Nov. 3, 1931. C. J. WAMSER 1,830,414

ILLUMINATED CHARACTER FOR ELECTRIC SIGNS

Filed Dec. 21, 1929

Fig. 1.

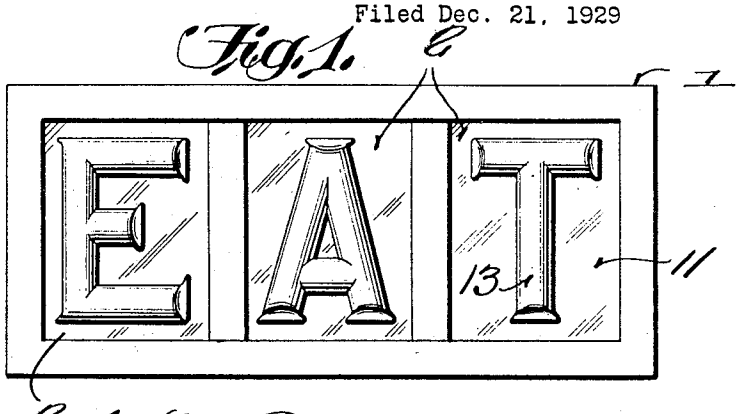


Fig. 4.

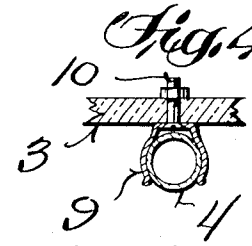


Fig. 2.

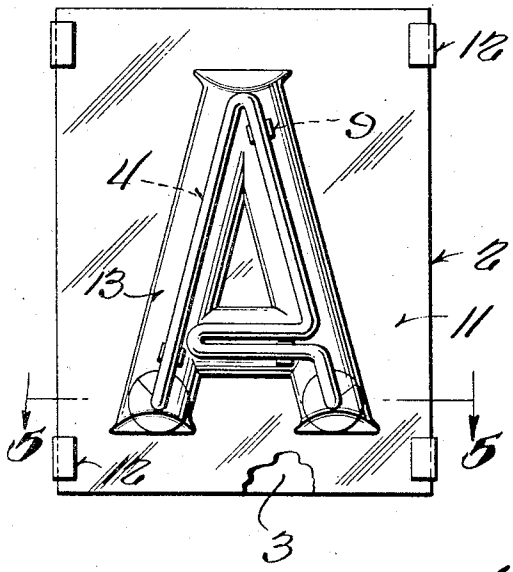


Fig. 3.

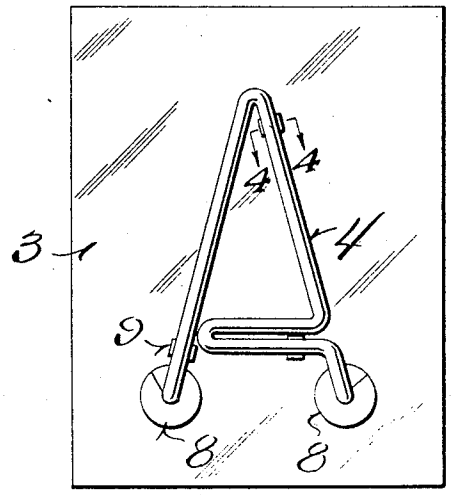
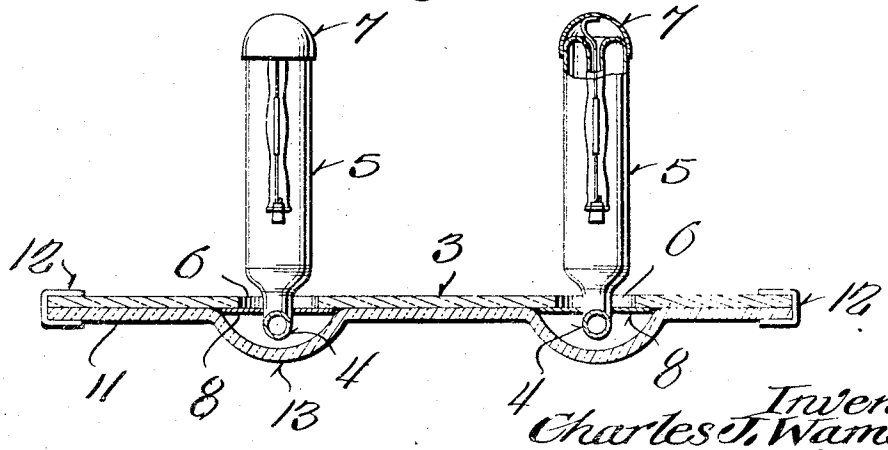


Fig. 5.



