

Dec. 7, 1965

B. J. GOLD

3,221,432

ILLUMINATED SIGN

Filed Feb. 20, 1963

2 Sheets-Sheet 1

FIG. 1

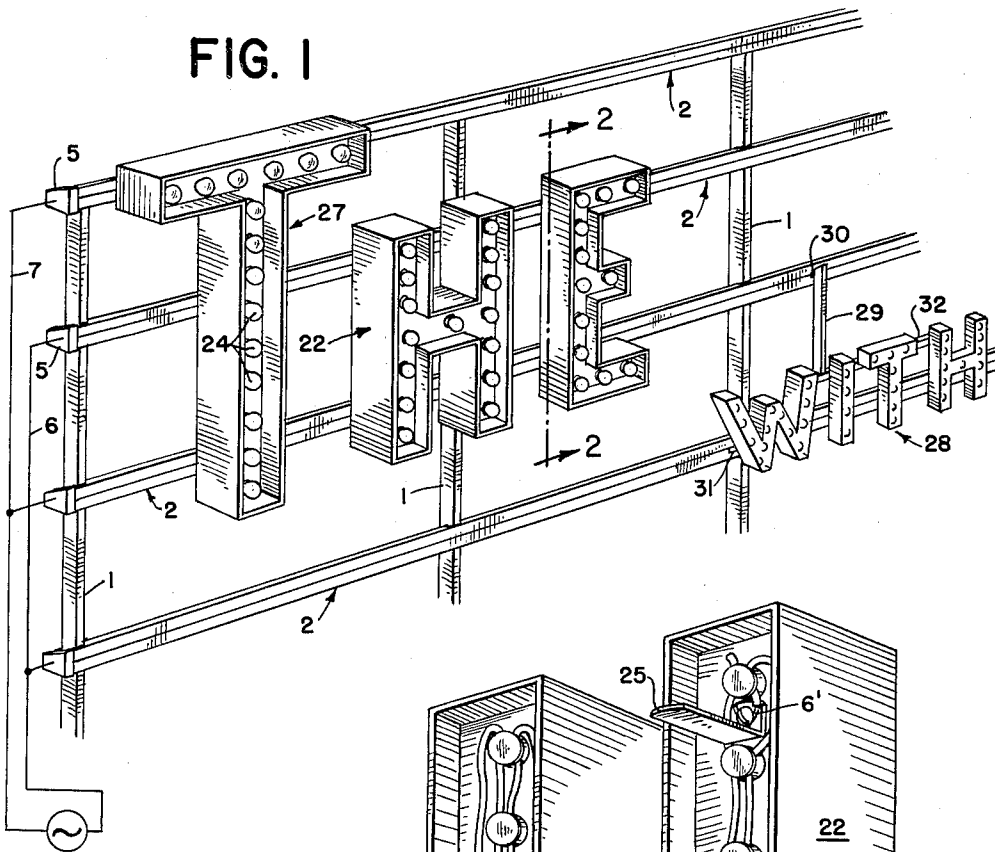
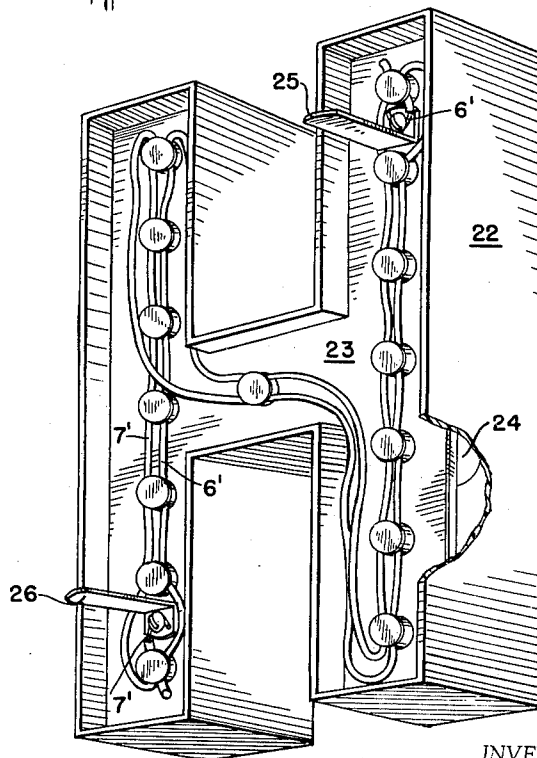


