E. A. LEOPOLDT.

ELECTRIC SIGN.

APPLICATION FILED OCT. 9, 1909.

983,558.

Patented Feb. 7, 1911.

2 SHEETS—SHEET 1.

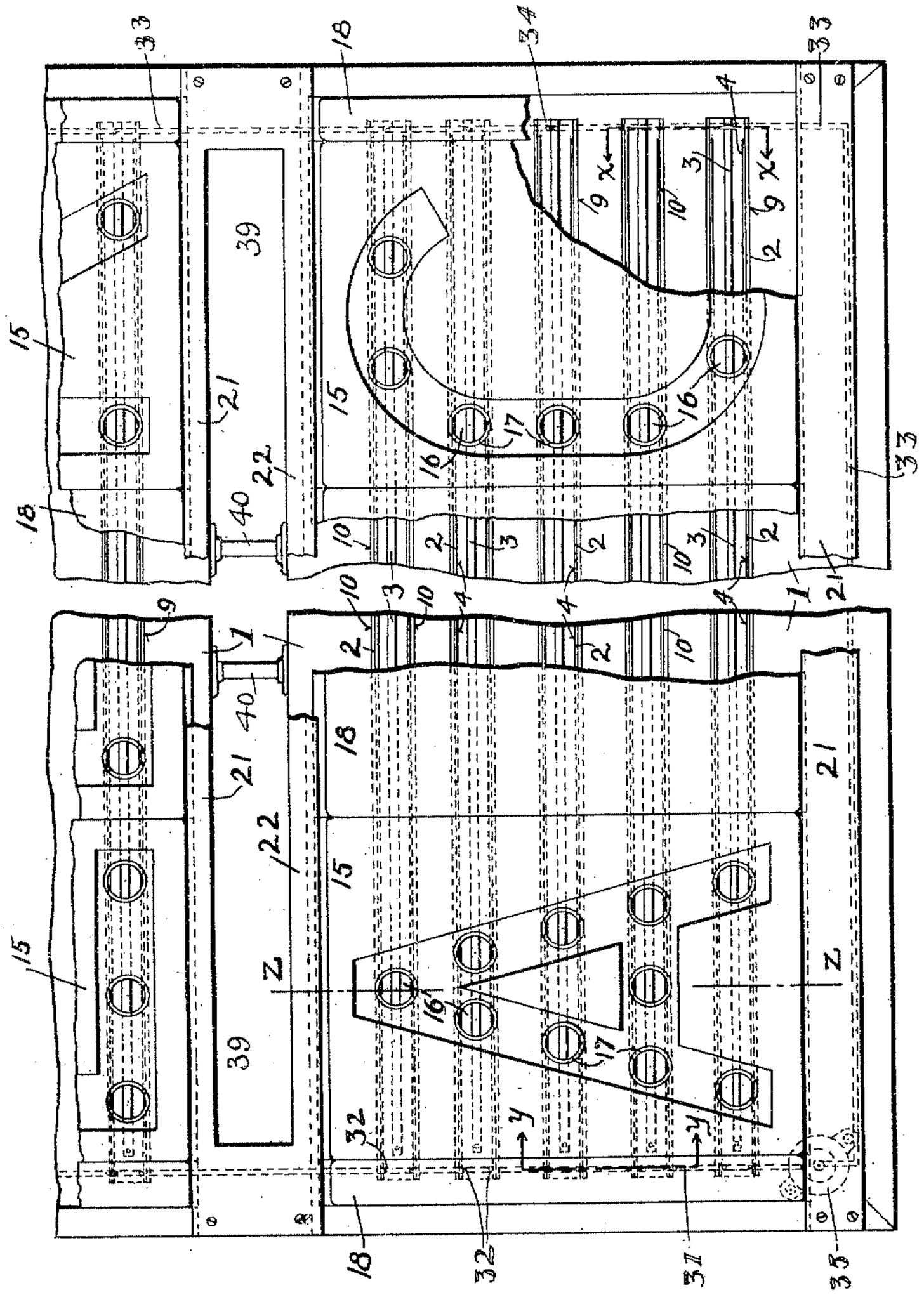

Fig. 1.

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2 SHEETS—SHEET 2.

Fig. 4.

