March 9, 1937. P. P. DIFFENDALE 2,073,296

NEON SIGN

Filed March 18, 1936

Fig. 1

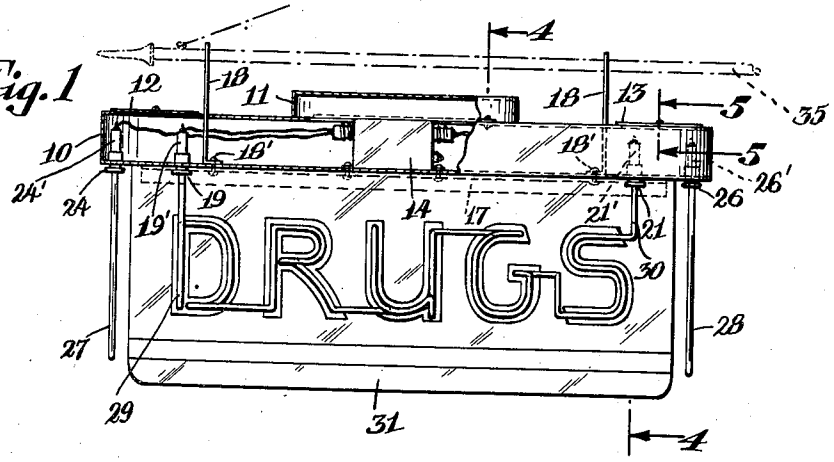


Fig. 2

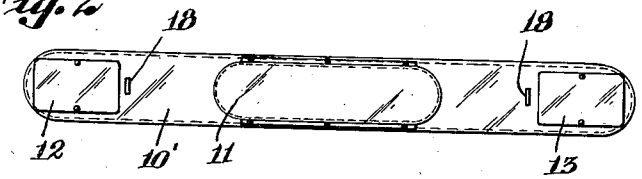


Fig. 3

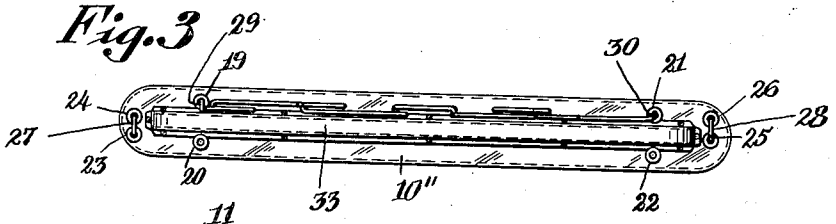


Fig. 4

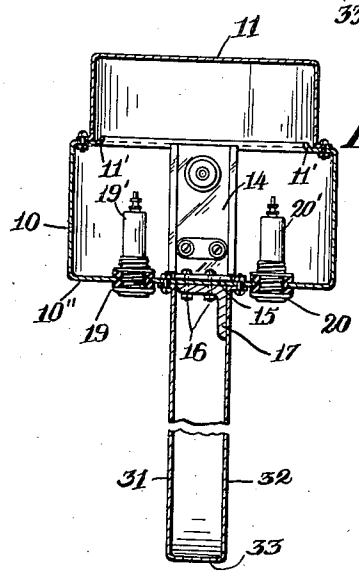
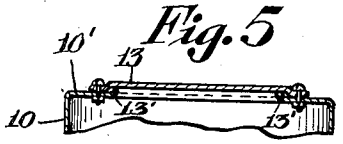


Fig. 5



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NEON SIGN

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Application March 18, 1936, Serial No. 69,508

2 Claims. (Cl. 40—130)

This invention relates generally to neon tube signs and more particularly to a sign frame having a weather-proof housing and being of sturdy construction.

The main object of the invention resides in the provision of a neon tube sign frame wherein the main housing is weather-proof, easily accessible for purposes of making repairs to the transformer, wiring, electrodes and sockets mounted in the said housing.

Another object of the invention resides in the provision of a neon tube sign frame wherein the main housing is provided with a re-enforcing element which is doubly adapted for mounting the frame firmly on a support and for supporting the neon tube base intermediate the width of the said main housing and along the longitudinal axis thereof.

A further object of the invention resides in the provision of a neon tube sign which can be easily crated for purposes of transportation and which can be economically manufactured.

These objects and other incidental ends and advantages of the invention will hereinafter appear in the progress of the disclosure and as pointed out in the appended claims.

Accompanying this specification is a drawing showing a preferred form of the invention and wherein corresponding reference characters designate corresponding parts throughout the several views.

In accordance with the drawing Figure 1 shows a view of a neon tube sign partly in elevation and partly in section, the said view also showing the sign as being swingably mounted.

Figure 2 is a plan view of Figure 1.

Figure 3 is a plan view of the sign upside down.

Figure 4 is a transverse sectional view of Figure 1 through the plane 4—4 thereof.

Figure 5 is a fragmentary transverse sectional view of Figure 1 through the plane 5—5 thereof.

As shown in the accompanying drawing, the neon tube sign frame is in the form of an elongated metallic housing, having side walls 10, a top wall 10' and a bottom wall 10''. Intermediate the ends of top wall 10' is an elongated opening having turned up edges 11', the said opening being closed by a detachable and comparatively deep metallic cover member 11, the affixation of the said cover member being accomplished preferably by ordinary screw attachment to top wall 10' along longitudinal flanges on the lower edge of the said cover member as seen on Figure 2. Near the ends of top wall 10' are smaller openings with turned up edges 12' and 13', the said openings being closed by detachable metal plates 12 and 13 respectively by ordinary screw attachment. Metal plates 12 and 13 have their edges downwardly turned as seen in Figure 5.