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UNITED STATES PATENT OFFICE

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ILLUMINATED CHARACTER FOR ELECTRIC SIGNS

Application filed December 21, 1929. Serial No. 415,718.

This invention pertains to illuminated characters for electric signs, and more particularly to those utilizing luminescent indicia vacuum tubes employing gas, such as neon, helium, argon, and the like.

Heretofore, in constructing signs of the foregoing character, it has been common practice to attach the characters or words formed with the luminescent tubes, to a suitable plate or support, leaving the tubes exposed, resulting in frequent breakage or damage to the tubes, radio interference, and shortening of the illuminating current by the accumulation of water or moisture between the tube and support.

The present invention has for its object to overcome the foregoing objections by the provision of a simple, inexpensive protecting plate or panel for the tubes, the same being preferably formed of transparent or Florentine glass, whereby the illuminated indicia tubes are protected against damage from contact therewith, and radio interference is eliminated, as well as the possible accumulation of water, snow, or moisture, and at the same time the indicia area rendered more clearly visible.

Incidental to the foregoing, a more specific object of the present invention is to materially increase the illuminating effect of the tubes, by the provision of a transparent or Florentine covered panel provided with raised portions shaped to the contour of the indicia tubes, but of considerable greater width than the diameter of the tubes, thus giving the effect of a much heavier illuminated character, and rendering the same more readily discernible.

A still further object of the invention is to provide an illuminated indicia unit comprising a supporting panel preferably conformed of opaque non-conducting material, to which the indicia tube is securely attached, and a cover panel of transparent or Florentine glass securely assembled therewith and functioning to produce the foregoing objects, whereby the entire unit may be readily assembled in a suitable frame, thus facilitating repairs or alterations of the sign.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

In the accompanying drawings is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawings, Figure 1 is a front elevation of a sign made up of illuminated characters constructed in accordance with the present invention;

Figure 2 is a similar view of one of the indicia units;

Figure 3 is a view of one of the units with the cover panel removed;

Figure 4 is a transverse section through one of the tube attaching clips, the same being taken on the line 4—4 of Figure 3; and,

Figure 5 is a transverse section taken on the line 5—5 of Figure 2.

Referring now more particularly to the accompanying drawings, the numeral 1 designates the conventional type of sign box, in which are assembled, in any suitable manner, a plurality of illuminated characters 2, and in the present instance these characters are illustrated in the form of individual letters, however, in some instances the entire word may be constructed in a single unit, such alternative having no bearing upon the present invention, which is directed to the structure of the illuminated characters or words embodied in the sign.

Each of the illuminated characters 2 comprises a luminescent tube supporting plate 3, which is preferably formed of opaque non-conducting material to provide the most desirable reflecting background for the luminescent tube, and also to prevent possible shorting of the illuminating current by the accumulation of moisture between the terminals of the luminescent tube and the sup-

porting plate. Secured to the front face of the supporting plate 3 is a luminescent tube 4, which is shaped in any desired word, character, or indicia, and having its ends terminated in laterally offset projections 5, which extend through openings 6 formed in the supporting plate 3, and carry contact terminals 7 which are connected with a suitable supply circuit in any conventional manner.

Inasmuch as the openings 6 must be of sufficient diameter to allow the enlarged offset ends 5 of the tube to be passed therethrough, the same are subsequently covered by split washers 8 formed of pliable insulating material, such as fibre, paper, or the like, and inserted over those portions of the tube extending through the openings 6.

To secure the luminescent tube 4 to the face of the supporting plate 3, resilient clips 9 are provided, which yieldably grip the tube at any desired point and are secured to the supporting plate by screws or bolts 10, as best shown in Figure 4.

Heretofore, it has been customary to attach the luminescent tube to a support, by means of wires or similar devices, and upon removal and replacement of the tubes, these wires have to be removed and new wires provided. It will, therefore, be obvious that the structure of clip provided, materially simplifies attachment and removal of the luminescent tube.

Aside from the novel construction of the clip, as heretofore explained, the structure thus far described, is more or less conventional and constitutes the general manner of constructing a sign utilizing luminescent tubes. It will further be readily seen that in a sign constructed in accordance with the foregoing, the luminescent tube is exposed to the elements and also to damage and breakage by accidental contact therewith.

