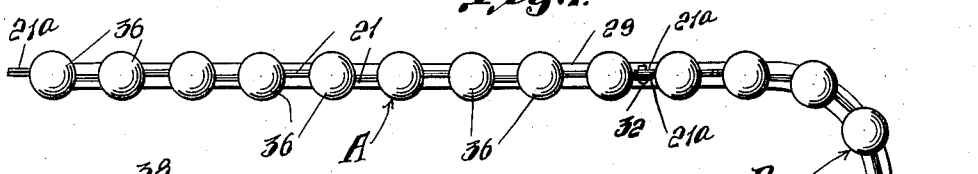
Sept. 27, 1938. G. F. REED 2,131,671

ILLUMINATED DISPLAY SIGN

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Fig. 1.



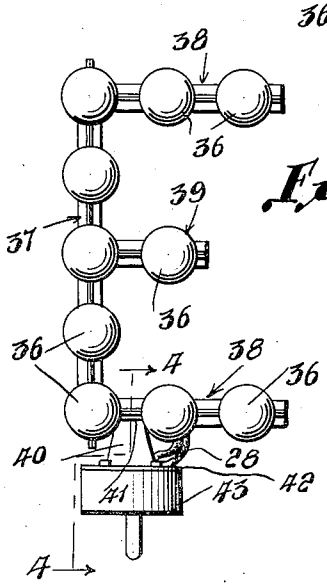


Fig. 2.

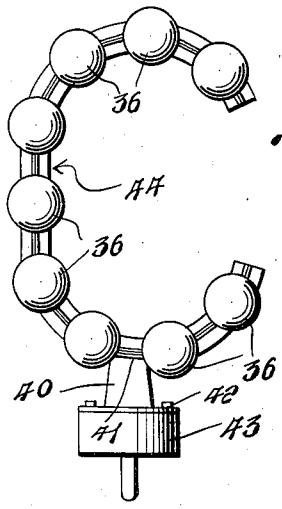


Fig. 3.

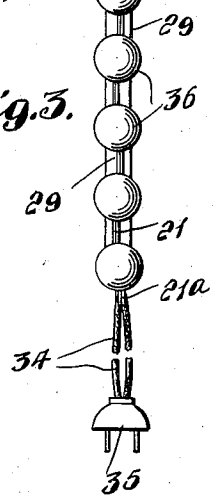


Fig. 4.

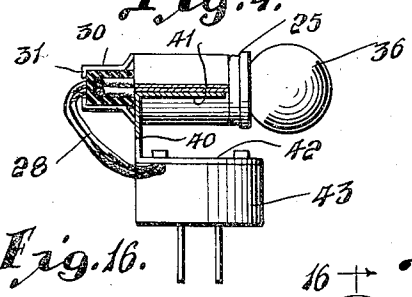


Fig. 13.

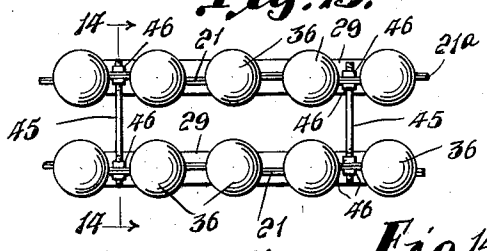


Fig. 16.

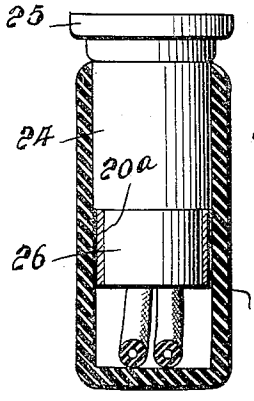


Fig. 15.

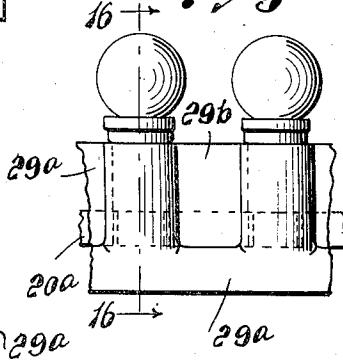
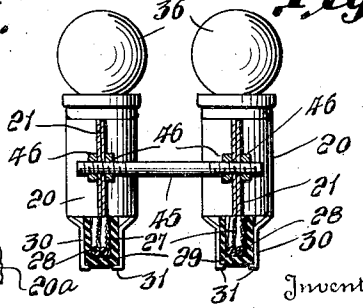


Fig. 14.



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Fig. 5.

