March 22, 1932. H. MILLER 1,850,285

ELECTRIC SIGN

Filed Feb. 16, 1929

Fig. 1

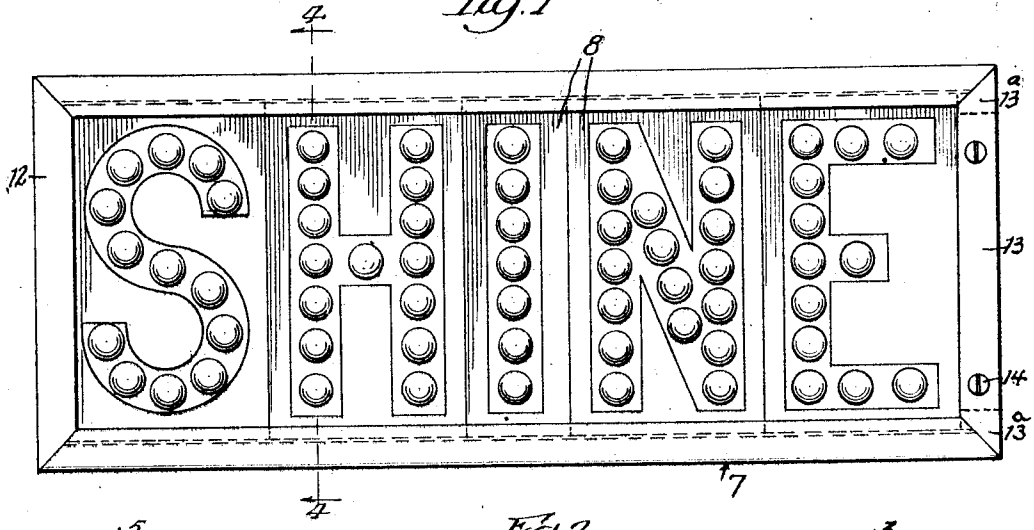


Fig. 2

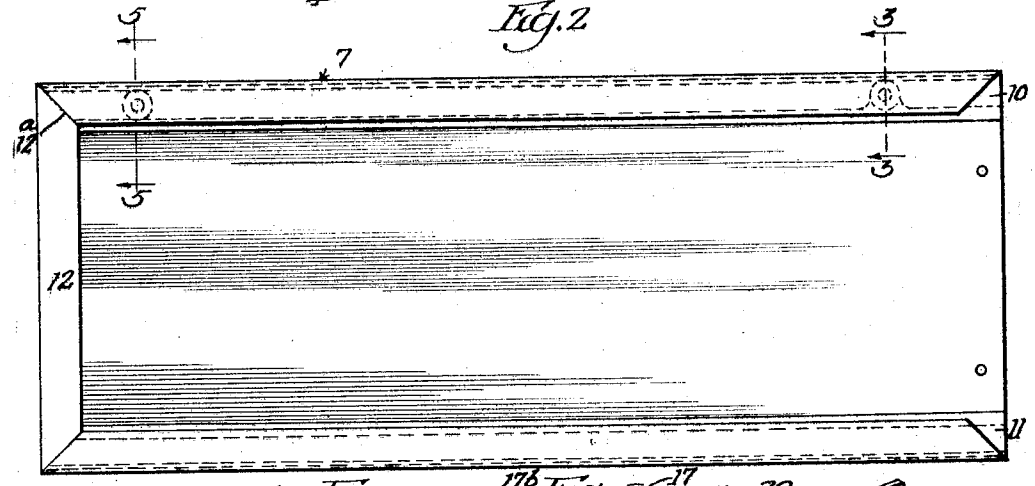


Fig. 3

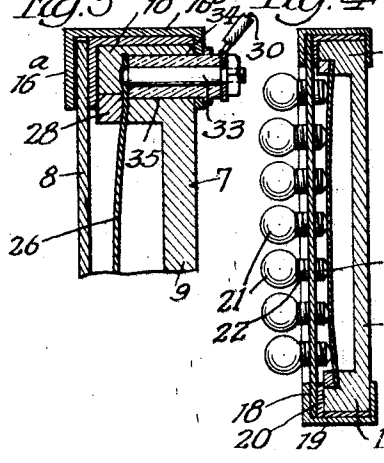


Fig. 4

Fig. 5

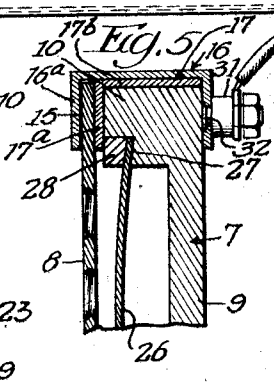
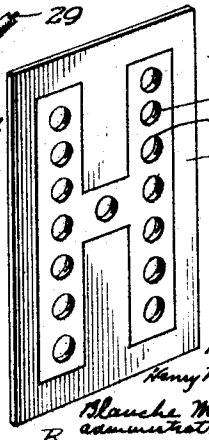