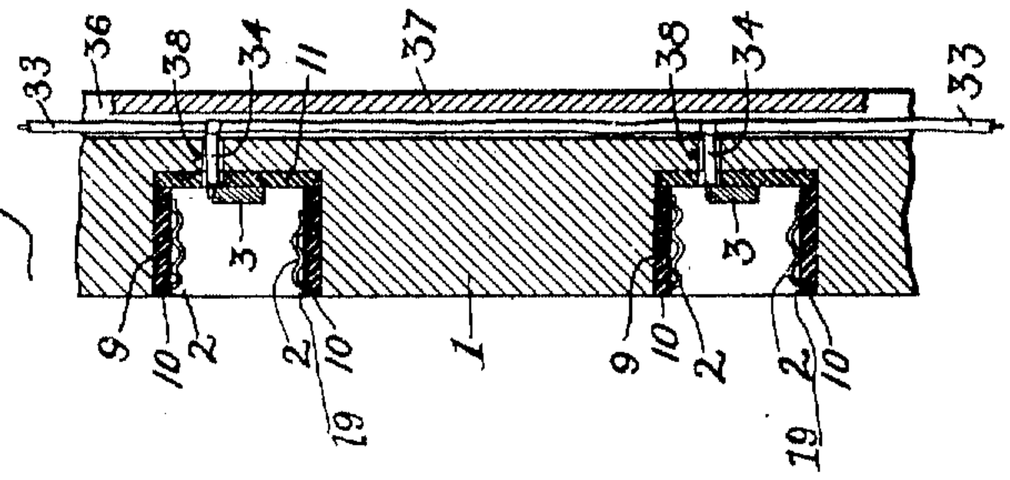


Fig. 6.

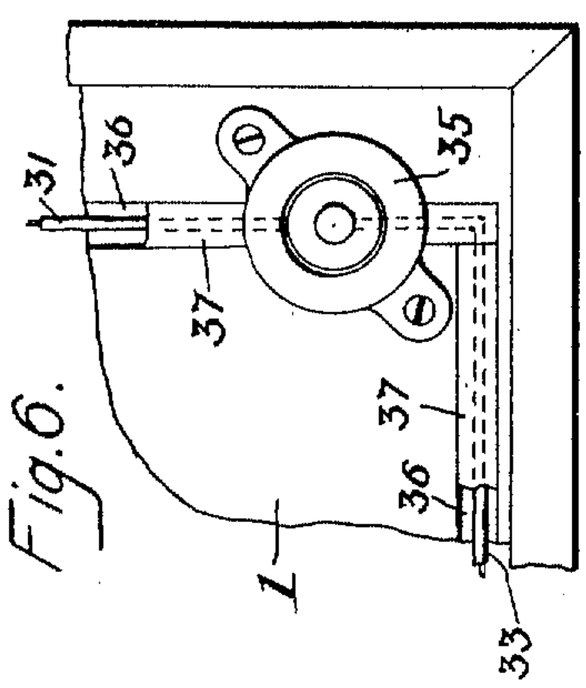


Fig. 3.