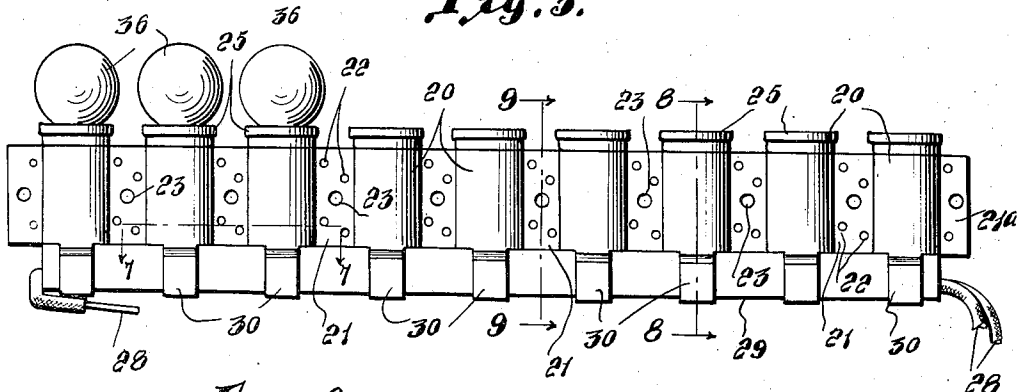


Fig. 6.

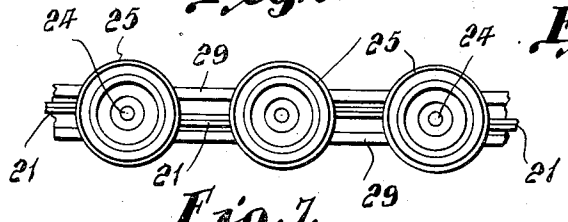


Fig. 8.

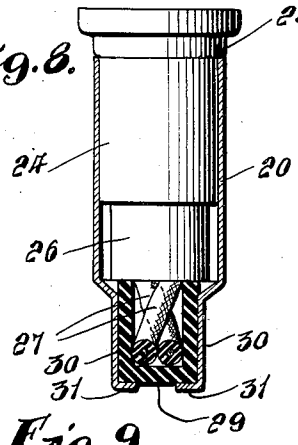


Fig. 7.

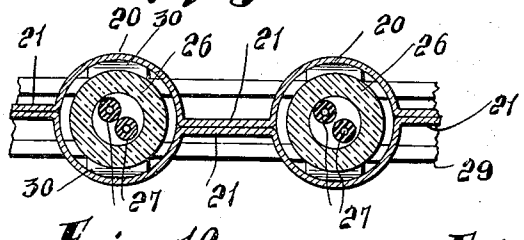


Fig. 9.

Fig. 10.

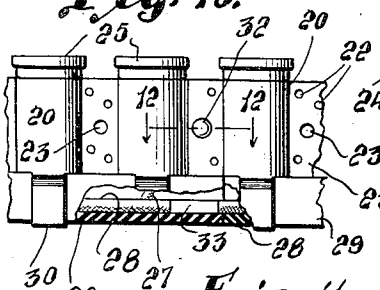
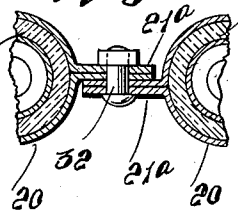


Fig. 12.



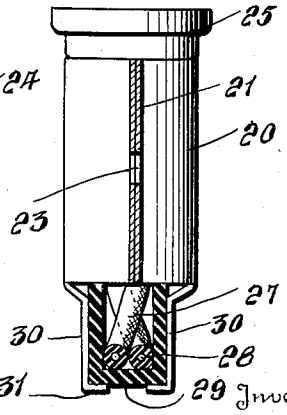
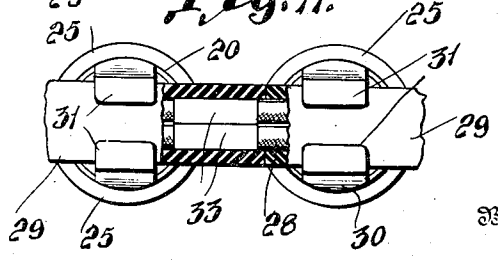


Fig. 11.



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UNITED STATES PATENT OFFICE

2,131,671

ILLUMINATED DISPLAY SIGN

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Myrtle M. Reed, Pittsburgh, Pa.

Application June 3, 1937, Serial No. 146,273

5 Claims. (Cl. 40—130)

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

The primary object of the invention is to provide an illuminated display sign of the type usually employed for advertising or other purposes and comprises a flexible element substantially in strip form carrying a series of electric light bulbs with the strip bendable into any shape or configuration desired for producing an advertising or other display sign.

A further object of the invention is to provide an illuminated display sign of the foregoing character wherein a plurality of flexible strips may be joined together end to end for increasing the length of the display sign to the desired extent.

