

Dec. 9, 1930.

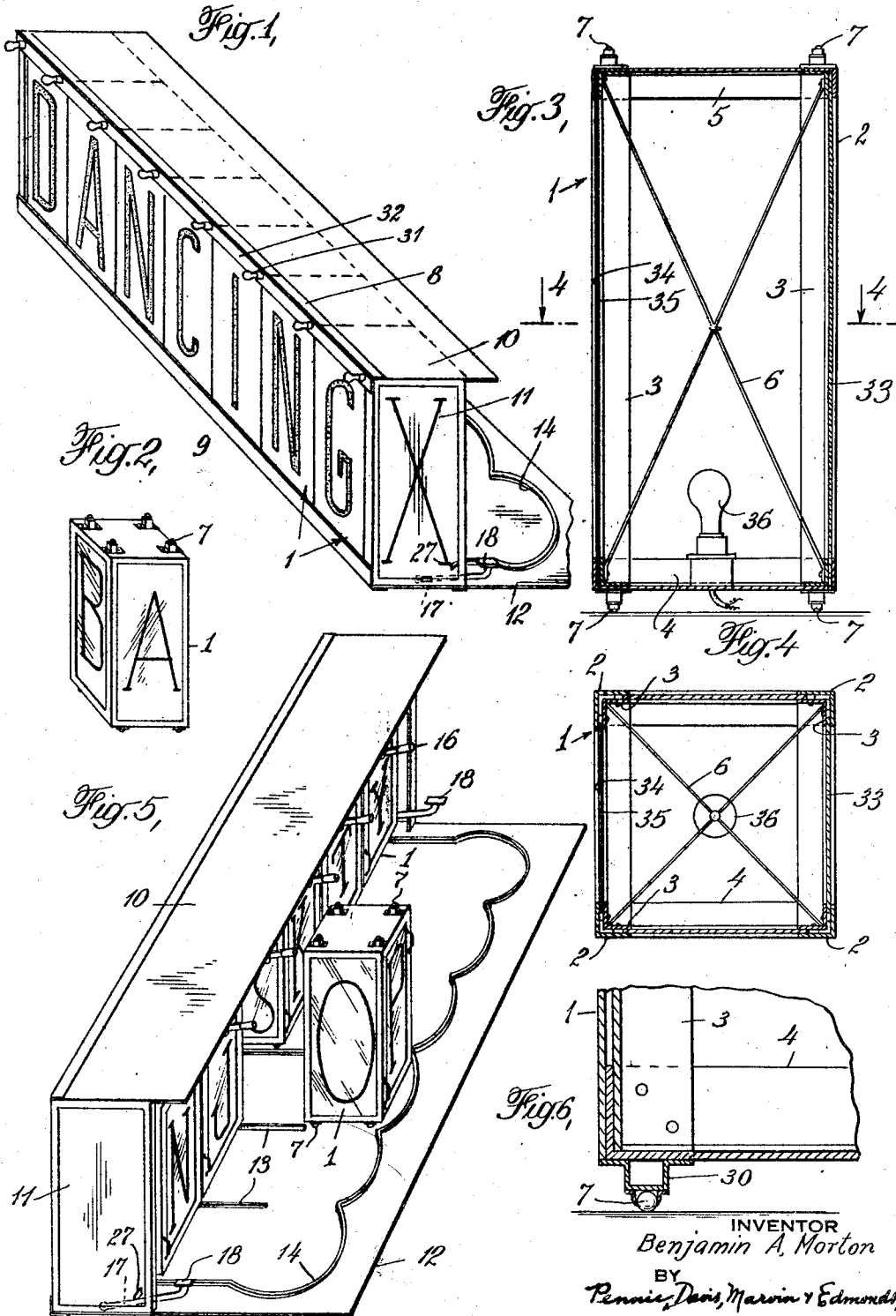
B. A. MORTON

1,784,677

SECTIONAL ILLUMINATED SIGN

Filed Aug. 15, 1928

3 Sheets-Sheet 1



INVENTOR
Benjamin A. Morton
BY
Pennie, Davis, Marvin & Edmonds,
HIS ATTORNEYS.

Dec. 9, 1930.