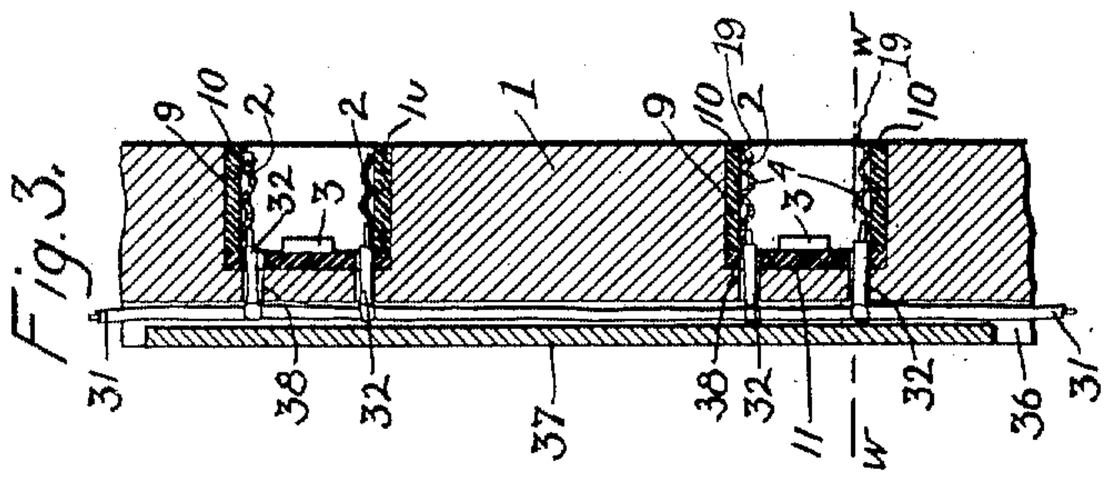


Fig. 5

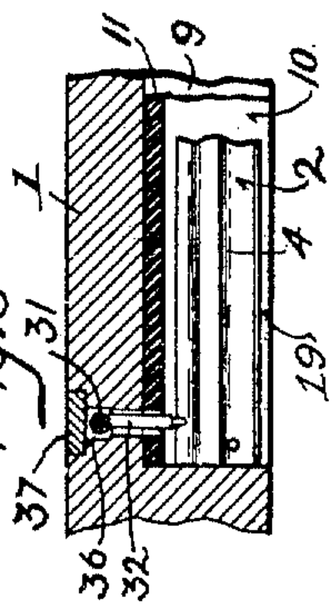
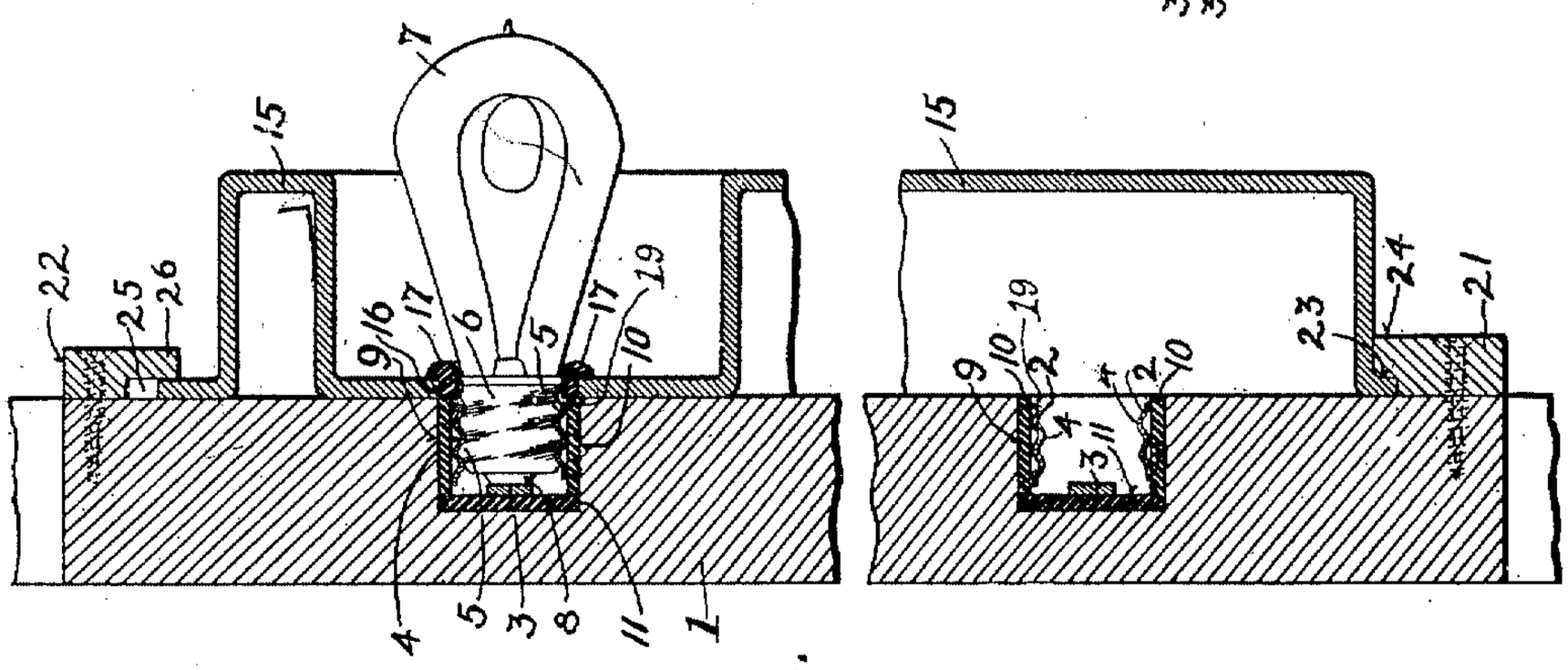


Fig. 2.



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Lillian Burnett
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UNITED STATES PATENT OFFICE.

EDWARD A. LEOPOLDT, OF CINCINNATI, OHIO.

ELECTRIC SIGN.

983,558. Specification of Letters Patent. **Patented Feb. 7, 1911.**

Application filed October 9, 1909. Serial No. 521,797.

To all whom it may concern:

Be it known that I, EDWARD A. LEOPOLDT, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Electric Signs, of which the following is a specification.