FIG. 3



INVENTOR
BERT J. GOLD

BY
Rennie, Edwards, Hutton, Taylor & Adams

ATTORNEYS

Dec. 7, 1965

B. J. GOLD

3,221,432

ILLUMINATED SIGN

Filed Feb. 20, 1963

2 Sheets-Sheet 2

FIG. 2

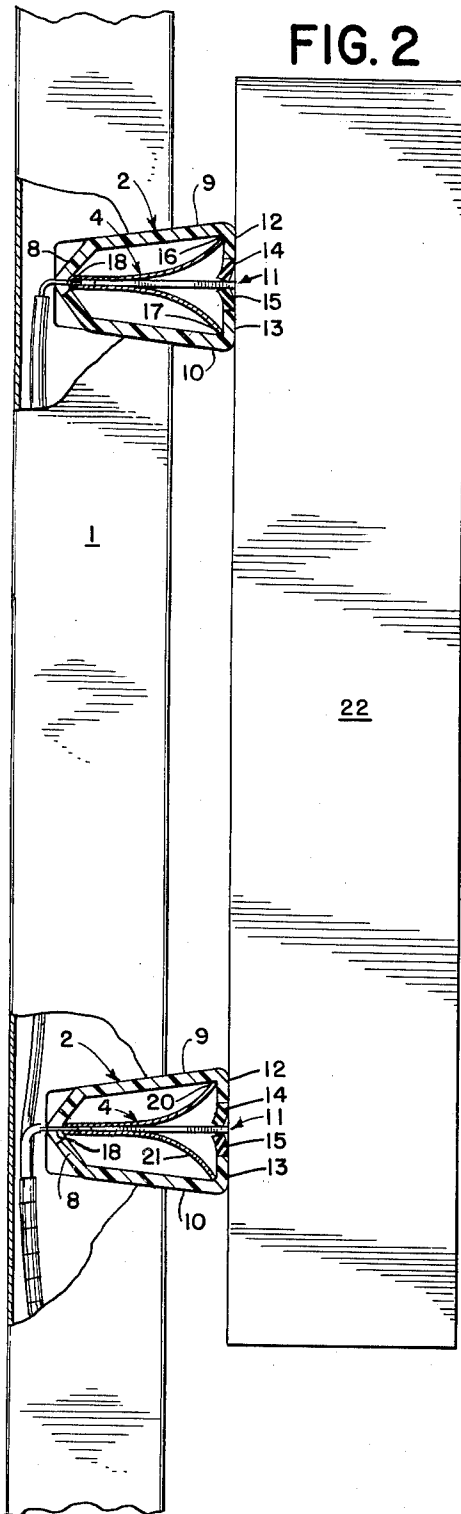
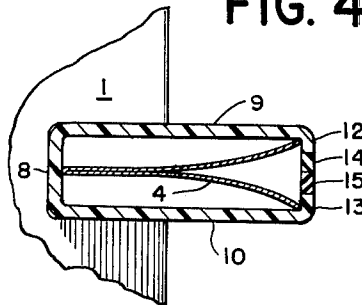


FIG. 4



INVENTOR
BERT J. GOLD

BY
Rennie, Edwards, Markon, Taylor & Adams

ATTORNEYS

1

3,221,432

ILLUMINATED SIGN

Bert J. Gold, Long Beach, N.Y.

(180 W. 58th St., New York, N.Y.)

Filed Feb. 20, 1963, Ser. No. 259,920

2 Claims. (Cl. 40-130)

This invention relates to illuminated signs and more particularly to signs comprising a plurality of elongated female outlets spaced apart by a predetermined fixed distance and a plurality of interchangeable characters having illuminating means wired together electrically with male terminal members removably and slidably positioned with the female outlets. With this construction, each character becomes connected to a source of electricity upon insertion within the female outlets and may be adjusted relative to other characters without breaking the electrical contact whereby the spacing between the different characters may be set at any desired distance.

