May 10, 1932. A. J. McMASTER 1,858,053

SUPPORT FOR LUMINESCENT TUBES

Original Filed July 18, 1929 2 Sheets-Sheet 1

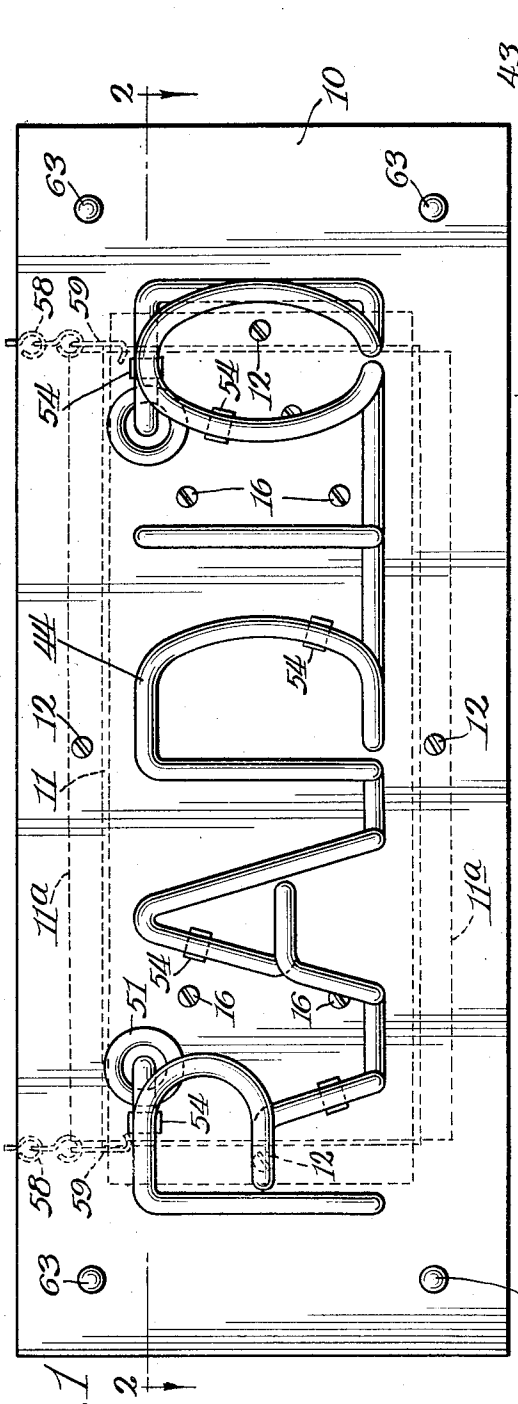

Fig. 1

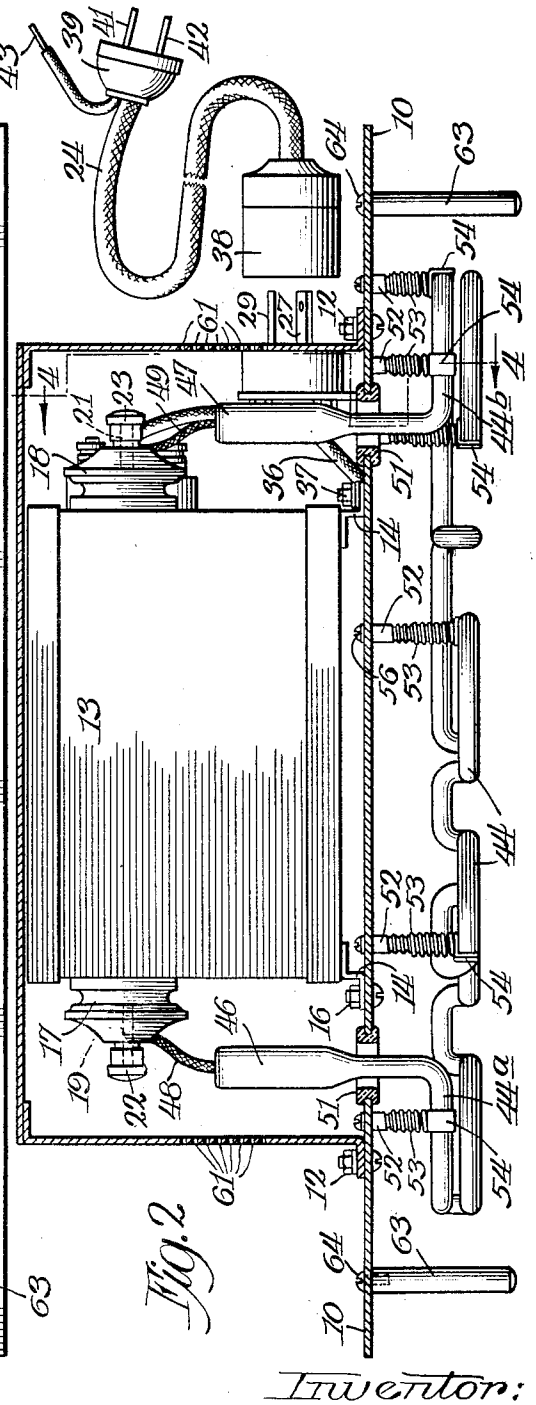

Fig. 2

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SUPPORT FOR LUMINESCENT TUBES

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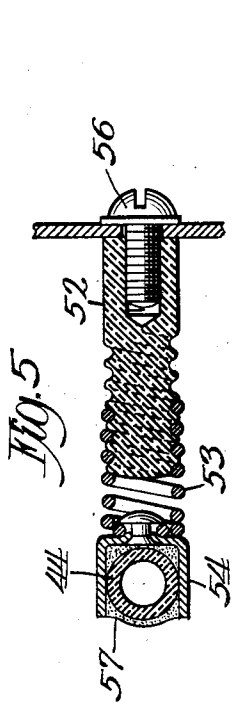