My invention is especially applicable to electric signs in which it is contemplated to change the characters from time to time, such, for instance, as large theatrical signs, mercantile signs, or the like.

It is the object of my invention to provide a simple construction for a sign of this character, to dispense with intricate wiring, to provide an elongated socket having an elongated thread or threads arranged to receive the threaded ends of incandescent electric lamps at selective points lengthwise thereof, and to provide an electric sign comprising characters having openings through which the threads of the electro-conductive ends of incandescent electric lamps may be received and screwed into elongated threads spanning said openings for forming continuous sockets under said openings, and so arranged that the characters may be interchangeably placed in front of said elongated threads or sockets and the openings thereof register with portions of said elongated sockets for receiving and screwing the lamps into place and forming electric connection therefor irrespective of the points of registry between said openings and elongated sockets.

The invention will be further readily understood from the following description and claims, and from the drawings, in which latter:

Figure 1 is a front elevation of a sign embodying my invention, partly broken away. Fig. 2 is a detail in cross-section on the line *z*—*z* of Fig. 1, partly broken away, showing the lamp-securing means. Fig. 3 is a detail in cross-section on the line *y*—*y* of Fig. 1, showing the electric connections for the side-strips. Fig. 4 is a detail in cross-section on the line *x*—*x* of Fig. 1, showing the electric connections for the intermediate or bottom strips. Fig. 5 is a detail in cross-section on the line *w*—*w* of Fig. 3, exemplifying the conduit for the main conductors; and, Fig. 6 is a detail in rear elevation of one corner of the sign, showing the main socket for the sign.

2 2 are side-strips which are preferably arranged in pairs, and 3 are intermediate strips located between the side-strips adjacent the bottoms thereof. The side-strips are provided with transverse curves extending lengthwise on their inner faces, shown in the form of corrugations 4 which extend lengthwise of said side-strips. Preferably both side-strips of each pair of side-strips are provided with these curves. The curves or corrugations are so arranged as to receive the threads 5 of the electro-conductive ends 6 of incandescent electric lamps 7, for drawing said lamps inwardly when screwed between the same into contact with said intermediate strips irrespective at what points in length of said strips said lamps may be screwed. The said strips are preferably formed of electro-conductive material to form conductors for said lamps, the threaded metal plugs of the lamps which form one of the filament-terminals of the same contacting the side-strips, and the end terminals 8 of the lamps contacting the bottom-strips 3. The strips 2 and 3 are shown in longitudinal grooves 9 of a supporting member 1 which, in the form shown, forms the backing-board of the sign. The walls of said grooves are provided with insulating material. Thus the side-strips 2 are secured to side insulating strips 10 in turn suitably secured to the side walls of said grooves, and the bottom strips 3 are secured to insulating strips 11 in turn held in place in the bottoms of said grooves 9.

The threaded inner ends of the lamp 7 are preferably received through thimbles 17 into contact with the longitudinal sockets. The thimbles may be located in openings 16 of sign-characters 15, shown in the form of letters. The thimbles insure positioning of the lamps perpendicular to the sign-characters, and act as steadying parts for said lamps. They are preferably of non-conducting material for insulating the lamp-terminals 6 from the sign-characters, the latter being usually made of metal. The characters are interchangeable and the openings thereof arranged to register at selective points lengthwise of the longitudinal sockets or strips in such manner that the threaded electro-conductive ends of said lamps may be received through any of said openings into threaded engagement at some point longitudinally of said longitudinal sockets or strips, the longitudinal corrugations of said

side-strips acting as elongated threads across which the threaded ends of the lamps are screwed for bringing the end terminals of the lamps into intimate contact with said bottom-strips. The number and positions of the openings in the characters are such that they will suitably illumine the characters when the lamps are placed therein. The outer ends of the side-strips are preferably spaced from the characters, as shown by the spaces 19.

The lamps may be screwed at any position in length of the elongated sockets or strips for securing the lamps in place so that the desired configuration of the collective lamps may be obtained. The characters may be placed at any points lengthwise of said sockets or strips with the certainty of having electric connection made with the lamps and with the further assurance that securing means for the lamps will be located at such selective points. In this manner various characters may be arranged in juxtaposition for producing words, expressions or configurations of various kinds, the conducting strips being common to the various characters. Spacing plates 18 may also be provided, which may be of different widths and be placed between or at the ends of characters or sets of characters.

