

Oct. 21, 1941.

G. F. REED

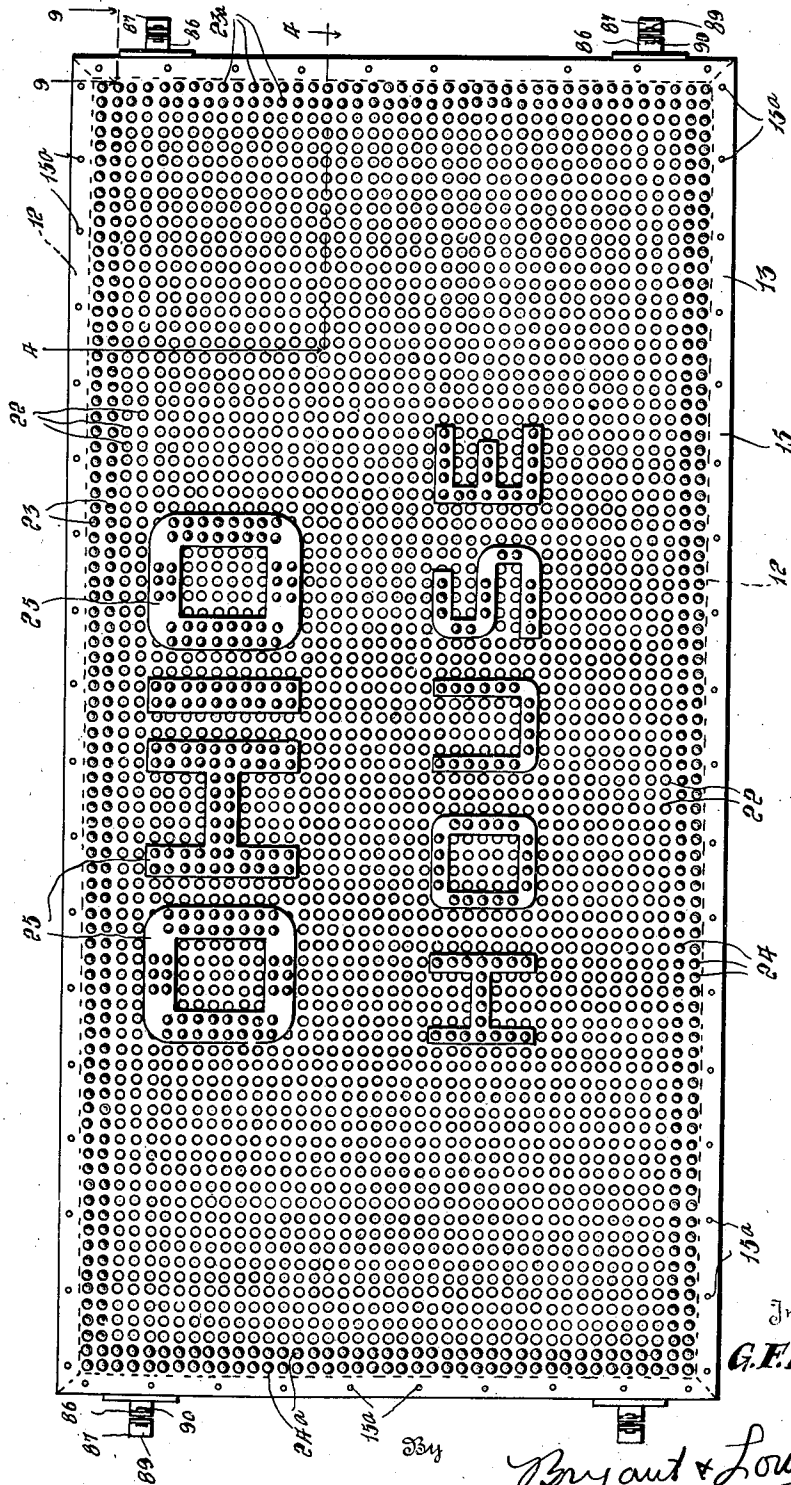
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CHANGEABLE ILLUMINATED SIGN

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3 Sheets-Sheet 1

Fig. 1.