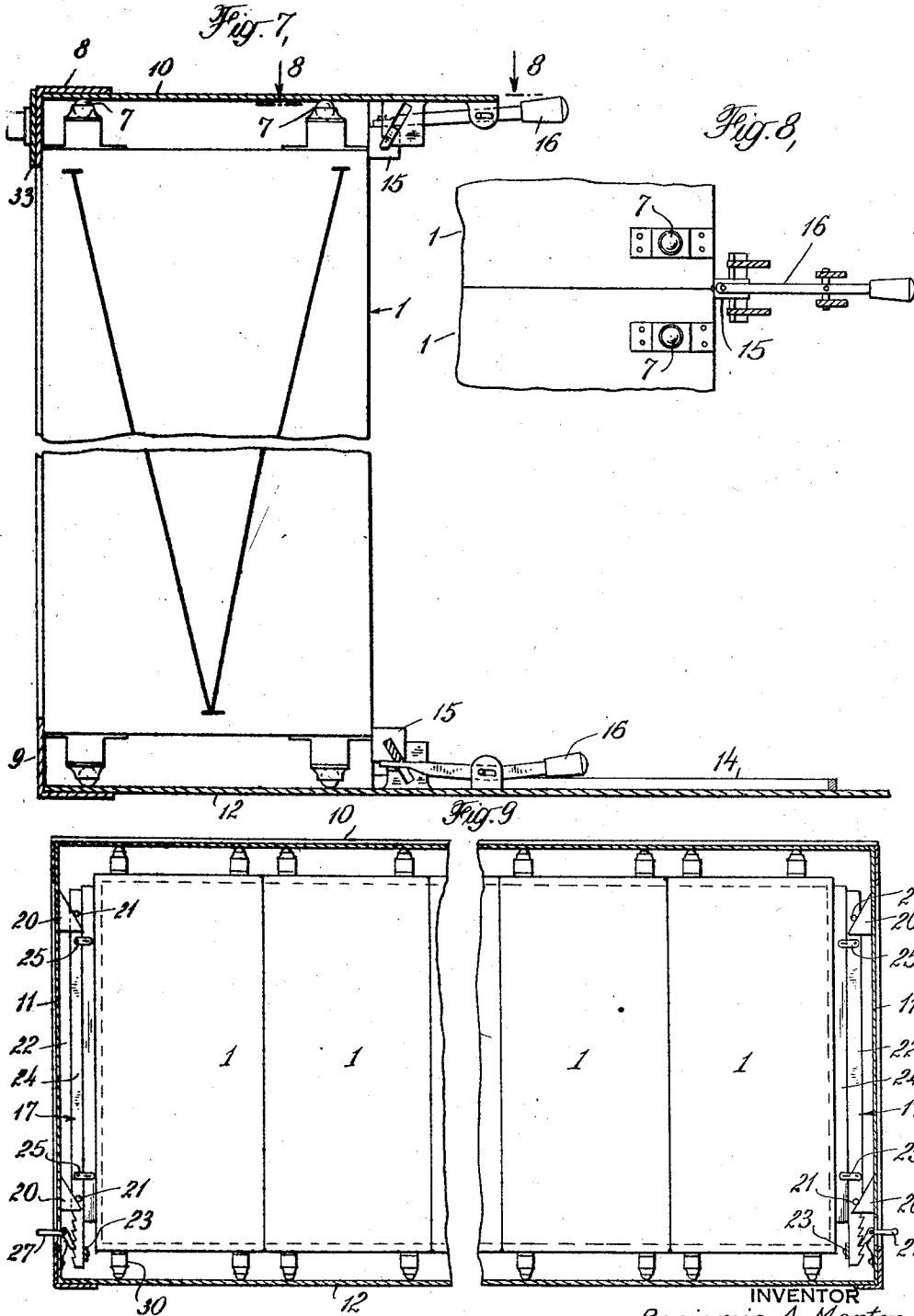
B. A. MORTON

1,784,677

SECTIONAL ILLUMINATED SIGN

Filed Aug. 15, 1928

3 Sheets-Sheet 2



INVENTOR
Benjamin A. Morton
BY
Perris, Davis, Morin & Edmonds,
HIS ATTORNEYS.

Dec. 9, 1930.