Signs presently used for spelling out theatrical or other announcements and employing illuminated letters are generally of two types. Where it is desired to control the spacing between the letters and the over-all layout of the sign, a permanent type construction is used. Here, the letters are spaced on the framework of the sign, arranged according to the predetermined design and each letter is connected to a source of electricity; but in order that the sign framework may be used for different layouts, the wiring of the letters to the source of electricity is tailor made for each layout and is done after the letters have been fixed to the framework. With this construction, the spacing layout and over-all appearance of the sign may be controlled; however, the letters cannot be moved once installed and whenever it is desired to replace them with different letters, it becomes necessary to completely unwire the sign, install the new letters and replace the wiring.

With the second type of sign construction presently used today, the individual letters may be interchanged; however, placement of the individual letters on the framework of the sign at predetermined locations is required. More specifically, these signs include a plurality of individual electrical outlets spaced along the framework in parallel relationship. The distance between these outlets on any one line, however, must be of sufficient dimension so that each outlet may accommodate any letter of the alphabet without interfering with the letters in the adjacent outlets. In other words, conventional signs employing interchangeable letters must be constructed with each of the female outlets spaced so as to receive the maximum width letter. It is apparent that with this type of arrangement, the spacings between the various letters of the composite sign will not be related to the individual sizes of the letters and the over-all appearance of the sign will thereby be adversely affected.

With applicant's construction, the characters or letters that are to make up the announcement on the sign may be spaced from each other by any desired amount and different sized characters may be used freely while still allowing uniform spacing between the characters. This, in turn, permits layout of the characters that may be centered and balanced according to the length of the words used. Furthermore, movement or adjustment of the individual characters on the sign framework may be made without removal of the characters from the frame and without breaking the electrical connections of the characters.

According to the teachings of the present invention, the basic frame member of the sign is provided with a plurality of elongated non-conductive casings in each of which is positioned an elongated female conductor con-

2

nected to a source of current. For reasons hereinafter explained, each adjacent conductor is connected to an opposite terminal of a source of electricity and the casings are mounted on the sign frame member in parallel relationship, usually along straight lines although other parallel arrangements are, of course, possible. Each casing is provided with an elongated slot or opening along one face for permitting access to the conductor contained therein, and across each slot are attached selectively openable closing means. These closing means are such that they will insulate the conductors from the surrounding atmosphere at all times but will permit mounting of the characters in the slots of the casings when desired.

The individual characters of the sign are constructed as separate electrical units and each is provided with a pair of male terminals spaced apart a distance corresponding to the distance between the female conductors on the frame member. The individual characters are adapted to be positioned on the frame member of the sign by inserting their respective terminals through the closing means of the casings and into electrical contact with the female conductors. The particular construction of the female conductors, as will be explained more fully below, not only connects the individual characters to the source of electricity but also functions to slidably retain the characters on the frame member.

According to the teachings of the present invention, it is also possible to use characters of various heights and to use characters composed of a series of sub-characters without modifying the construction of the frame member.

These and other features of the present invention will become clear upon a reading of the following specification and examination of the accompanying drawings of which:

FIG. 1 is a partial perspective view of the sign of the present invention;

FIG. 2 is a cross-sectional view taken along lines 2-2 of FIG. 1;

FIG. 3 is a perspective view of one of the characters shown in FIG. 1; and

FIG. 4 is a cross-sectional view of a modified form of an electrical outlet.

As shown in FIG. 1, the sign comprises a frame member 1 on which are mounted a plurality of parallel electrical outlets. The outlets each comprise a non-conductive casing 2 for holding a female conductor 4 and may be secured to the frame by any suitable means, not shown. Since the signs are primarily for use out of doors, the ends of each outlet are provided with insulating caps 5 for protecting the conductors from the outside elements.

As shown in FIG. 2, the casing 2 of each electrical outlet comprises a bottom 8 and two side walls 9 and 10 spaced apart so as to form an elongated slot 11. Attached to the longitudinal free edges of each side wall are closing means which include the flange portions 12 and 13 of the casing and elongated flexible sealing members 14 and 15. These flexible sealing members are attached to the longitudinal free edges of the flange portions of each casing, and meet each other at the center of the slot 11 along a line substantially parallel thereto.