Thus the openings in the top wall 10' of the elongated metallic housing are provided with substantially water-proof and weather-proof closures, the latter being easily removable for purposes hereinafter to be set forth.

Numeral 14 diagrammatically illustrates a suitable transformer which is rigidly secured to both the bottom wall 10'' and on elongated reinforcing member, such as angle iron 17. Angle iron 17 is disposed along the under surface of bottom wall 10'' intermediate the width thereof. Transformer 14 is provided with a pair of lateral securing plates 15, the said plates being secured to both bottom wall 10'' and angle iron 17 by means of bolts and nuts 16. The transformer is situated preferably intermediate the length of the metallic housing and opposite the central opening in the top wall 10'. A pair of spaced brackets 18 penetrate top wall 10' of the housing and are secured to both the bottom wall 10'' and angle iron 17 by bolts and nuts 18'. Thus it can be seen that bottom wall 10'' and the angle iron 17 are incidentally secured together by bolts and nuts 16 and 18', the latter securing the transformer 14 and brackets 18 in place.

A plurality of sets of porcelain socket holders mounted in and penetrating bottom wall 10'' are provided whereon sockets are engaged to grip electrodes attached to the end portions of neon tubes. Thus opposing socket holders 23, 24 and socket holders 25, 26 are at the extreme ends of bottom wall 10'' of the housing while opposing socket holders 19, 20 and 21, 22 are disposed inwardly of the outer ends of the housing. Those portions of the socket holders projecting within the housing are threaded to engage sockets for the electrodes. Thus in Figures 1 and 2, sockets 19', 21', 26', 24' and 20' are shown. Although not shown, the electrodes of neon tubes 27 and 28 and the electrodes of end tubes 29 and 30 of the word-forming tube are gripped in the normal way by sockets in the socket holders 23, 24, 25, 26, 19 and 20 respectively. Accessibility to sockets in socket holders 23, 24 and 19 and 20 is through plate 12 while accessibility to sockets in socket holders 25, 26 and 21 and 22 is through plate 13.

As shown in the drawing, the word-forming tubes depend from socket holders 19 and 21, but provision is also made for the support of another word-forming tube from socket holders 20 and 22.

A background is provided for the word-forming

tubes by means of a metallic and depending framework, having a front wall 31, a rear wall 32 and side and bottom wall 33. The said framework is affixed to the underside of bottom wall 10'' in any convenient manner such as by screw attachment through flanges on the upper edges of the framework as seen in Figures 3 and 4. As shown, the angle iron 17 is enclosed within the said framework. Word-forming tubes are thus afforded a background on front wall 31 and/or on rear wall 32. Walls 31 and 32 may also afford the means for the receipt of any desirable fasteners that could be secured to portions of the word-forming tubes in order that the said tubes have other points of support. However, such fastening means are not shown in the drawing. The depending framework and the housing itself lend themselves to any desired decoration.

The electrical connections to the transformer from an external source have not been shown while the connections which extend from the transformer to the sockets are the ordinary and known ones and are not specifically designated.

From the foregoing it may be seen that a neon tube sign frame is provided wherein there is easy accessibility to the transformer and to the electrode sockets through cover 11 and plates 12 and 13 of the housing. Moreover the housing is weather-proof. The electrodes themselves are in vertical position and guarded by sockets within the housing thereby making collection of foreign material very improbable. The mounting of the frame is necessarily rigid without any danger of sagging since the mounting brackets 18 are affixed to angle iron 17. The frame may be swingably mounted as shown in Figure 1 on a bar 35, or rigidly mounted to a horizontal or vertical support. The fact that the depending framework is intermediate the width of the housing makes crating for transportation easy and minimizes breakage in transit. The framework is all of sheet metal with proper insulation against short circuit. The framework is light and economical to manufacture.

I wish it understood that minor changes and variations in the integration, position and subcombination of the several parts of the construction may all be resorted to without departing from the spirit of the invention and without departing from the scope of the appended claims.

I claim:

1. A neon tube frame comprising an enclosed, metallic and elongated housing having top, bottom, side and end walls, an elongated reinforcing member affixed to the underside of the said bottom wall and intermediate the width thereof, a transformer in said housing affixed to said reinforcing member, spaced brackets penetrating the top wall of said housing and affixed to said reinforcing member, a plurality of socket holders penetrating and mounted within the bottom wall of the said housing, electrode sockets within the said housing and engaging with the said socket holders, the top wall of the housing being provided with a plurality of openings and detachable covers therefor opposite the transformer and electrode sockets for easy accessibility thereto.

2. A neon tube frame comprising an enclosed, metallic and elongated housing having top, bottom, side and end walls, an elongated reinforcing member affixed to the underside of the said bottom wall and intermediate the width thereof, a transformer in said housing affixed to said reinforcing member, spaced brackets penetrating the top wall of said housing and affixed to said reinforcing member, a plurality of socket holders penetrating and mounted within the bottom wall of the said housing, electrode sockets within the said housing and engaging with the said socket holders, the top wall of the housing being provided with a plurality of openings and detachable covers therefor opposite the transformer and electrode sockets for easy accessibility thereto, and a background member for the neon tube depending from the bottom wall of the housing and intermediate the width thereof.

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