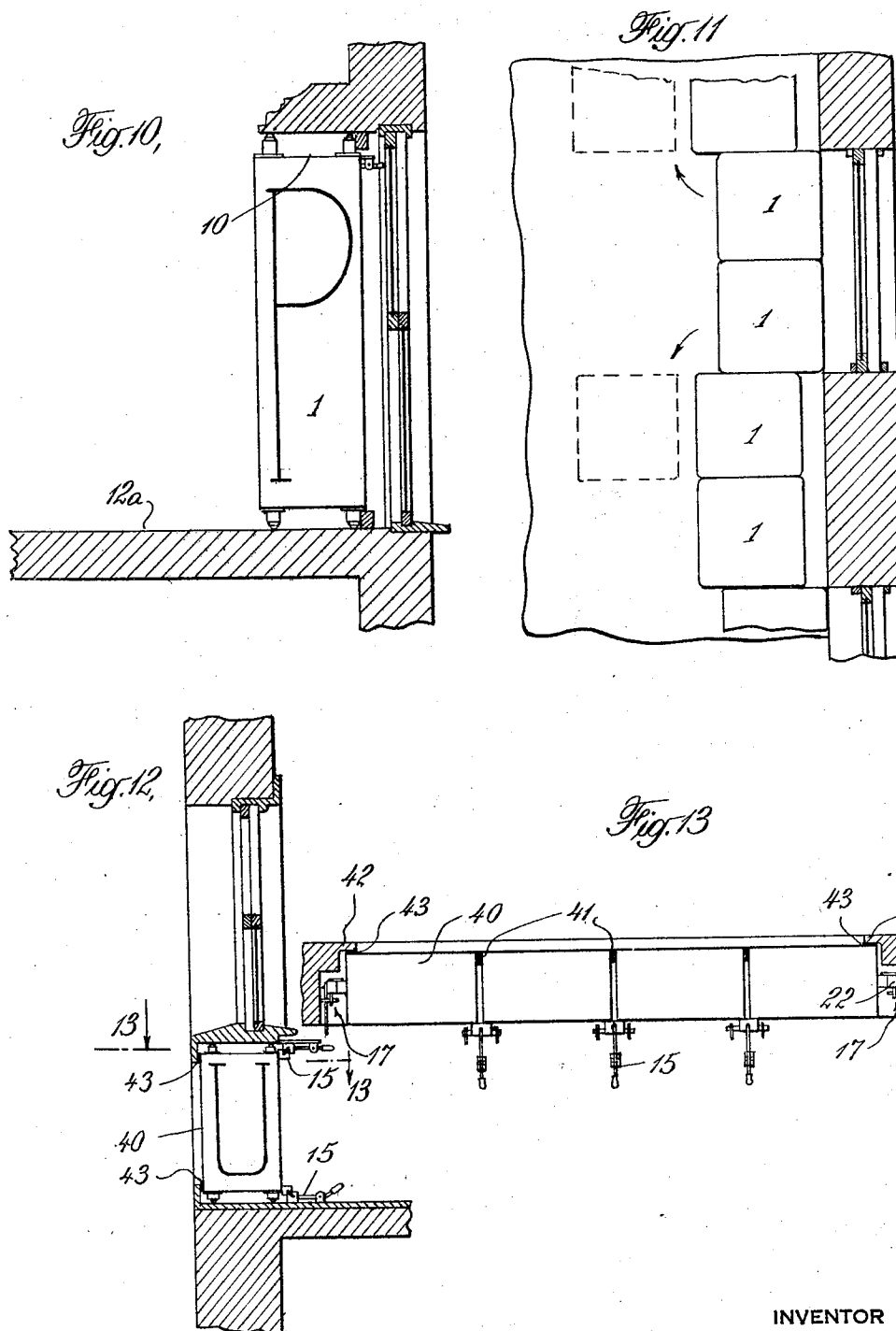
B. A. MORTON

1,784,677

SECTIONAL ILLUMINATED SIGN

Filed Aug. 15, 1928

3 Sheets-Sheet 3



INVENTOR
Benjamin A. Morton
BY
Pennie, Davis, Marvin & Edmunds,
HIS ATTORNEYS

UNITED STATES PATENT OFFICE

BENJAMIN A. MORTON, OF NEW YORK, N. Y.

SECTIONAL ILLUMINATED SIGN

Application filed August 15, 1928. Serial No. 299,715.

The invention of this application relates to display signs, particularly of the kind that are supported on the tops of buildings along popular thoroughfares.

It is a well known fact that large illuminated signs do not make an effective display in the day time, but are disfiguring rather than otherwise. The cost and labor of setting up signs of this kind are such, however, that it does not pay to take them down during the day and set them up at night, so that as a general thing the advertising value of the space is utilized only in the evening.

