Feb. 14, 1939. M. EPSTEIN 2,146,806

LUMINOUS TUBE SIGN

Filed Oct. 7, 1937

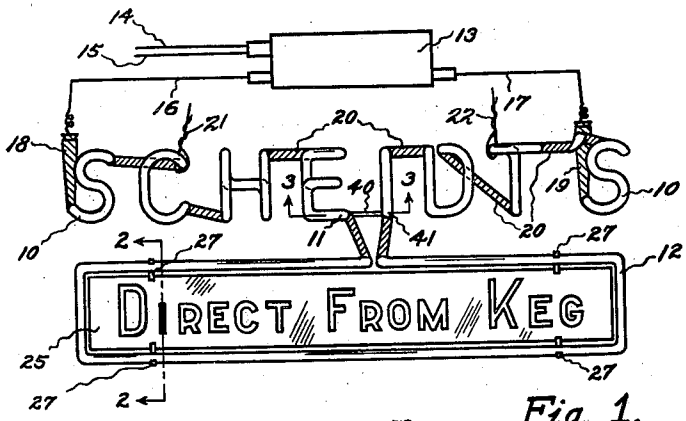


Fig. 1.

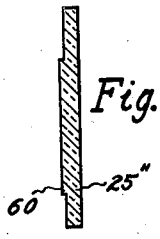


Fig. 5.

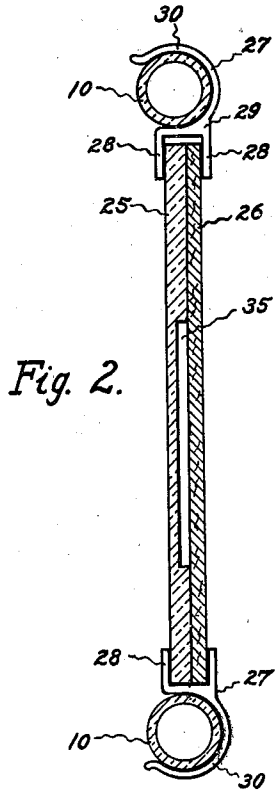


Fig. 2.

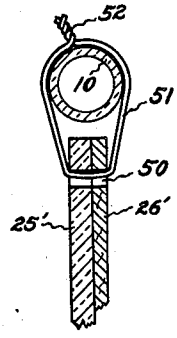


Fig. 4.

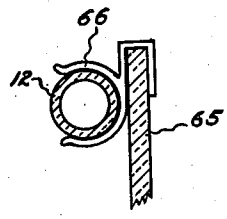


Fig. 6.

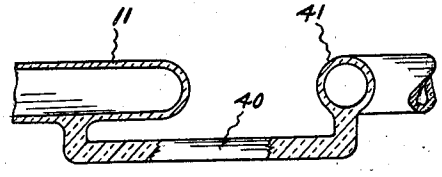


Fig. 3.

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LUMINOUS-TUBE SIGN

Martin Epstein, Philadelphia, Pa.

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6 Claims. (Cl. 40—130)

My invention relates to electric signs, and, more particularly, relates to luminous-tube signs.

Luminous-tube signs are particularly adapted for brilliant exhibition of letters formed by the tube, but they have the disadvantage of high cost. An advertising message with only a few words requires a relatively expensive luminous-tube sign. Furthermore, little advantage is gained by the use of smaller letters because they are more difficult to make and the smallness of tube size is definitely limited. My invention takes advantage of the brilliancy of the luminous tube to greatly amplify the message in a simple manner and at small additional cost, without regard to the size of the letters.

The primary object of my invention is to produce a luminous-tube sign which conveys an adequate message and is inexpensive, simple and effective.

Another object of my invention is to provide a combination luminous-tube and illuminated sign.

A further object of my invention is to provide a combination luminous-tube and edge-illuminated sign with a readily changeable edge-illuminated message.

Still another object of my invention is to provide means for attachment of an illuminated member to a luminous-tube border forming part of a luminous-tube sign.

With these and other objects in view which will become apparent as the description proceeds, my invention consists essentially of a luminous-tube sign with the tube bent into the shape of a message and including a dependent rectangular section of tubing, a ceramic plate having characters thereon arranged for illumination, said plate being of such size and shape as to be bordered by the rectangle and adapted to be illuminated thereby, and means to secure said plate to the rectangle.

The invention, both as to details of construction and combination of parts, will best be understood from the following description of a specific embodiment which I illustrate as an example, when read in connection with the accompanying drawing, in which:

Fig. 1 is a front elevation of my sign.

Fig. 2 is a section on the line 2—2 of Fig. 1.

Fig. 3 is a fragmentary section on the line 3—3 of Fig. 1.

Fig. 4 is a fragmentary section showing a modification of the means of securing the edge-illuminated member of my invention to the supporting tube.

Fig. 5 is a transverse section of a modification of the edge-illuminated member of my invention.

Fig. 6 is a fragmentary view, partly in section, showing my means of securing an illuminated member to the luminous tube.

Referring now to the drawing, I have shown in Fig. 1 a luminous-tube sign 10 formed into the word SCHEIDT'S, having dependent from the end 11 of the letter "E" and from the base 41 of the letter "I" a closed loop 12 in the shape of a rectangle forming the illuminated border of a completely edge-illuminated sign. A step-up transformer 13 supplied with alternating current at low-voltage leads 14 and 15 energizes the sign 10 by means of high-voltage leads 16 and 17 connected to electrodes 18 and 19, respectively. The crossovers 20 are suitably rendered opaque in the usual manner by means of black paint or a wrapping of black tape.