The present invention overcomes this objection by the provision of a cover panel 11 which is preferably formed of diaphanous glass, in order that the luminescent tube can be clearly visible therethrough. As best shown in Figure 5, the cover panel 11 is assembled upon the supporting plate 3 by means of the metal clips 12 which engage the edges of the plate and cover panel at suitable spaced intervals, thus providing a completely assembled unit, which may be readily inserted or removed from the conventional sign box now employed.

As will be noted in Figure 5, the cover panel 11 is provided with semi-circular offset portions 13, shaped to conform to the character formed by the luminescent tube 4, thus permitting the cover panel to be tightly engaged upon the face of the supporting plate 3, and providing a complete housing for the luminescent tube 4, secured to the face of the supporting plate. It will also be noted that the offset portion 13, is of considerable greater width than the diameter of the luminescent tube. The semi-circular and offset portion has the effect of distributing and diffusing the light from the tube in such manner as to give the appearance of an illuminated character considerable heavier than that effected by the tube itself.

It will be appreciated that the cover panel 11 provides a complete housing for the luminescent tube, thus protecting the same against accidental breakage or damage, and eliminating the possibility of the access of snow, water, or moisture between the tube and adjacent parts of the sign, which frequently results in shorting of the illuminating current, which results in damage to the sign. It will further be appreciated that a very simple, inexpensive illuminated unit has been provided, which in addition to the foregoing advantages, enables the characters of a sign, to be readily removed for repairs, or alterations of the sign.

I claim:

1. An illuminated sign comprising a supporting plate, a luminescent indicia tube attached thereto, and a diaphanous panel assembled on said plate to form a housing for said indicia tube, and provided with offset portions conforming to the shape of said tube and aligned therewith.

2. An illuminated sign comprising a supporting plate, a luminescent tube attached thereto, and a diaphanous panel assembled on said supporting plate and provided with an offset portion conforming to the indicia of said tube and aligned therewith, said offset portion being of greater width than the diameter of said tube.

3. An illuminating sign comprising a supporting plate, a luminescent tube attached thereto, and a diaphanous panel assembled on said plate and provided with offset portions semi-circular in cross section and conforming to the character of said tube and of greater width than the diameter of said tube.

4. An illuminating sign comprising a supporting plate, a luminescent tube secured to the face of said plate, and a diaphanous panel assembled on said plate and engaging the face of the same, said panel being provided with an offset portion conforming to the character of said tube and of greater width than the diameter of said tube.

5. An illuminating sign comprising a supporting plate formed of non-conducting opaque material, a luminescent tube attached to the face of said plate, and a diaphanous glass panel assembled on said plate and provided with an offset portion of greater width than the diameter of said tube and conformed to the character of said tube.

6. An illuminating sign comprising a supporting plate, a plurality of resilient clips secured to the face of said plate, a luminescent tube detachably carried by said clips,

and a diaphanous panel assembled on said plate and provided with an offset portion of greater width than the diameter of said tube and conforming to the character of said tube.

7. An illuminated indicia unit comprising a supporting plate, a luminescent tube attached thereto, a diaphanous panel engaging said plate and provided with an offset portion forming a complete housing for said tube, said offset portion being of greater width than the diameter of said tube, and means for securing said panel to said supporting plate.

8. In a structure of the class described, the combination of a casing, a supporting panel of insulating material mounted within said casing, a gaseous conduction lamp in the form of a character mounted on said supporting panel and having laterally turned terminal electrode chambers disposed through said supporting panel, and a glass face plate having a raised character corresponding to the character formed by the lamp disposed on said panel with its raised portion over the lamp and coacting with said supporting panel to provide a housing for the lamp.

9. In a structure of the class described, the combination with a casing, a lamp supporting panel of insulating material, a gaseous conduction tube lamp in the form of a character mounted on the front side of said panel, and a plate of transparent material having a raised portion corresponding in outline to the character arranged over the lamp.

10. In a structure of the class described, the combination with a lamp supporting panel, a gaseous conduction tube lamp in the form of a character mounted on the front side of said panel, and a plate of transparent material having a raised portion corresponding in outline to the character arranged over the lamp and coacting with said supporting panel to provide a housing therefor.

In testimony that I claim the foregoing I have hereunto set my hand at Milwaukee, in the county of Milwaukee, and State of Wisconsin.

CHARLES J. WAMSER.