being channel-shaped, the flange on the cooperating side portions of the adjacent frames being extended into the channel-shaped flanges whereby to hold the frames together, transverse locking pins mounted in the channel-shaped flanges, and slots in the other flanges receiving said pins to lock the frames in line.

3. In a sign construction of the character described, a plurality of frames adapted to support sign letters and the like, said frames each comprising upright side portions and cross bars fixed to and connecting said side portions, means at the junctions of the side portions of one frame with another for preventing passage of light therebetween, said means comprising overlapping flanges on said side portions, the flange on certain side portions being channel-shaped, the flange on the cooperating side portions of the adjacent frames being extended into the channel-shaped flanges whereby to hold the frames together, said channel-shaped flanges terminating short of the ends of their side portions, caps for the ends of said flanges, and strips extending from the caps to the ends of the side portions and adapted to overlap the corresponding part of an adjacent side portion.

4. In a sign construction of the character described, a plurality of adjacent panels each comprising a frame, a sheet therein, said frame including sign letter supporting cross bars in front of said sheet, and means for holding the adjacent edges of said frames in abutting relationship, said means comprising portions each extending rearwardly from the upright edges of said frames, said portions on alternate frames being upright channel members and the portions on the other frames being flanges adapted to seat in said channel members.

5. In a sign structure of the character described, a plurality of panels adapted to be locked together in abutting relationship whereby alternate panels may readily be removed, said panels having cooperating portions which extend rearwardly from the vertical edges thereof, the portions on alternate panels comprising upright channels which extend transversely of the plane of said panels, the portions on the other frames being transversely extending flanges adapted to seat in said channels.

BENJAMIN H. ADLER.