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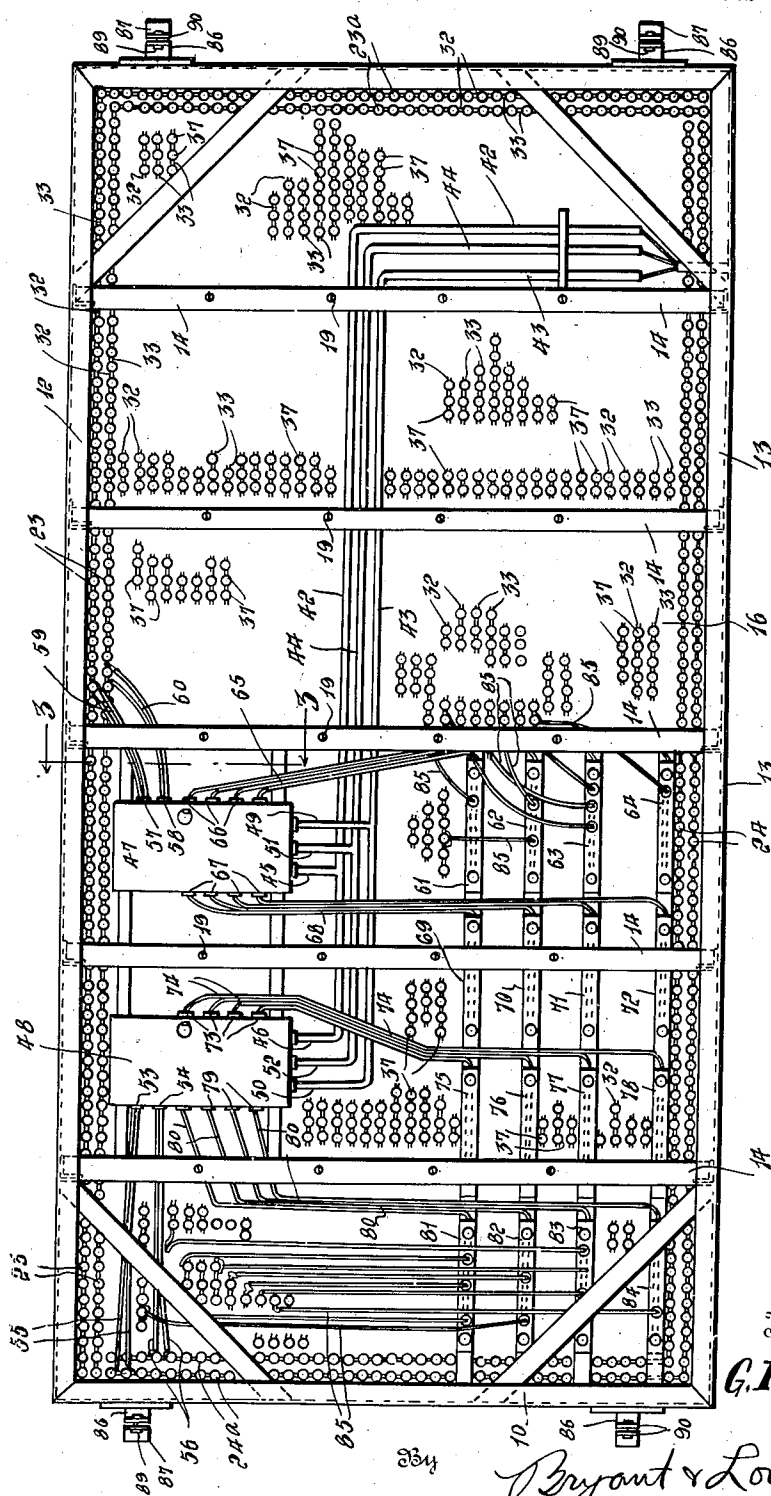
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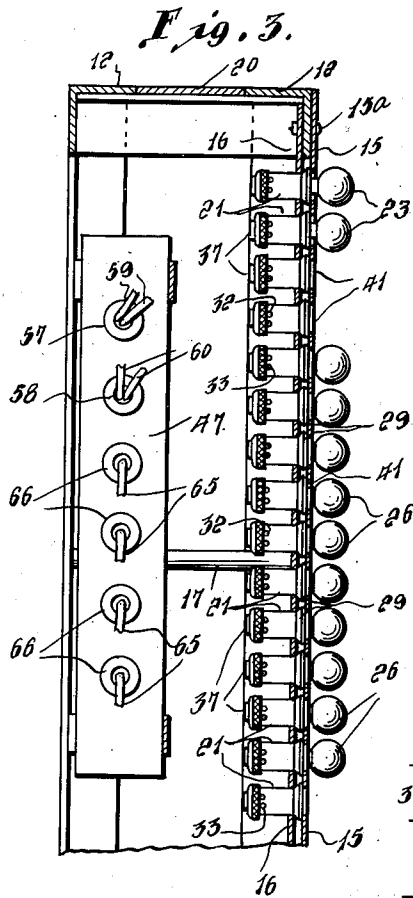
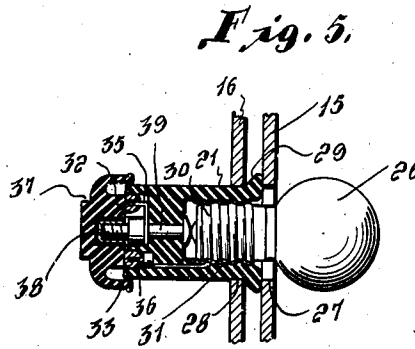
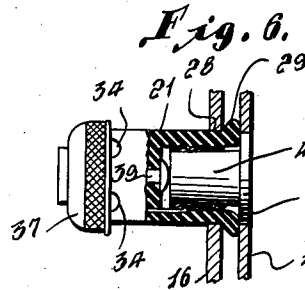