Fig. 5

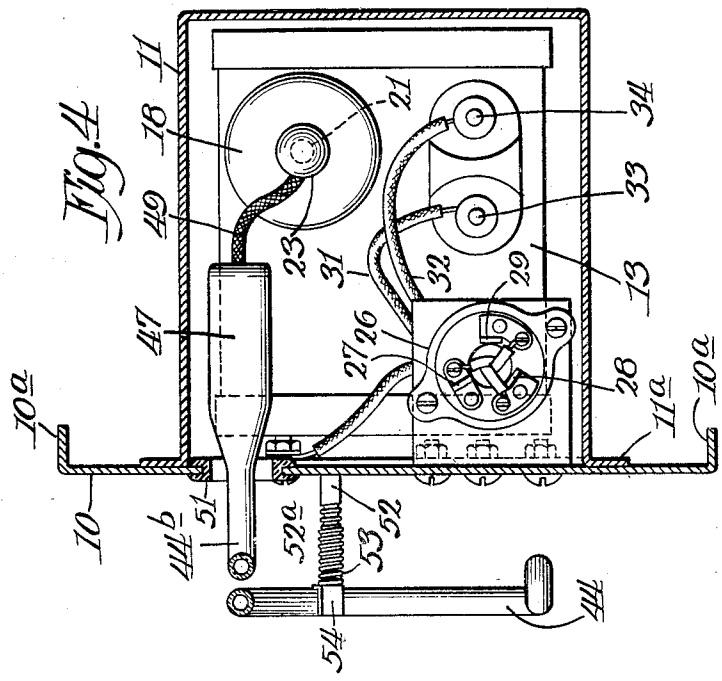

Fig. 4

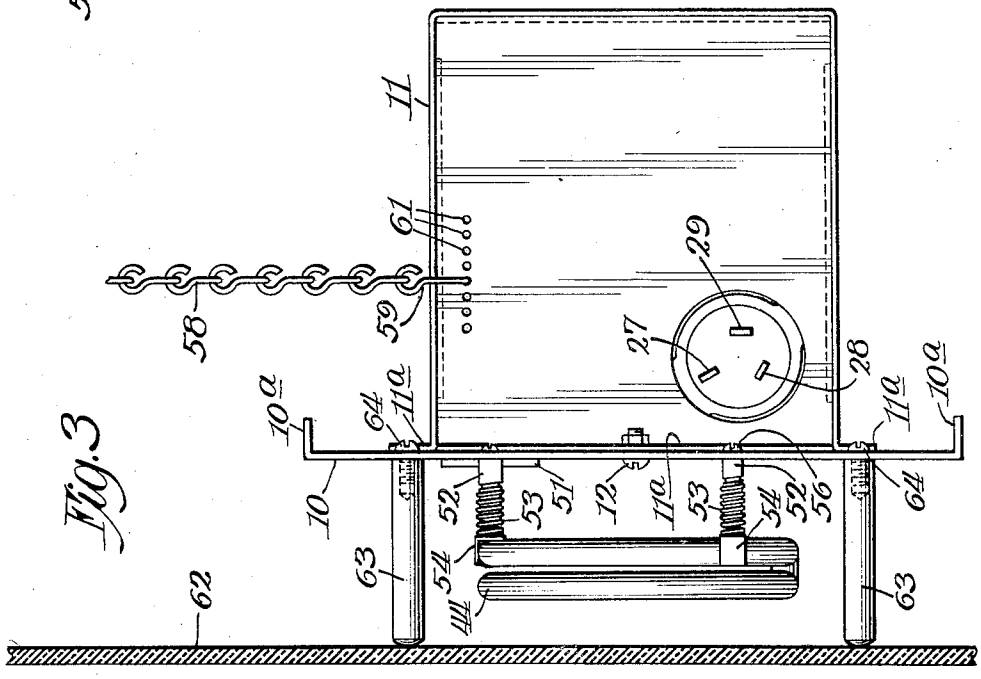

Fig. 3

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UNITED STATES PATENT OFFICE

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SUPPORT FOR LUMINESCENT TUBES

Original application filed July 18, 1929, Serial No. 379,134. Divided and this application filed January 2, 1930. Serial No. 417,996.

My invention relates in general to electric signs and more in particular to the type of sign employing luminescent tubes and known in the trade generally by the term neon sign.

More specifically, my application is a division of my prior application, Serial No. 379,134, filed July 18, 1929.

The principal object of the present invention is the provision of an improved type of neon sign.

Another object is to provide an improved tube mounting which will not impart a strain to the glass.

Another object is the provision of an improved tube mounting adapted to be adjusted to support tubing at various distances from a panel.

Another object is the provision of a neon sign assembly arranged to be mounted easily and adjusted to position without danger of imparting strain to the glass.

Another object is the provision of a neon sign assembly wherein the tubing can be mounted at the place of manufacture and supported in such a way as to resist shocks and jars during transportation without endangering the tubing.

Other objects and features of the invention will be apparent from a consideration of the detailed description taken with the accompanying drawings, wherein

Fig. 1 is a front elevational view of a preferred embodiment of my improved sign;

Fig. 2 is a plan sectional view taken along the line 2—2 of Fig. 1;

Fig. 3 is an end view showing the way the sign may be mounted in a shop window;