Painted signs lighted indirectly are effective in the day time, but are not as striking at night as electrical signs made up of illuminated letters, and notwithstanding the fact that the advertising value in the day time is practically nil, signs of illuminated letters are very largely used.

The primary object of my invention is to provide a sign which will constitute an attractive illuminated sign at night but which may with little labor be converted into an attractive sign when viewed by daylight.

My improved sign is not confined in its use to the tops of buildings and the like, but is readily adapted for use as part of a building structure, either of a specially constructed building or of an adjunct to buildings already constructed. In some localities the value of the walls of the buildings along the streets is worth more for display advertising than the rent of the rooms. This is particularly true of the rooms immediately above the street floor which are not so desirable for office space. In such buildings the windows of the lower floors are frequently completely covered with signs so that the space within such floors is rented only for storage or other purposes where light and air are not required. By means of my improved sign structure the sign may be set up at night when the value of the space for advertising is greatest, and be moved away from in front of the windows during the day so that the floor space in the building may be used for office or other purposes.

My improved sign may be also readily built into buildings, particularly steel frame

buildings, the sign forming a movable wall surface for the building either across the entire face of the building or around the windows.

In the accompanying drawings I have illustrated several different modifications of my improved sign structure. In said drawings

Fig. 1 is a perspective view of my improved sign as designed for installation on top of a building;

Fig. 2 is a perspective view of one of the sign units;

Fig. 3 is a vertical sectional view on a large scale of one of the sign units;

Fig. 4 is a horizontal section on line 4—4 of Fig. 3;

Fig. 5 is a perspective view showing the rear of the sign;

Fig. 6 is a detail view on a large scale showing the corner support of the sign unit;

Figs. 7 and 8 are detail views showing one of the wedges for holding the sign unit in place;

Fig. 9 is a sectional view at right angles to Fig. 7 showing the locking means for locking another row of sign units in place;

Figs. 10 and 11 are diagrammatic views showing the arrangement of my improved sign in conjunction with a building so as to allow the windows to be clear in the day time;

Fig. 12 is a vertical sectional view showing my improved sign as installed as part of a building wall; and

Fig. 13 is a horizontal sectional view on line 13—13 of Fig. 12.

Referring to the drawings, primarily to the new sign structure illustrated in Figs. 1-6 inclusive, 1 indicates one of my sign units which consists of a large oblong frame composed of light structural steel. For example, as shown in Figs. 3 and 4, the units may be composed of four outside vertical steel angles 2 and four inside vertical angles 3 at the vertical corners, while the ends are formed of four horizontal steel angles 4 and 5 at the bottom and top, respectively, the ends of the horizontal angles being riveted between the two vertical angles at each corner. Interior diagonal braces 6 may be provided if desired.

As shown in Fig. 6, each unit is provided on its end faces at each corner with a ball or roller 7 whereby it may be readily rolled about. The units may be of any desired size which will be largely determined by the dimensions of the space available in each installation. If the sign is merely one or two words in large display letters, each unit may carry a single letter, but there is no necessary relation between the number of letters and the number of units, the idea being to provide with the units a continuous display surface, each unit to carry such part of the sign as falls on the surface provided by that unit.

The several sign units are mounted in a frame, also preferably composed of structural steel. As shown, the front of the frame consists of upper and lower horizontal angles 8 and 9, respectively, the top and two ends being formed of plates 10 and 11 riveted to the angles 8 and 9 and suitable structural angles at the corners of the end faces. The bottom wall of the frame is composed of a wide plate 12 whose front portion underlies the plate 10 forming the frame proper for the units, while the rear portion projects beyond the rest of the frame to provide a stage on which the units may be readily manipulated for turning around to substitute the illuminated face for the painted or daylight face or for changing the matter displayed on the sign, etc.

To facilitate the turning of the units, short track sections 13 are provided at the points where the side faces of the units contact with each other and in addition a stop or guide track 14 consisting of curved segments back of each unit is provided so that the attendant in reserving the sign has merely to pull the unit to the rear, after loosening its fastenings, as will be later described, and then give the unit a half turn while holding the rollers lightly in contact with the curved guide rail. When the corners of the opposite face are brought in line with the track sections 13 the unit may be shoved into place again and will be guided accurately in between the two adjacent units.