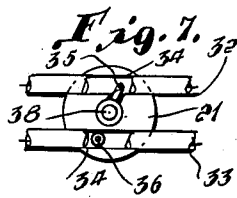
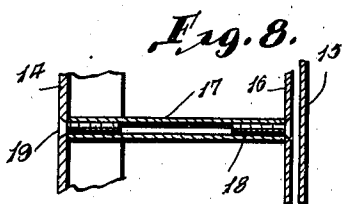
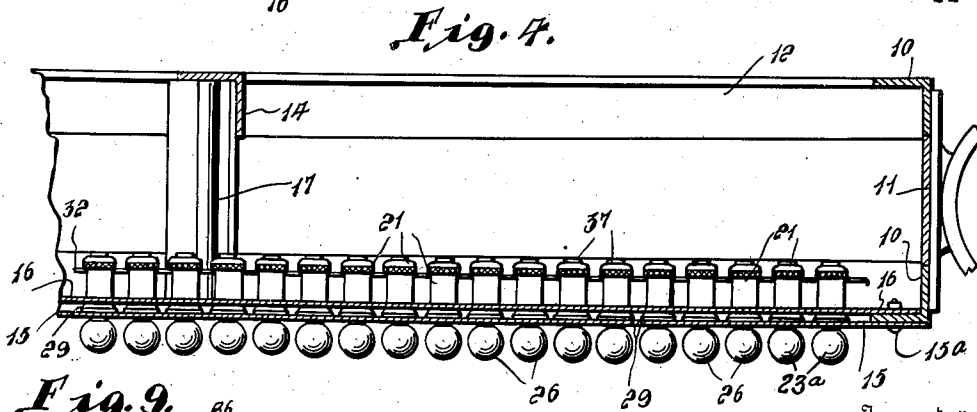
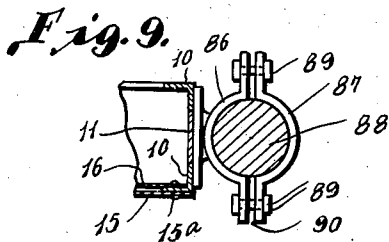
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CHANGEABLE ILLUMINATED SIGN