Fig. 4 is a vertical sectional view taken along the line 4—4 of Fig. 2 looking in the direction of the arrows, and

Fig. 5 is an enlarged view of the mounting means.

The improved sign of my invention has been developed with the principal object in view of furnishing a stock sign carrying such well known words as Radio, Drugs, Waffles or the like, and intended to be shown in the shop window or on a sign display in the front of the shop above the sidewalk. It was my purpose also to furnish stock signs of this character which could be produced for reasonable cost and shipped to a purchaser in such condition that the purchaser himself without expert help could install and use the sign. While the sign of my invention is preeminently adapted for such use the novel features employed may have a number of utilities in the general sign business whether used in the combination shown or not.

The mounting posts for the tube are novel, serving as insulators between the mounting panel and glass, as a shock absorbing means to prevent breakage of the glass by the imparting of undue strain thereto, and the glass tubing is secured to the mounting posts by transparent cement which does not interfere with the light reflecting character of any portion of the tube.

Referring now briefly to the drawings with respect to the general features of the disclosure, I provide a mounting panel 10 with flange portions 10*a* for reinforcing purposes, a rectangular housing 11 with flange portions 11*a*, and nuts and bolts 12 for securing the casing to the rear of the mounting panel. A transformer 13 is mounted by means of brackets 14—14 secured by bolts 16. Mounting posts 17 and 18 with terminal posts 19 and 21 are provided on which thumb screws 22 and 23 are threaded for securing the leads to the output side of the transformer. A cable 24 supplies the transformer with current from a suitable commercial source.