It is a further object of the invention to form the strips of such length that may be bent to form separate letters or numerals with an electric plug carried by each strip section to permit interchangeable placement thereof in electrical sockets.

A further and important object of the invention is to provide an illuminated display sign embodying a flexible strip for the support of electric light bulb sockets with wires extending from the bottoms of the sockets being in communication with main conductor wires that are covered by a rubber or other insulation sheath that assumes different positions resulting from the bending of the flexible strip.

A still further object of the invention is to construct the flexible strips carrying the electric light bulb sockets in a manner whereby two or more strips may be laterally connected together providing two or more rows of illuminating means.

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 the novel form, combination and arrangement of parts hereinafter more fully described, shown in the accompanying drawings and claimed.

In the drawings:

Figure 1 is a top plan view of a display sign constructed in accordance with the present invention showing two end connected flexible strips carrying electric light bulbs with a conductor cord and attaching plug at the outer end of one of the strips and with one of the strips bent at right angles;

Figure 2 is a front elevational view showing the letter "E" formed from a flexible strip and carrying a contact plug;

Figure 3 is a front elevational view similar to Figure 2 and showing the letter "C";

Figure 4 is a detail sectional view taken on line 4—4 of Figure 2 showing the bracket for attaching the contact plug to the flexible strip;

Figure 5 is a side elevational view of a flexible strip carrying a series of bulb sockets with bulbs mounted in several of the sockets;

Figure 6 is a fragmentary top plan view of one of the flexible strips;

Figure 7 is a detail sectional view taken on line 7—7 of Figure 5 showing cylindrical portions of the flexible strip surrounding the bulb sockets with bendable webs connecting the cylindrical portions;

Figure 8 is a sectional view taken on line 8—8 of Figure 5 showing bent fingers depending from the socket surrounding portions of the strip for retaining the rubber or insulation sheath for the conductor wires in position;

Figure 9 is a cross-sectional view taken on line 9—9 of Figure 5;

Figure 10 is a fragmentary side elevational view partly broken away and shown in section and illustrating the electric wires in the bulb sockets attached to the main line conductors housed within the rubber or insulation sheath;

Figure 11 is a fragmentary bottom plan view, partly broken away and shown in section of the flexible strip shown in Figure 10;

Figure 12 is a detail sectional view taken on line 12—12 of Figure 10 showing the connection between end web portions of two flexible strips;

Figure 13 is a top plan view showing two flexible strips connected together in spaced parallel relation;

Figure 14 is a cross-sectional view taken on line 14—14 of Figure 13, showing the tie-rod extending between the web portions of two flexible strips;

Figure 15 is a fragmentary side elevational view showing a rubber or insulation sheath completely enclosing and shaped for intimate contact with the bulb sockets and web portions of the flexible strip; and

Figure 16 is a cross-sectional view taken on line 16—16 of Figure 15.

Referring more in detail to the accompanying drawings and particularly to Figures 5 to 9, the flexible strips for the support of light bulb sockets is formed of bendable sheet metal of sufficient gage to maintain shapes imparted thereto by bending activities, the strip comprising two co-acting strip sections stamped, pressed or otherwise formed to provide opposed semi-cylindrical sections 20 and contacting web sections 21, the web sections being connected together by spot

welding or the like as diagrammatically indicated at 22 with an opening 23 formed through the connected web portions 21 for purposes presently to appear. A light bulb socket 24 as shown in Figure 8 has the usual open end flange 25 and a reduced inner end 26, the cylindrical portions 20 of the strips being of a width to extend over the portions 24 and 26 of the sockets.

Electric wires 27 extend downwardly from the reduced inner end 26 of each socket 24 and are electrically connected to main line conductors 28 that extend across the inner ends of the sockets.

To protect the electric wires and main line conductors against weather conditions and to form an insulation covering therefor, there is provided an elongated rubber strip or other insulation sheath 29 of U-shape in cross-section as shown in Figures 8 and 9, the rubber or insulation sheath being retained in enclosing relation with the conductor wires and main line connections by cooperating fingers 30 depending from each semi-cylindrical section 20 of the flexible strip with the lower ends 31 of the fingers bent to underlie the insulation strip 29.

As shown in Figures 10 to 12, the end web portions 21*a* of two flexible strips are joined together by a nut and bolt combination 32 or other fastening device passed through openings 23 in the web portions 21*a* while adjacent ends of main line conductors 28 are suitably connected together as at 33. Two connected full length flexible strips are illustrated in Figure 1 of the drawings, the main line conductors at the end of one of the strips being attached to an electric conductor cord 34 of any desired length that carries a contact plug 35 at its outer end. In Figure 1 of the drawings, the strip section A extends in a straight line while the strip section B connected thereto is bent at right angles and it is to be understood that the web portions 21 of the flexible strips are readily bendable so that the strips will maintain any position into which the same may be bent. The electric light bulbs are designated by the reference character 36 and being in close relationship as shown in Figure 1, a substantially continuous light effect is obtained similar to a "neon" sign.