Fig. 6



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Patented Mar. 22, 1932

1,850,285

UNITED STATES PATENT OFFICE

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ELECTRIC SIGN

Application filed February 16, 1929. Serial No. 340,430.

The present invention relates generally to electric advertising or announcing signs. More particularly, the invention relates to that type of sign which is for use in connection with incandescent lamps of the single contact type and comprises a frame and a plurality of detachable and interchangeable sheet metal letter-bearing plates which have sockets or apertures therethrough for receiving the threaded casings of the lamps and form one of the electrical conductors for the lamp circuit.

One object of the invention is to provide a sign of the aforementioned character in which one of the end members of the frame is removable and the upper and lower frame-members are provided with longitudinal slideways which are operative to support the letter-bearing plates and permit the latter to be slid laterally into their proper position and withdrawn when the removable end member is disconnected with respect to the frame.

Another object of the invention is to simplify the formation of the slideways by providing a construction wherein the upper frame-member as well as the lower member embodies a sheet metal channel strip and a sheet metal angle strip, the latter being positioned between the legs of the channel strip and arranged so that one flange thereof cooperates with one leg of the channel strip to form one of the slideways.

A further object of the invention is the provision of a sheet metal plate which extends completely across the back wall of the frame and is adapted to engage the contacts or end terminals of the lamps and form the other conductor for the lamp circuit.

A still further object of the invention is the provision of a mount for the sheet metal back plate which causes the latter to bulge toward the lamps and to engage the contacts under spring pressure so as to insure an efficient electrical contact and hold yieldingly the lamps in their respective sockets.

Additionally, the invention contemplates as one of its objects, to provide a new and improved illuminated word-displaying sign which embodies a small number of parts, may be manufactured at a comparatively low cost and is more simple with respect to construction and assemblage of the letter-bearing plates than those signs now in use.

Other objects and the various advantages and characteristics of the present invention will be apparent from a consideration of the following detailed description.

The invention consists in the several novel features hereinafter set forth and more particularly defined by the claims at the conclusion hereof.

In the drawings which accompany and form a part of this disclosure or specification and in which like numerals and characters of reference denote corresponding parts throughout the several views:

Figure 1 is a front elevation of an electric advertising or announcing sign embodying the invention;

Figure 2 is a similar view showing the sign without the letter-bearing plates and the removable end member of the frame;

Figure 3 is a sectional view taken on the line 3—3 of Figure 2, illustrating in detail the construction of the binding post and the electrical conductor means which are associated with the back contact-engaging plate;

Figure 4 is a section taken on the line 4—4 of Figure 1, showing the manner in which the back plate is mounted and bulged forwardly into engagement with the contacts or end terminals of the lamps;

Figure 5 is a sectional view taken on the line 5—5 of Figure 2, illustrating in detail the construction of the binding post and the electrical conductor means which are associated with the letters and the sheet metal slideway-forming strips of the upper frame-member; and

Figure 6 is a perspective of one of the letter-bearing plates.

The invention is exemplified in an electric sign which is adapted primarily for advertising or announcing purposes and comprises a rectangular frame 7 and a plurality of letter or symbol-bearing plates 8. The frame proper is formed of any suitable electrical insulating material and consists of a back wall 9, an upper member 10 and a lower member

11. The upper and lower members are formed integrally with the back wall 9 as indicated more particularly in Figures 4 and 5 and are rectangular in cross section. They project forwardly from the top and bottom marginal portions of the back wall respectively, are parallel to each other and extend to both ends of the frame. The latter (frame 7) in addition to the back wall and members 10 and 11 comprises a pair of end pieces 12 and 13. The end piece 12 is fixed with respect to the frame and may be either formed as an integral part thereof or separatively. It extends forwardly of the members 10 and 11 and has mitered end surfaces 12^a. The end piece 13 is formed as a separate piece and is removably secured in place by a pair of screws 14 which are preferably located adjacent the ends of piece 13 and are adapted to be screwed into engagement with the contiguous end part of the back wall 9. The front portion of the end piece 13 projects forwardly of the members 10 and 11 and has mitered end strips 13^a which overlap said members (Figure 1).