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3 Sheets-Sheet 3



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UNITED STATES PATENT OFFICE

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CHANGEABLE ILLUMINATED SIGN

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5 Claims. (Cl. 40—130)

This invention relates to certain new and useful improvements in changeable illuminated signs.

The primary object of the invention is to provide a changeable illuminated sign wherein the front wall of the sign is of double panel formation with the panels constructed for clamping engagement with flanged heads of lamp sockets whereby the lamp sockets are retained in assembled relation on the sign by the double panel formation of front wall construction.

A further object of the invention is to provide a changeable sign of the foregoing character wherein the front wall of the sign is of double panel formation, registering openings of identical size being formed in both panels for the support of lamp sockets with an outwardly flanged head on each lamp socket positioned between the two panels with the open end of the sockets exposed through the openings in the outer panel for the selective reception of lamps or closure plugs having flanged heads completely filling the adjacent opening in the outer panel with the outer ends of the heads of the plugs lying flush with the outer face of the outer panel to present a smooth and uninterrupted surface at the outer side of the sign over the area that is not equipped with lamps.

It is a further object of the invention to provide a changeable illuminated sign of the foregoing character wherein a plurality of lines of electric lamps have the lamps of each line separately connected in parallel with a plurality of plug-in strips to which the several lines are selectively connected for the selective illumination of chosen lines in an advertising display assemblage.

With the above and other objects in view that will become apparent as the nature of the invention is better understood, the same consists in general of certain novel details of construction and combination of parts herein more fully described, illustrated in the accompanying drawings and claimed.

In the accompanying drawings:

Figure 1 is a front elevational view of a changeable illuminated sign constructed in accordance with the present invention, the front panel wall of the sign displaying advertising characters attached thereto and viewable during daylight and viewable by illumination at night,

Fig. 2 is a rear elevational view of the sign showing the wiring arrangement including the circuits leading to the lamps,

Figure 3 is a fragmentary vertical cross-sectional view taken on line 3—3 of Figure 2, showing outlets at one side of a fuse box and the horizontal lines of lamps,

Figure 4 is a fragmentary horizontal sectional view taken on line 4—4 of Figure 1, showing a single conductor wire having a series of lamp sockets connected thereto,

Figure 5 is a detail sectional view showing a part of the front wall of the sign of double panel formation with a lamp socket clamped between the two panels of the wall with a lamp in the socket,

Figure 6 is a fragmentary detail sectional view similar to Figure 5, showing a water-proof closure plug for a lamp socket having the enlarged outer headed end thereof with a flush seat in the opening in the outer panel of the wall, the advertising characters being omitted,

Figure 7 is a fragmentary plan view, partly broken away and shown in section, of the inner end of a lamp socket with conductor wires associated therewith,

Figure 8 is a detail sectional view showing a tie rod connection between the front wall of the sign and rearwardly positioned frame bars, and

Figure 9 is a detail sectional view showing a post clamp carried by a vertical end of the sign for attachment to a supporting post.

The changeable illuminated sign may be constructed of any material desired as well as being of various configurations or designs and may also be constructed for interior and outside display purposes. The frame structure of the sign is of generally rectangular form in plan as shown in Figure 4, comprising upright corner posts 10 of angle iron formation with vertical end walls 11 connecting the corner posts 10 at each end of the frame. Head and base rails 12 and 13 respectively of angle formation connect the upper ends of the corner posts 10, the rear wall of the sign being of skeleton formation and as shown more clearly in Figure 2 comprises vertical bars 14 of angle iron formation connected at their upper and lower ends to the adjacent head and base rails 12 and 13. The front wall of the sign that is of double panel formation with front and rear panels 15 and 16 spaced from each other as shown in Figures 5 and 6 is maintained in spaced relation to the vertical bars 14 of the rear wall by means of tie rods shown in Figure 8 as comprising tubular members 17 internally threaded at their ends for the reception of screws 18 and 19 respectively carried by the rear and front walls of the frame. The marginal edges of the panels 15 and 16 inclose adjacent flanges of the upright

corner posts 10 and the head and base rails 12 and 13 as shown in Figure 3 and are bolted to said flanges as at 15^a. A top wall section 20 is disposed between the head rails 12 to provide a top closure for the frame of the sign as shown in Figure 3.

As shown more clearly in Figures 5 and 6 the front and rear panels 15 and 16 of the front wall provide supports for the lamp sockets 21, Figure 1 of the drawings pictorially illustrating the display face of the sign as comprising a plurality of horizontal illuminating lines 22, the upper end of the sign plate having two illuminated border lines 23 being connected in series with two vertical illuminated lines 23^a at one end of the sign plate, while two horizontal illuminating lines 24 forming the border at the lower end of the sign plate are in series with two vertical illuminating lines 24^a at the other end of the sign plate. The border lines 23 and 23^a and 24—24^a are arranged for constant illumination when the sign is in operation.

Advertising characters, such as lights to form words, slogans and the like indicated by the reference numeral 25 may be in the nature of cut-outs that may be pasted to the outer face of the front panel 15 or retained in position on the panel by means of the lamps 26 passing through openings in the advertising characters 25, the latter being preferably of a character in color or the like contrasting with the outer face of the front panel 15 for clear display during the day. It is to be understood that advertising characters or symbols of any character may be associated with the sign plate. The advertising characters 25 shown in Fig. 1 are preferably in the form of perforated sheets and may be retained in position by the associated lamps 26 or glued onto the front wall 15.