On the back of the mounting panel a plug 26 is secured having three contacts 27, 28 and 29, the contacts 27 and 28 being connected to conductors 31 and 32 leading to primary terminals 33 and 34. Contact 29 however, is connected to a conductor 36, grounded with one of the screws 37. Plug 39 is connected to the opposite end of the cord and has contacts 41 and 42 adapted to be plugged into the usual wall socket, while a third conductor 43 is taken out from the rear of the plug and is adapted to be grounded.

The usual type of tubing 44 is employed, shown here in the form of the word "Radio" and provided with electrodes 46 and 47 secured to high tension cables 48 and 49 leading

from the transformer. In making up the sign the apertures through which the electrodes extend are standardly placed, and accordingly the tube is doubled back at 44*a* and 44*b* in order to be extended through such apertures. Insulating liners 51 are provided for the protection and insulation of the entire sign.

I employ unusual mounting means for the tube 44 in the form of mounting posts 52 having springs 53 secured at one end thereof and with U shape tube engaging means 54 at the outer end of the spring. The posts 52 have threaded portions 52*a* on which the springs 53 are adapted to be turned to increase or decrease the over all length of the mounting posts. For mounting the post to the panel machine screws 56 are employed threaded into the hollow end of the posts 52. The tube engaging portion 54 of the mounting posts receives the tube 44 and a transparent cement 57 is employed to cement the tube in position. The type of cement which I have used most satisfactorily in this connection is the cellulose nitrate composition known generally under the name of pyralin.

Heretofore it was customary to employ the portion of the tube connecting the letters for mounting purposes because wire or strips of metal were usually used to fasten the tube and this would show as a black spot on the sign. This manner of fastening is desirable because there is really only one part of the tube which is all in a single plane and that is the letters proper. With my mounting means I can connect to the letter portion of the tube and since this is all of equal height the mounting operation is simplified. There are places, however, where it is necessary to employ a mounting post on connecting portions of the tube, particularly where the tube connects with the terminal. An advantage of this type of mounting is that the tube can be removed readily by the use of a suitable solvent which will dissolve the bond about the glass, or a sharp tool may be employed to cut through this pyralin band and free the tube.

The principal intended use for the sign of my invention is to hang in suitable positions in retail shops, particularly in the window thereof. In order to mount the sign I use chains 58 on the end of which are small hooks 59. These chains are supported at suitable positions on the ceiling or the like and the hooks are fastened in any of a plurality of holes 61 arranged in the casing 11. The center of gravity of the sign as a whole is of course below these holes and by suspending the sign entirely from this position the sign may be inclined forwardly or backwardly depending upon which pair of holes the hooks 59 are engaged in.

When a sign is used in a store window it is generally advisable to hang it as close to the window as possible. I arrange for this and in order to protect the tube from actual contact with the window 62 I provide a plurality of spacing posts 63 formed of suitable material such as wood, four in number generally and arranged in the manner shown. These spacing posts are secured to the mounting panel in any suitable way as for example by screws 64.

The advantages of the various features and the manner in which the sign is used appear to be plain from the preceding description. In the claim I refer to "neon signs" for the sake of convenience but it is obvious that the features of the invention can be employed with any luminescent tube of this general character whether utilizing neon or not. The various details described to bring out the novel features are illustrative only and the invention is limited only by the scope of the appended claim.

What I claim is new and desire to protect by Letters Patent of the United States is:—

In a neon sign, a mounting device for mounting a neon tube on a panel comprising an insulating mounting post rigidly secured at one end to the panel, the other end of the post being threaded, a U-shaped clip substantially encompassing three sides of a tube and leaving the other side open, a transparent cement for securing the tube in said clip, said cement bridging the open end of the arm of the U-shaped member, and a helical spring secured to said clip and threaded over the threaded portion of said post.

In witness whereof, I hereunto subscribe my name this 26th day of Dec., 1929.

ARCHIE J. McMASTER.