The upper frame-member 10 is provided with a longitudinal slideway 15 for receiving the upper marginal portions of the letter-bearing plates 8. This slideway is formed by means of a sheet metal channel member 16 and a sheet metal angle strip 17. The latter consists of flanges 17^a and 17^b and is positioned and secured in place so that these flanges lap or fit directly against the front and top faces of the member 10 respectively. The end portions of the flange 17^a are mitered so as to fit properly with respect to the contiguous ends of the pieces 12 and 13. The channel strip 16 consists of a pair of legs 16^a and an intermediate or connecting web 16^b. It is positioned and is of such dimensions that one of the legs thereof laps the back face of the member 10 and the other leg is disposed in spaced relation with respect to the flange 17^a for the purpose of forming the slideway 15. The connecting web 16^b fits against and is suitably secured to the horizontal flange 17^b of the angle strip 17. The ends of the frontmost leg 16^a are mitered similarly to and are coextensive with the flange 17^a so as to engage against the continuous end surface 12^a and strip 13^a. A characteristic and an advantage of forming the slideway 15 in the manner set forth is that standard strips may be used in the construction and consequently the cost of fabrication or production is reduced to a minimum.

The lower frame-member 11 embodies a longitudinal slideway 18 which is adapted to receive the lower marginal portions of the letter-bearing plates 8. This slideway is formed by a channel strip 19 and an angle strip 20. These strips are formed of sheet metal and are similar in construction and arrangement to the strips 16 and 17.

The plates 8 are formed of metal and are adapted to be slid laterally along the slideways into place when the end member 13 is disconnected with respect to the frame. They are of uniform thickness throughout and are preferably rectangular in conformation so that they may be shifted into abutting relation as shown in Figure 1. Said plates are illuminated by a plurality of incandescent lamps 21 of the type which comprises a threaded base 22 and a single contact or end terminal 23 at the distal end of the base. The bases of the lamps 21 extend through sockets or apertures 24 in the letter portions of the plates and are held in place by screw threads 25. The contacts 23 are adapted to engage against a sheet metal back plate 26 so as to form an electrical connection therewith. This plate is spaced forwardly from the wall 9 and has the top and bottom marginal portions thereof positioned in recesses 27 in the longitudinal members of the frame. The recesses are of such character that the central portion of the back plate 26 bulges forwardly and consequently engages the contacts 23 under spring pressure. An advantage in bulging the back plate in this manner is that an efficient electrical connection for the contacts 23 is assured and the bases 22 are yieldably held in the sockets 24 and in interfitting relation with the screw threads 25. The marginal portions of the back plate 26 which are disposed in the recesses 27 are confined and held against displacement by strips 28 of insulation. The ends of the back plate are substantially conterminous with the ends of the wall 9.

The electrical connections whereby a lamp circuit is established consists of a pair of live conductors 29 and 30. The conductor 29 is connected to the rearmost leg 16^a of the channel strip 16 by a binding post 31. The latter is held in place by a rivet 32 or any other suitable means and supplies electrical energy or current to the bases 22 through the slideway-forming strips and the plates 8. The conductor 30 is electrically connected to the contact or back plate 26 by a pin 33 which is in the nature of a binding post. This pin extends through the rearmost leg of the channel strip 16 as indicated in Figure 3 and is insulated therefrom by a sleeve or bushing 34. The latter, together with the pin 33, is positioned in a cylindrical recess 35 in the upper frame member. The electrical circuit for the lamps is as follows: Conductor 29, binding post 31, strips 16 and 17, letter-bearing plates 8, lamps 21, back plate 26, pin 33 and conductor 30.

In use, the sign is positioned in any desired place and suspended either by the conductors 29 and 30 or by eyelets (not shown) which may be welded to the connecting web 16^b or screwed into the back wall 9 of the frame. Upon removal of the end piece 13,

the slideways 15 and 18 are free to receive any combination or arrangement of the plates 8. The latter are slid along the slideways into place and are then locked in their operative position by attaching the end piece 13. The lamps 21 are screwed into engagement with the threads 25 of the sockets 24 and jammed into contact with the back plate 26. This results in the formation of the aforementioned electrical current between the conductors 29 and 30. In the event that one of the lamps 22 burns out or is rendered inoperative, it may be replaced independently of the other lamps and without interrupting the supply of current.