Retaining strips 21 and 22 are shown secured to the backing-board respectively at the bottom and top of each row of characters. The lower edges of the character-plates and spacing plates are received in the recess 23 behind the front wall 24 of the lower retaining strip 21, and the upper edges of the character-plates and spacing plates are received in the recess 25 behind the front wall 26 of the upper retaining strip 22, the upper recess 25 being of a depth as great as the height of the lower front wall 24, for permitting the upper edges of the plates to be raised into said upper recesses sufficiently to permit their lower edges to be slipped behind said lower front wall, the construction also permitting the plates to be placed at suitable points laterally on the supporting member.

I connect one of the main electric conductors of an electric circuit with side-strips of the various elongated sockets and the other main electric conductor of said circuit with the bottom-strips of said various elongated sockets, thereby economizing in wiring and providing simple means for conveying electric energy to the various lamps. Thus a main electric conductor 31 connects with the side-strips 2, as by means of branches 32, and a main electric conductor 33 connects with the bottom strips 3, as by means of branches 34, the main electric conductors 31 33 having electric connection with the respective terminals of a main electric socket 35 secured to the supporting member at a suitable place and in which an ordinary electric conducting plug may be screwed for feeding the sign from any suitable source of electric energy.

The main conductors 31 33 are preferably received in slots 36 closed by closing-strips 37, forming conduits for the same, the branches 32 34 extending through holes 38. The backing-board may be provided with spaces 39 between the lines of characters for permitting the passage of wind therethrough, reinforced by rods 40.

While I have shown the supporting member of the sign as a backing-board in which the grooves are located, the side and rear walls of the grooves may be otherwise supported for forming elongated sockets into which a plurality of incandescent electric lamps may be screwed at selective points lengthwise thereof, and other changes in construction may be made, without departing from the spirit of my invention.

Having thus fully described my invention, what I claim as new and desire to secure by Letters Patent is:

1. In an electric sign, the combination of an elongated electric socket embracing a side electro-conductive member and a bottom electro-conductive member arranged to form electric connection with an incandescent electric lamp by direct contact with the terminals of said lamp at selective points lengthwise of said elongated electric socket.

2. In an electric sign, the combination of an elongated electric socket embracing a side electro-conductive member and a bottom electro-conductive member arranged to form electric connection with an incandescent electric lamp by direct contact with the terminals of said lamp at selective points lengthwise of said elongated electric socket, and a steadying part for said lamp in front of and bridging the walls of said elongated electric socket through which said terminals of said lamp are received at said selective points.

3. In an electric sign, the combination of an elongated electric socket embracing a bottom elongated electro-conductive member and a side elongated electro-conductive member formed as an elongated securing means receiving direct securing contact upon the terminal end of an incandescent electric lamp at selective points lengthwise thereof, a sign-character provided with openings registering at selective points lengthwise with said elongated electric socket, and incandescent electric lamps the terminals whereof are received through said openings into direct contact with said elongated electro-conductive bottom and side members at selective points lengthwise thereof, substantially as described.

4. In an electric sign, the combination of an elongated electric socket embracing an

elongated side-member curved transversely on its inner face and an elongated bottom-member, and arranged for having the threaded end of an incandescent electric lamp threaded thereinto at selective points longitudinally thereof.

5. In an electric sign, the combination of an elongated electric socket having a mouth and embracing an elongated side-member the inner side whereof is curved transversely and an elongated bottom-member, a thimble received across the front of said mouth, and constructed and arranged for having the threaded end of an incandescent electric lamp threaded into said elongated socket across said transversely curved inner face of said side-member at selective points longitudinally thereof.

6. In an electric sign, the combination of a backing member provided with parallel grooves, mating transversely corrugated elongated side-strips and intermediate elongated bottom-strips extending lengthwise of and located in said grooves, and constructed and arranged for having direct contact made between said mating transversely corrugated elongated side-strips at selective points lengthwise thereof and the threaded ends of incandescent electric lamps, substantially as described.

7. In an electric sign, the combination of a backing member provided with parallel grooves, mating transversely corrugated elongated side-strips and intermediate elongated bottom-strips extending lengthwise of and located in said grooves, interchangeable sign-characters provided with openings which register with said grooves at selective points lengthwise of said grooves, and non-conductive thimbles in said openings bridging the walls of said grooves, and constructed and arranged for having direct contact made between said mating transversely corrugated elongated side-strips at selective points lengthwise thereof and the threaded ends of incandescent electric lamps received through said thimbles, substantially as described.

In testimony whereof, I have signed my name hereto in the presence of two subscribing witnesses.

EDWARD A. LEOPOLDT.

Witnesses:
R. B. COUNTZ,
R. COHEN.