As shown more clearly in Figures 5 and 6, the front and rear panels 15 and 16 of the front wall of the sign are formed with a plurality of horizontally aligned spaced openings 27 and 28 respectively and the lamp socket 21 is of the same diameter as said openings, the lamp socket 21 having an outwardly flanged head 29 at the socketed end thereof that is disposed between the front and rear panels 15 and 16 to be clampingly engaged thereby for holding the lamp sockets in position. As shown in Figure 5, the screw base 30 of the lamp 26 passes through the outer opening 27 to thread into the socket 31 per se of the lamp socket 21. Each horizontal illuminating line 22, 23 and 24 includes a pair of conductor wires 32 and 33. As shown in Figures 5 to 7, the base of the lamp socket 21 has a pair of spaced parallel grooves 34 through which the conductor wires 32 and 33 pass, the lamp socket 21 having pins 35 and 36 respectively projecting into said grooves for piercing the insulation upon the conductor wires 32 and 33. When the end cap 37 is threaded on the center screw 38 of the lamp socket 21 the same forces the conductor wires 32 and 33 onto the pins 35 and 36 to cause the latter to pierce the insulation on said conductor wires and engage the conductor wires per se. The pin 35 is in communication with the center contact 39 of the lamp socket while the pin 36 is grounded.

Again reverting to Figure 1, it will be observed that the advertising characters 25 show the words "Ohio house." Only the lamps in the border lines 23—23^a, 24 and 24^a are illuminated together with the lamps overlying the lights forming the words "Ohio house." All of the other lamp sock-

ets have the lamps 26 removed therefrom and each socket is closed by a waterproof plug 40 formed of rubber or the like that frictionally engages the socket 31 per se of the lamp socket 21, the outer end of the water-proof plug carrying a flanged head 41 of the same diameter as the opening 27 in the front panel 15, the flanged head entering said opening 27 and lying flush with the outer face of the front panel 15 to present a smooth and uninterrupted front surface to which other advertising characters or symbols may be readily applied.

As shown more clearly in Figure 2, the source of electrical energy and the conductor wires and control devices therefor for the illumination of the lamps 26 comprise a pair of lead-in conductors 42 and 43 and a ground conductor 44. The lead-in conductor 42 has branch connections 45 and 46 with the two fuse boxes 47 and 48, the other lead-in wire 43 having branch connections 49 and 50 with said fuse boxes 47 and 48 while the ground wire 44 has branch connections 51 and 52 with said fuse boxes. The fuse box 48 has a pair of plug outlets 53 and 54 carrying supply and return conductor wires 55 and 56 respectively to the outer and inner illuminated lines 24^a and 24, while the fuse box 47 has a pair of plug outlets 57 and 58 with supply and return conductor wires 59 and 60 respectively communicating with the outer and inner illuminated lines 23 and 23^a.

A plurality of plug-in strips is supported on the skeleton rear wall of the frame structure by means of the vertical bars 14, the plug-in strips being flexibly arranged adjacent one end of the frame structure and at the base portion thereof as illustrated in Figure 2, and for the size of illuminated sign disclosed sixteen plug-in strips are provided, eight plug-in strips being associated with each of the fuse boxes 47 and 48. The plug-in strips are arranged in vertically spaced relation and the plug-in strips associated with the fuse box 47 include four plug-in strips 61, 62, 63 and 64 that have separate conductor wire connections 65 with the four outlet plugs 66 at one side of the fuse box 47, the other side of the fuse box 47 having four outlet plugs 67 carrying four conductor wires 68 that respectively communicate with four plug-in strips 69, 70, 71 and 72. The fuse box 48 has four outlet plugs 73 at one side thereof with separate conductor wire connections 74 with four plug-in strips 75, 76, 77 and 78, while four outlet plugs 79 at the other side of the fuse box 48 have conductor wire connections 80 with four plug-in strips 81, 82, 83 and 84. Each illuminated line 22 of the sign has the lamps 26 therein connected in parallel and a conductor wire 85 extending from each line 22 carries a contact plug for engagement with a selected plug-in strip.