The sign construction herein disclosed embodies but a comparatively small number of parts and may be produced at a low and reasonable cost. If desired the plates 8 may be formed as one piece.

The invention is not to be understood as restricted to the details set forth, since these may be modified within the scope of the appended claims, without departing from the spirit and scope of the invention.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

1. In an electric sign, the combination of a substantially rectangular frame, a plate formed of conducting material and embodying means electrically connected thereto forming a plurality of sockets in the form of a letter, conductor means forming a sliding connection whereby the plate may be slid laterally into connected relation with the frame, incandescent lamps of the single contact type held in said sockets, and a pair of electrical conductors for supplying current to the lamps, one of the conductors being connected directly to the said conductor means and the other conductor being connected electrically to the contacts of the lamps.

2. In an electric sign, the combination of a substantially rectangular frame, a plate formed of conducting material and embodying integral means forming a plurality of sockets in the form of a letter, conductor means connected to the longitudinal members of the frame and forming a sliding connection whereby the plate may be slid laterally into connected relation with said frame, incandescent lamps of the single contact type held in the sockets, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected directly to said conductor-means and the other conductor being connected electrically to the contacts of the lamps.

3. In an electric sign, the combination of a substantially rectangular frame comprising a longitudinal member formed of insulating material, a plate formed of conducting material and having a plurality of sockets therein in the form of a letter, a sheet metal channel strip connected to the longitudinal member and operative to form a slideway whereby the plate may be slid laterally into connected relation with the frame, incandescent lamps of the single contact type held in the sockets, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to the channel strip and the other conductor being connected electrically to the contacts of the lamps.

4. In an electric sign, the combination of a substantially rectangular frame comprising a longitudinal member formed of insulating material, a plate formed of conducting material and having a plurality of sockets therein in the form of a letter, a sheet metal channel strip and a sheet metal angle strip connected together and to the longitudinal member and arranged so that one leg of the channel strip and one flange of the angle strip are spaced apart and cooperative to form a longitudinal slideway whereby the plate may be slid laterally into connected relation with the frame, incandescent lamps of the single contact type held in the sockets, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to one of the sheet metal strips and the other conductor being connected electrically to the contacts of the lamps.

5. In an electric sign, the combination of a substantially rectangular frame provided with a back wall, a metallic back plate in front of said wall and substantially coextensive therewith, a metallic plate slidably connected to the frame in front of the back plate and having means connected electrically thereto and forming a plurality of sockets in the form of a letter, incandescent lamps of the single contact type fitted to the sockets and arranged so that the end terminals thereof engage the back plate, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to the back plate and the other being adapted to supply current to the plate for passage to the lamps via the sockets.

6. In an electric sign, the combination of a substantially rectangular frame, a metal back plate mounted in said frame so that the central portion thereof bulges forwardly, a plate connected to the frame so as to extend in front of and be spaced from said back plate, said second mentioned plate having a plurality of sockets extending therethrough in the form of a letter, incandescent lamps of the single contact type fitting in the sockets and arranged so that the end terminals thereof engage the bulged portion of the back plate, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to the back plate

and the other conductor being connected electrically to the base parts of the lamps.

7. In an electric sign, the combination of a substantially rectangular frame, a metal back plate mounted in said frame so that the central portion thereof bulges forwardly, a plate slidably connected to the frame so as to extend in front of and be spaced from said back plate, said second mentioned plate having a plurality of sockets extending therethrough in the form of a letter, incandescent lamps of the single contact type fitting in the sockets and arranged so that the end terminals thereof engage the bulged portion of the back plate, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to the back plate and the other conductor being connected electrically to the base parts of the lamps.

8. In an electric sign, the combination of a substantially rectangular frame having longitudinal recesses formed in the longitudinal members thereof, an elongated back plate having the longitudinal marginal portions thereof confined in said recesses, a plate slidably connected to the frame so as to extend in front of the back plate and having a plurality of sockets extending therethrough in the form of a letter, incandescent lamps of the single contact type fitting in the sockets and arranged so that the end terminals thereof engage the bulged portion of the back plate, and a pair of electrical conductors for supplying current to said lamps, one of the conductors being connected to the back plate and the other conductor being connected electrically to the base parts of the lamps.

BLANCHE MILLER,
Administratrix of the Estate of Henry Miller, Deceased.