The letter "E" is illustrated in Figure 2 as being formed from the flexible strip that is bent to provide a vertical leg portion 37 and upper and lower arm sections 38 bent at right angles from the vertical leg section 37. In the formation of the letter "E", the intermediate arm 39 thereof is spot welded or otherwise secured to the vertical leg 37. As shown in Figure 4, an angle bracket or strap 40 has one leg 41 thereof spot welded or otherwise secured to a web portion of the lower arm 38 of the flexible strip forming the letter "E" while the other leg 42 of the angle bracket is attached to a contact plug 43 and the illuminated display letter having the contact plug 43 rigidly attached thereto forms a complete sign unit.

In Figure 3 of the drawings, the reference character 44 designates the letter "C" and in this instance, a single flexible strip is bent to form the letter which also carries a bracket 40 and contact plug 43.

It is also intended that two or more of the flexible strips carrying the light bulbs may be assembled in spaced parallel or other relations and as shown in Figures 13 and 14, a tie rod 45 threaded at opposite ends has said ends passed through registering openings 23 in adjacent flexible strip sections with nuts 46 engaged with the threaded ends of the tie rods 45 at the opposite sides of the webs 21 for anchoring the flexible strip sections in assembled relation and against relative movements. As noted, two or more of the strips may be assembled and bent into the desired shapes or configurations for the production of novel designs and concentration of illumination.

In each of the foregoing forms of the invention, the rubber or insulation sheath 29 only encloses the electric wires in the socket 24 and the main line conductors, while the flexible strips completely house the sockets 24. In the form of invention shown in Figures 15 and 16, the flexible strip 20*a* is of a width sufficient only to surround the lower reduced ends 26 of the sockets 24 while the rubber or insulation sheath 29*a* is proportioned to completely enclose the sockets 24, the rubber or insulation sheath 29*a* being preformed for intimate contact with the sockets 24 and having intermediate web portions 29*b*, the rubber or insulation sheath being retained in position for housing the conductor wires by adhesive contact with the sockets, the sheath 29*a* and the web portions 29*b* maintaining the formations imparted thereto by bending of the flexible strip 20*a*.

From the above detailed description of the invention, it is believed that the construction and use thereof will at once be apparent, it being noted that the flexible metallic strip carrying the bulb sockets together with the insulation strip will assume different positions imparted thereto for the creation of novel advertising or display signs and while there are herein shown and described the preferred embodiments of the invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

I claim:

1. In an illuminated display sign of the character described, a bendable flexible strip, a series of bulb sockets carried by the strip for the reception of bulbs, electric conductor wires leading to the bulb sockets including wires extending longitudinally by the strip at one side thereof, and an insulation sheath of U-shape in cross-section inclosing the conductor wires and the flexible strip.

2. In an illuminated display sign of the character described, a bendable flexible strip, a series of bulb sockets carried by the strip for the reception of bulbs, electric conductor wires leading to the bulb sockets, an insulation sheath of U-shape in cross section inclosing the conductor wires, and bendable fingers carried by the flexible strip engaged with the opposite sides and outer edge of the sheath for holding the same in position.

3. In an illuminated display sign of the character described, a bendable flexible strip, a series of bulbs, electric conductor wires leading to the bulb sockets, an insulation sheath of U-shape in cross section inclosing the conductor wires, the sheath being located below the bulb sockets and bendable fingers carried by the flexible strip for holding the sheath in position.

4. In an illuminated display sign of the character described, a bendable flexible strip, a series of bulb sockets carried by the strip for the reception of bulbs, electric conductor wires leading to the bulb sockets and an insulation sheath of U-shape in cross section inclosing the conductor wires, flexible strip and bulb sockets and adhesively secured to the sockets and flexible strip.

5. In an illuminated display sign of the character described, a bendable flexible strip, a series of bulb sockets carried by the strip for the reception of bulbs, electric conductor wires leading to the bulb sockets and including wires extending longitudinally of the strip at one side thereof, and an insulation sheath of U-shape in cross section inclosing the conductor wires and being bendable with the flexible strip, portions of the sides of the U-shaped sheath being engaged with the bulb sockets for sealing the longitudinally extending conductor wires, and said insulation sheath being retained in position against movements relative to the flexible strip.

GEORGE F. REED.