From the above detailed description of the invention, it is believed that the construction and operation thereof will at once be apparent, it being noted that to accomplish the illumination of the lamps associated with the advertising characters 25 shown in Figure 1 have the conductor wires 85 for the lamps appearing in said lines engaged with one of the plug-in strips while the other conductor wires 85 are disengaged from said plug-in strips. It is only necessary to mount lamps 26 in the lamp sockets 21 that are to be active while the other lamp sockets have the water-proof plugs 40 mounted therein. With the arrangement described, any of the lamps in the illuminated lines 22 may be placed

in active service to obtain various combinations with illuminated lamps for different advertising purposes.

The changeable illuminated sign may be supported in any convenient manner and when used for outside advertising purposes, the mounting brackets shown in Figure 9 may be employed as comprising a pair of semi-circular clamp members 86 and 87 engaged with a supporting post 88 and held in clamped engagement therewith by bolt and nut combinations 89 passing through ears 90 carried by the clamp members 86 and 87 for securing the same into the post 88. The clamp member 87 is carried by the vertical side wall 11 of the frame structure.

While there is herein shown and described the preferred embodiment of the invention, it is to be understood that minor changes may be made in the details of construction, such as will fall within the scope of the invention as claimed.

I claim:

1. In a changeable illuminated sign, a frame structure including front and rear wall members, the front wall member being formed of spaced front and rear panels having a plurality of registering openings therein, lamp sockets mounted in the openings in the rear panel and having flanged heads clamped between the panels for the support of the lamp sockets, said sockets being arranged in separate lines with the sockets of each line connected in parallel, plug-in strips carried by the rear wall member, said plug-in strips being in communication with a source of electrical energy, selective conductor wire connections between the separate lines of sockets and plug-in strips and said sockets adapted to removably receive lamps in predetermined groups for changeable display purposes.

2. In a changeable illuminated sign, a frame structure including front and rear wall members, the front wall member being formed of spaced front and rear panels having a plurality of registering openings therein, lamp sockets mounted in the opening in the rear panel and having flanged heads clamped between the panels for the support of the lamp sockets, said sockets being arranged in separate lines with the sockets of each line connected in parallel, plug-in strips carried by the rear wall member, said plug-in strips being in communication with a source of electrical energy, selective conductor wire connections between the separate lines of sockets and plug-in strips and chosen ones of said sockets adapted to removably receive lamps in predetermined groups for changeable display purposes, and water-proof insulation plugs adapted to close the other sockets.

3. In a changeable illuminated sign, a frame structure including front and rear wall members, the front wall member being formed of spaced front and rear panels having a plurality of registering openings therein, lamp sockets

mounted in the openings in the rear panel and having flanged heads clamped between the panels for the support of the lamp sockets, said sockets being arranged in separate lines with the sockets of each line connected in parallel, plug-in strips carried by the rear wall member, said plug-in strips being in communication with a source of electrical energy, selective conductor wire connections between the separate lines of sockets and plug-in strips and chosen ones of said sockets adapted to removably receive lamps in predetermined groups for changeable display purposes, and water-proof insulation plugs adapted to close the other sockets and having heads filling the openings in the front panel and lying flush with the outer face of the front panel.

4. In a changeable illuminated sign, a frame structure including front and rear wall members, the front wall member being formed of spaced front and rear panels having a plurality of registering openings therein, lamp sockets mounted in the openings in the rear panel and having flanged heads clamped between the panels for the support of the lamp sockets, said sockets being arranged in separate lines with the sockets of each line connected in parallel, plug-in strips carried by the rear wall member, said plug-in strips being in communication with a source of electrical energy, selective conductor wire connections between the separate lines of sockets and plug-in strips, said sockets adapted to removably receive lamps in predetermined groups for changeable display purposes, and advertising characters of sheet form mounted on the front wall member and having openings therein registering with adjacent openings in said front wall member for the passage of lamps with the latter retaining the advertising characters in position on the front wall.

5. In a changeable illuminated sign, a frame structure including front and rear wall members, the front wall member being formed of spaced front and rear panels having a plurality of registering openings therein, lamp sockets mounted in the openings in the rear panel and having flanged heads clamped between the panels for the support of the lamp sockets, said sockets being arranged in separate lines with the sockets of each line connected in parallel, plug-in strips carried by the rear wall member, said plug-in strips being in communication with a source of electrical energy, selective conductor wire connections between the separate lines of sockets and plug-in strips, said sockets adapted to removably receive lamps in predetermined groups for changeable display purposes, and advertising characters of sheet form adhesively mounted on the front wall member and having openings therein registering with the openings in the front wall member for the passage of lamps.

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