The inner surfaces of the casing side walls 9 and 10 intersect the respective flange portions 12 and 13 along parallel lines to provide longitudinal holding grooves 16 and 17, respectively.

The casings 2 of each outlet may be shaped as shown in FIG. 2 wherein the bottom inner surface thereof is provided with a base groove 18 centrally positioned and extending the length of the casing or the casings may be U-shaped as shown in FIG. 4.

The female holding conductors 4 are generally V-shaped and have outwardly flared sides 20 and 21. These conductors may be of substantially the same length as the

3

casings into which they are to be positioned, but, it is also possible to use conductors having shorter lengths if desired. With this latter arrangement, a plurality of these individual members would be inserted into each casing with their ends in contact with each other so as to provide a continuous conductor for holding the electricity. The conductors of each casing are connected alternately to opposite terminals of a source of electricity as shown in FIG. 1 by the wiring designated 6 and 7, respectively.

According to the teachings of the present invention, each conductor 4 is made of flexible material and in its unrestrained state, the distance between the longitudinal free edges of the sides 20 and 21 is greater than the distance between the holding grooves 16 and 17 of the casing so that upon insertion into the casings, they will be positively held in position.

To assemble the outlets, the female conductors 4 are inserted into the casings through the slots 11. Since the conductors are made of flexible material and the distance between their longitudinal free edges is normally greater than that between the holding grooves 16 and 17 of the casing, the conductors will spring into the position shown in FIG. 2 with their longitudinal edges disposed along the holding grooves 16 and 17. Also, with the construction shown in FIG. 2, the base of each conductor 4 will orient itself within the base groove 18 of its casing.

The characters generally designated by reference number 22 comprise a non-conductive support 23 on which are mounted a plurality of lighting elements such as small bulbs 24. These lighting elements may be connected together electrically in either series or parallel. As shown in FIG. 3 they have been connected in parallel by conductive elements such as wires 6' and 7' so that upon one of the bulbs blowing out, the remainder of the characters will stay lighted. Extending from the rear surface of the character shown in FIG. 3 are two male terminal members 25 and 26 connected, respectively, to the wires 6' and 7'. Upon insertion of the terminal members into the casing and into contact with the conductors positioned therein as shown in FIG. 1, terminal 25 will become connected to wire 6 while terminal 26 will become connected to wire 7. It is apparent from the drawings, however, that the terminals of the individual characters may be positioned in any two adjacent casings, the only requirement being that the terminals 25 and 26 receive current from opposite terminals of the source of electricity.

In order that the characters may be positioned within any pair of casings and interchanged with other characters, the terminals of each character are spaced apart the same distance as the spacing of the individual casings. Since, however, the outlets 2 shown in FIG. 1 each contain an elongated female conductor, each character upon insertion into the casings will become connected to a source of current and will remain in such contact during sliding movement or adjustment along the casing. With this construction, it is possible to accurately position each character with respect to the others so that the spacing between each will be uniform.

The conductors 4 shown in FIG. 2 not only connect the individual characters to the appropriate source of current, but are further constructed so as to hold the characters in position on the frame member 1. This result is effected by making the individual conductors of flexible material having a V-shape so that they will open slightly and frictionally engage the ends of the terminals inserted between their sides. The flexible sealing members 14 and 15 of each casing also assist in holding the characters in position.

If after continued use, the conductors become worn and fail to properly hold the characters on the frame member 1 of the sign and to maintain them in electrical contact with the source of current, new sections of conductors may be inserted through the slots 11 at the appropriate places. This may be done without removing the old conductor and by simply inserting the new section

4

through the slot of the casing and in superimposed relationship with the original conductor.

As stated above, the sealing members 14 and 15 of each casing are flexible and are normally positioned across the slot of each casing to maintain it closed. Therefore, upon insertion of any character into the casing, they will merely bend to allow such insertion at this particular point and stay closed along the remainder of the casing.

As shown in FIG. 1, characters of different sizes may be used where desired. For example, character 27 having approximately twice the height of the normal characters may be used and in such case, the characters may be provided with three terminals, not shown, adapted to be inserted within the three adjacent casings of the frame member. The use of the third terminal may be desirable to assure secure positioning of the character upon the frame member of the sign. However, it should be noted that only two adjacent terminals will be connected to the wiring contained within the character.