As stated above, it is desirable that the units be maintained in closely adjacent position so as to form in effect a single unitary surface. To this end I have devised fastening means for holding each unit effectively in place, but which will not lie between the units or interfere with their free manipulation. As shown in Fig. 7 this locking means consists primarily of a locking block 15 attached to a handle 16 pivotally supported on the upper wall at the junction of each two adjacent sign units designed when elevated to release both units, and when depressed by raising the handle to clamp the two against the angle 8 forming the top front member of the frame. The block 15 on the handle 16 may be shifted to one side or the other so

as to lock only one block in case it is necessary on account of high wind or for other reasons to lock in place the adjacent units while one unit is being shifted.

A similar wedge lever 17 is provided in the floor 12 on each corner immediately in front of the track section 13, the wedge lever 17 being provided with pedals 18 so that it may be conveniently operated by the foot.

Ordinarily the separate units may be spaced apart just sufficiently to be freely movable when the wedges are released, and in such case the above described fastening means is sufficient to hold them in place. If desired, however, supplemental means may be provided for forcing the units laterally in contact with each other so that the lines between the units will be barely visible. I have illustrated suitable means for this purpose in Fig. 9. As here shown wedges 20 are provided on the inside of each end plate 11 at the top and bottom, the wedges cooperating with pins 21 provided at the top and bottom of vertically adjustable rods or bars 22. The bars are attached at their lower ends to foot levers 23 by means of which they may be forced downwardly, whereby the pins 21 working on the inclined surfaces of the fixed wedges 20 force the bars inwardly against the units. The bars 22 preferably do not engage the faces of the unit directly, but each carries a second bar 24 which is connected to the bar 22 by means of side clips 25 to permit a relative sliding movement of the two bars. Antifriction balls are interposed between the two bars so that they may move freely with respect to each other. A pawl 27 may also be provided for holding the bar 22 down in locked position.

As will be observed in Fig. 6, the supporting balls at the top and bottom of the units are mounted at the end of short legs 30 so that the bottom and top surfaces of the units will be spaced above and below the top and bottom of the frame a sufficient distance for the locking wedges and their operating levers to be clear of the units when in released position.

In changing the sign the attendant first releases the end clamps 22 and then beginning at the end of the sign, releases the upper and lower clamps 15 and 17 of the first block which also releases the adjacent corner of the second unit. He then draws the first unit out of line and turns it around within the space marked by the guide rail 14 and pushes it back in place. If the day is particularly windy the second unit may be locked while the first one is being turned by merely shifting the wedge 16 to one side so as to engage the second unit, but leave the space for the first unit clear.

Ordinarily this is not necessary, the fastening at the corner adjacent the third unit being sufficient to hold the second unit while

No. 1 is being turned. Thus each unit is turned around and locked back in place to change the entire front of the sign from illuminated to plain, or vice versa, as the case may be. Very little time is required for the operation of changing the sign as the units may be made quite large and still be readily handled by one man. Units may, for example, be six feet or more in height, and say about three feet wide, so that only ten units are required for the entire space across the front of a thirty foot building.

The sign supported on the unit may be of any desired character. For example, as shown in Fig. 3 the illuminated side of the unit is formed of electric light bulbs 31 mounted in the usual manner in light sockets supported on a plate 32 attached to the outer face of the corner angles 2. The signs for daylight exhibition may be painted on board sections 33 attached in a similar manner to the corner angles 2 at the rear wall of the unit.

Additional signs may be provided on the side walls of the units and as these walls are preferably left smooth so that the units may be closely clamped together, these sides may conveniently be formed of glass plates 34, 35, set in the space between the outer and inner corner angles 2 and 3 with a transparent sign on film or glass between the glass plates 34 and 35. An internal light 36 as indicated in Fig. 3 may be provided to illuminate the signs.

Any suitable means may be provided for transmitting current to the light bulbs 31 and the interior light 36. As a half turn is all that is required for adjusting the units to change the sign, an ordinary flexible cable may be employed, or brushes may be set in the floor or top plate of the sign frame for engagement with contacts carried by the blocks positioned to come in proper registry with the brushes when the units are pushed into place. The electrical connections to be employed form no part of my present invention and are therefore not illustrated in detail.

In Figs. 10 and 11 I have illustrated an arrangement of my improved sign in conjunction with the wall of a building in order to permit the windows to be clear in the day time when the building is ordinarily used for commercial purposes, and covered with the sign at night when its outer surface is most valuable for display purposes. As here shown the bottom plate of the sign forms a balcony floor immediately beneath the level of the window sill, while the upper wall 10 lies above the top of the window.