The sign is supported by being hung from two twisted loops of wire 21 and 22 equidistant from the middle of the word.

A sheet of glass or other ceramic 25 and a sheet of cardboard 26, both of a size and shape to fit within the rectangle 12, are supported in contiguity within said rectangle from the tube 12 by four clips 27. Clips 27 which are preferably but not necessarily made of metal each comprise a channel-shaped portion 28 and a resilient curved member 30 extending from one angle of the channel 28. The ceramic plate 25 and cardboard sheet 26 are held together in the groove of the channel 28. The curved member 30 is shaped slightly smaller than the tube 10 so that when it is snapped over said tube a tight grasp on the tube is secured.

Plate 25 has an advertising message etched or sandblasted into its rearward surface. As shown in Fig. 1, this message is "Direct From Keg" and a section of the letter "i" of the word "Direct" is illustrated in Fig. 2 to show the cavity 35 in the rear surface. Cardboard sheet 26 is finished in black on the front surface.

Fig. 3 shows the construction of a reinforcing U-shaped glass rod 40 which is welded at one end to the base 41 of the letter "I" and at the other end to the base 11 of the letter "E". The function of this member 40 is to better distribute the weight of the dependent edge-illuminated sign on the relatively fragile glass tubing which carries it.

The sign of my invention functions to produce a luminous-tube message plus an edge-illuminated message on the plate 25, said plate being easily changed for another similar plate bearing another message by merely forcing the clips 27

from their resilient engagement with the tube 10.

Instead of the clips 27, an alternative but not preferred form for detachably securing the plate 25' from the tube 10 is shown in Fig. 4. A hole 50 is bored through both the plate 25' and the cardboard sheet 26', and a wire 51 is passed therethrough. Wire 51 passes about the tube 10 and has its ends twisted together to form the twist 52. The clip 27 has the advantage over the wire 51 in that a negligible portion of the front of the tube 10 is obscured by the clip 27. Although only four of the clips 27 are illustrated as supporting plate 25, any number may be used.

Instead of the message on the edge-illuminated plate being formed by depressions in the plate, the characters may be elevated above the surface by ceramic firing or other suitable means, as illustrated in Fig. 5. In this construction, a ceramic plate 25'' has elevated letters 60 (shown in section).

In place of the message illustrated, the invention is suitable for exhibiting any desired type of advertisement. If desired, the cardboard sheets 26 and 26' may be dispensed with and the rearward surface of plates 25 and 25' rendered opaque by suitable paints. Although the plate 25 and border 12 are illustrated as rectangular, the invention is not to be restricted to this shape as it is obvious that a circular, oval or other fanciful shape for these parts is within the scope of my invention. Also, the plate 25 is shown within the border 12, but my invention includes placing a plate 65 before or behind the border 12, secured by means of a plurality of clips of the type illustrated by clip 66, in Fig. 6. Furthermore, although the display plate illuminated by the luminous-tube is illustrated as depending from the luminous-tube sign (meaning thereby the tube bent to represent the desired message), it is within the scope of my invention to have the plate illuminated by the luminous tube above or to either side of the luminous tube sign. These constructions are conveniently illustrated by viewing Fig. 1 upside down or from the sides.

It is understood that the luminous-tube sign of my invention is not restricted to the use of any particular gas or vapor, but may employ any of the customary gases or vapors, such as neon, argon, krypton, xenon, helium, mercury vapor, or combinations thereof.

Although the invention has been described in considerable detail, such description is intended as illustrative rather than limiting, as numerous embodiments will be apparent to those skilled in the art. My invention, therefore, is not intended to be limited except insofar as is necessitated by the prior art or the spirit of the appended claims.

I claim:

1. In combination, a luminous-tube sign having an extension comprising a supporting border and illuminating means for a second illuminated sign, and means for detachably securing said second-named sign to said border, comprising a plurality of clips, each of said clips having a groove for attachment to said second-named sign and a resilient curved member constructed and arranged to be snapped over and grasp said border.

2. In a luminous-tube display device, the combination of a luminous-tube sign in the shape of a row of characters with a loop thereof depending between two of said characters, a sheet of glass having advertising material thereton arranged for edge illumination, said sheet of glass being adapted to fit within said loop and to be illuminated thereby, and means to secure said sheet of glass to said loop, said luminous-tube sign between the characters from which said loop is suspended being reinforced by a glass rod welded at each end to one of said last-named characters, whereby to provide adequate strength to support said loop and said sheet of glass.

3. In a luminous-tube display device, the combination of a luminous-tube sign in the shape of a row of characters with a loop thereof depending between two of said characters, a sheet of glass having advertising material thereon arranged for edge illumination, said sheet of glass being adapted to fit within said loop and to be illuminated thereby, and means to secure said sheet of glass to said loop, said sheet of glass having a plurality of small holes adjacent the upper and lower edges, and said means comprising an equal plurality of wires, each of said wires passing through one of said holes and about the tube adjacent thereto and having its ends twisted together.

4. In a luminous-tube display device, the combination of a plate bearing advertising material, a luminous tube forming a border and illuminating means for said plate, and means for detachably securing said plate to said tube, said securing means comprising a plurality of clips, each of said clips having a groove for engaging the edge of said plate and a resilient curved member constructed and arranged to be snapped over and grasp said tube.

5. The invention set forth in claim 1 in which the relation of the groove to the curved member of the clip is such that said second sign is supported within said border.

6. The invention set forth in claim 1 in which the relation of the groove to the curved member of the clip is such that said second sign is supported adjacent to said border.

MARTIN EPSTEIN.