According to the teachings of the present invention, it is also possible to construct a character comprising a plurality of sub-characters as shown in FIG. 1 at 28 by the word "with." As with the other characters described above, this composite character will be provided with two terminals for insertion within two adjacent outlets on the frame member of the sign. Since, however, this character is of a height less than the distance between the adjacent outlets on the frame member, it is necessary to provide it with an extension member 29 for mounting one of the terminals 30 outside the boundary of the character so that it will be spaced from the second terminal 31 by a distance equal to the space between the adjacent casings of the frame member.

The individual characters may be connected together by means of the hollow member 32 and the wiring in the individual characters may be connected together by leading them through this member.

The above description depicts a preferred embodiment of the present invention; however, it is to be understood that various changes may be made without departing from the scope of the invention as set forth in the following claims.

I claim:

1. An insulated sign comprising:

- (a) a frame member;
- (b) a plurality of elongated, non-conductive casings each having a V-shaped bottom and two spaced side walls terminating in longitudinally extending ends, each of said casings being fixed to said frame in parallel relationship with each other to provide a plurality of elongated slots spaced from each other by a constant predetermined distance, said V-shaped bottom defining a base groove extending along the inner surface of said casing in a direction substantially parallel to said slot;
- (c) closing means for each of said casings comprising:
 - (1) a flange portion extending from the end of each of the side walls of said casing along the length thereof and partially across said elongated slot with each of the side walls intersecting its respective flange portion internally of said casing along a line parallel to said base groove, and
 - (2) an elongated flexible sealing member attached to each of said flange portions along its length and normally closing said slot;
- (d) a plurality of elongated female, V-shaped conductors each having a base and two diverging sides extending therefrom and terminating in longitudinally extending free edges, each of said conductors being positioned in one of said casings with each longitudinal free edge of the sides of each conductor engaging its respective casing along one of said lines formed by the intersection of said walls with said flange portions and with the base of the conductor disposed within the base groove on the bottom of

5

- said casing so as to restrain movement of said conductor within said casing;
- (e) means for connecting alternate conductors to opposite terminals of a source of electricity;
- (f) a plurality of characters each including a non-conductive support; 5
- (g) a plurality of lighting elements mounted thereon;
- (h) a pair of conductive elements connecting the lighting elements of each character together electrically;
- (i) a first male electrical terminal projecting from one of the conductive elements of each character removably and slidably positioned within the slot of one of said casings in electrical contact with its conductor; and 10
- (j) a second male electrical terminal spaced from said first terminal by a distance equal to said predetermined distance and projecting from the other conductive element of each character removably and slidably positioned within the slot of an adjacent casing in electrical contact with its conductor. 15
2. An insulated sign according to claim 1 further including: 20
- (a) an insulated extension member having a conductor therein connected to one of said casings in electrical contact with its conductors and extending in a direction toward an adjacent casing, said extension member terminating at a point spaced from said adjacent casing; and 25
- (b) a plurality of smaller illuminated like characters

6

having a pair of terminals spaced apart by a distance less than said predetermined distance connected in electrical contact on said frame member with one of the terminals thereof connected to the conductor of said adjacent casing and the other terminal thereof connected to the conductor of said extension member.

References Cited by the Examiner

UNITED STATES PATENTS

873,921	12/1907	Chester	40—143 X
1,192,982	8/1916	Bristol	40—130
1,877,103	9/1932	Whiting	339—22 X
1,879,374	9/1932	McCombs	40—130
2,041,344	5/1936	James	339—21
2,059,451	11/1936	Green	40—130
2,145,787	1/1939	Reamer	339—22 X
2,267,080	12/1941	Clayton	339—22
2,284,097	5/1942	La Jone	399—21
2,671,887	3/1954	Wellmann	399—22
2,708,264	5/1955	Boyd	399—21
2,899,668	8/1959	Gribben	339—21

FOREIGN PATENTS

279,938	10/1914	Germany.
926	2/1910	Great Britain.
273,583	7/1927	Great Britain.
492,597	9/1938	Great Britain.

JEROME SCHNALL, *Primary Examiner.*