The same arrangement of locking levers and wedges may be provided as in the first described construction. The tracks 13, however, on the platform 12, are preferably omit-

ted so that the units immediately in front of the windows may be drawn inwardly out of line with the other units and pushed over back of such units as are not in front of the windows of the building. In this type of sign the walls of the units which are visible in the day time when the windows are exposed may carry legends forming complete separate signs, while the sides for night display utilize the whole area of the sign.

In Figs. 12 and 13 I have shown an arrangement of sign units as part of the wall structure of a building; for example, a factory building may utilize a large portion of the wall surface which is not taken up with windows, with sign units in the manner shown. Such units are preferably of rectangular, rather than square, cross section, so as to be no thicker than the wall, and the guide tracks employed may be omitted so as not to interfere with the free use of the entire floor area. In order that the wall may be completely weather-tight, the narrow faces of the sign units 40 are provided with metallic or rubber weather stripping 41 and the inner face of the flanges 42 forming the front frame of the sign may be similarly provided with weather-stripping 43 so that when the sign units are in place they may be clamped together by the end clamps 22 and individually clamped against the sign frame by the wedges 15 and 17, and the structure will be completely weather-tight.

My removable sign units may be used with advantage in building the entire walls of buildings which are utilized for sign purposes only. Such buildings may be constructed of ordinary structural steel framework with the sign units covering the entire surface.

It will of course be understood that the mechanical details of my improved sign may be variously modified. Various different mechanisms may be employed for holding the units in place, particularly where the units form part of the wall structure of the building. In such case it may be more convenient to lock the whole group of units in place by clamping bars across the back, or other suitable mechanism. In the larger outdoor signs, however, it is preferable to have individual clamps for the separate units so that only one unit at a time may be loose.

My invention lends itself readily to large electric signs having a large number of individual bulbs, where the failure of one bulb here and there is an almost daily occurrence. To replace bulbs in my improved sign it is only necessary to release the particular unit containing the burned out bulb and turn the unit around to replace the bulb, which may be done in the space of a few minutes.

The term "display sign" used in the foregoing specification and appended claims is not intended to include within its scope such

devices as children's educational blocks, directory boards, and the like.

I claim:

1. In a display sign the combination of a supporting frame, a plurality of sign-bearing members each having a daylight sign face and an artificially illuminated sign face, said faces being respectively movable into and out of place in said frame, and means for locking said sign members in place in said frame.
2. In a display sign the combination of a supporting frame, individual sign-bearing members having a plurality of display faces, means for separately supporting said sign-bearing members in said frame, said frame having a portion adjacent each unit upon which said unit may be moved out of said frame and turned to present a different surface in the face of said sign, said portion having means thereon for guiding each unit while being manipulated and means for locking the display members in place in said frame.
3. In a display sign the combination of a supporting frame, a plurality of sign-bearing members each having a plurality of display faces individually movable into and out of place in said frame, means whereby said members may be turned to present a different surface for display and independent means for locking said several display members in place whereby one member at a time may be left free.
4. In a display sign the combination of a frame, a plurality of display members mounted in said frame and forming the sign-bearing portion thereof, each of said members comprising a box-like structure having antifriction supporting members at its corners whereby it may be freely moved, a platform attached to said frame to the rear of the position of said units when in sign-forming position in said frame, and means for releasably clamping said units in place in said frame whereby when released the individual units may be shifted to said platform and there turned to present a different surface in the display face of said sign.
5. In a display sign the combination of a frame having upper and lower members presenting parallel opposed surfaces, a plurality of individual sign-bearing members supported in said frame between said surfaces, said members having on their upper and lower faces bearings adapted to engage the surfaces of said frame members, the lower frame member having a portion presenting an extension of its supporting surface, and means for releasably clamping said sign-bearing members in said frame, whereby when released the individual members may be pulled out of said frame onto the said extension and there turned to present a different surface in the display face of said sign.
6. In a display sign the combination of a frame having flanges at the top and bottom,

individual sign-bearing units supported in said frame in engagement with said flanges, means for clamping said units in said frame comprising members at the ends of said frame for pressing said units together, and individual clamping devices for the separate units for holding them in engagement with the flanges of the frame.

In testimony whereof I affix my signature.

BENJAMIN A. MORTON.

70

75

80

85

90

95

100

105

110

115

120

125

130