April 5, 1938. C. P. O'KEEFE 2,112,995

NEON TUBE SUPPORT

Filed Sept. 9, 1935

Fig. 1

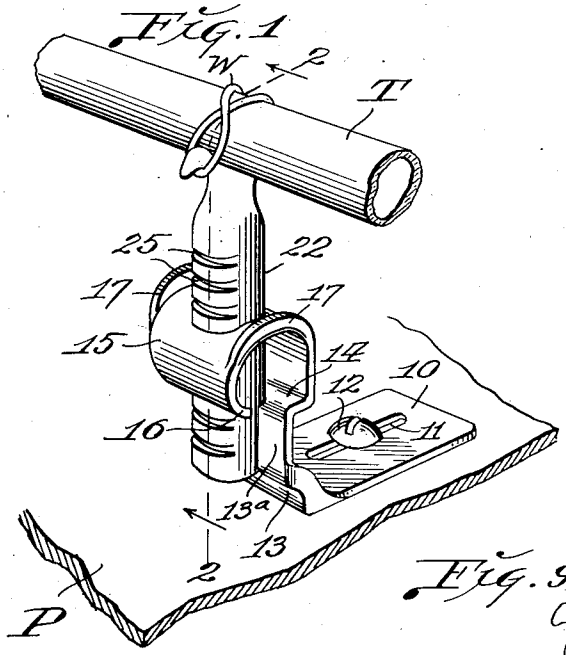


Fig. 2.

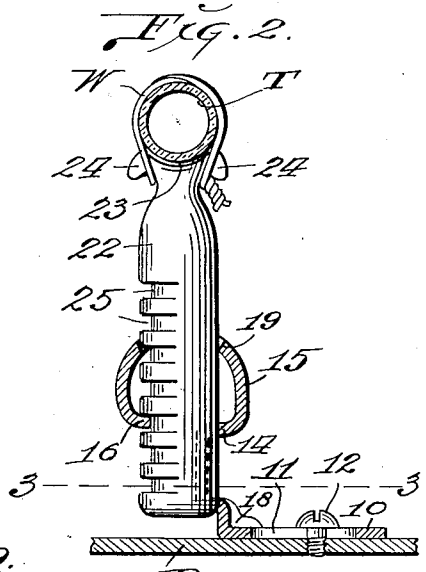


Fig. 9.

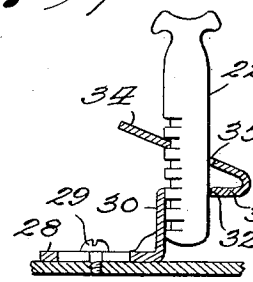


Fig. 3

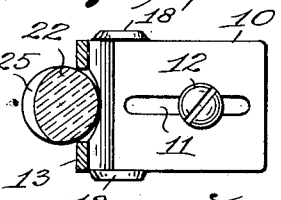


Fig. 4.

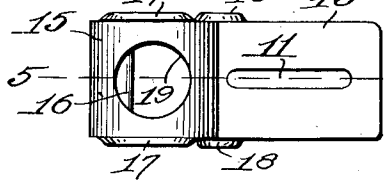


Fig. 6.

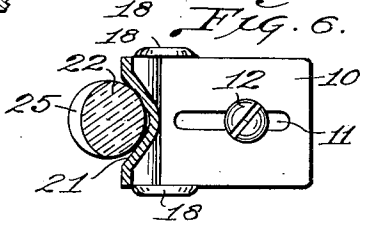


Fig. 7.

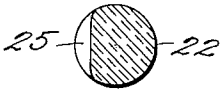


Fig. 5.

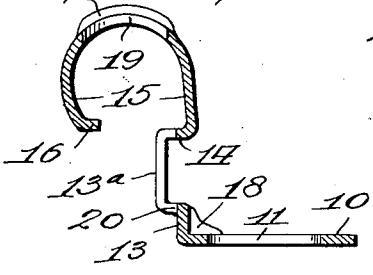
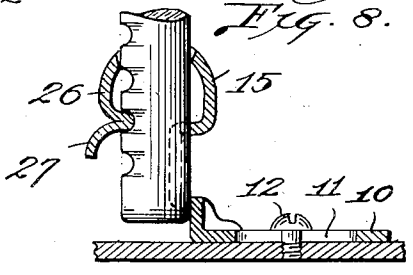


Fig. 8.



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UNITED STATES PATENT OFFICE

2,112,995

NEON TUBE SUPPORT

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Application September 9, 1935, Serial No. 39,786

2 Claims. (Cl. 248—50)

My invention relates to a neon tube support and has for its principal objects, the provision of a relatively simple, practical and inexpensive device that may be conveniently employed for supporting and spacing luminous, gaseous discharge tubes such as neon tubes from a backboard or panel and further, to generally improve upon and simplify the construction of the existing forms of similar devices.

A further object of my invention is, to provide a device of the character referred to that includes a bracket, preferably formed of metal, that is secured to the backboard or panel of a luminous sign and which receives a post of glass, porcelain or the like and which latter is provided with a seat or saddle upon which the luminous tube rests and said post being mounted for convenient adjustment upon the bracket in order that said post may be readily moved toward or away from the panel or backboard to support the tube in proper spaced relation with respect to said backboard or panel and the construction of the device being such that the post after adjustment is securely held by the bracket.

With the foregoing and other objects in view my invention consists in certain novel features of construction and arrangements of parts that will be hereinafter more fully described and claimed and illustrated in the accompanying drawing in which:

Fig. 1 is a perspective view of a support constructed in accordance with my invention and showing the same applied to the backboard or panel of a sign.

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

Fig. 3 is a horizontal section taken on the line 3—3 of Fig. 2.

Fig. 4 is a plan view of the bracket portion of the support.

Fig. 5 is a vertical section taken on the line 5—5 of Fig. 4.

Fig. 6 is a horizontal section similar to Fig. 3 and showing a modified form of the bracket.

Fig. 7 is a horizontal section taken through the lower portion of a modified form of the post.

Fig. 8 is a vertical section similar to Fig. 2 and showing a modified form of the support.

Fig. 9 is a vertical section taken through the center of the support and showing a further modified construction.

Referring by numerals to the accompanying drawing and particularly to the construction illustrated in Figs. 1 to 5 inclusive, 10 designates a plate, preferably formed of metal that forms the base of the bracket and formed in said base is a slot 11 for the reception of a screw or like fastening device 12 that passes into or through the backboard or panel P to securely anchor the bracket thereto.

The slot in the base 10 enables the bracket to be adjusted in opposite directions for a substantial distance upon the backboard or panel.

Formed integral with and extending upwardly from one end of the base plate 10, is a wall 13, the upper portion 13a of which is slightly offset so that it occupies a vertical plane a slight distance in front of the lower portion of said wall and projecting rearwardly from the upper end of the offset portion 13a and occupying a plane parallel with the plane occupied by base plate 10, is a short plate 14.

From the rear edge of plate 14 the metal forming the bracket is extended upwardly, thence forwardly and thence downwardly to form a horizontally disposed loop 15 and the end of this loop is bent inwardly to form a transversely disposed lip 16 that occupies a position substantially in front of the plate 14.

The metal from which the bracket as described, is formed, has a certain degree of resiliency and as a result the end of the loop 15 that is provided with the lip 16 yieldingly resists flexing movement away from the wall 13 and plate 14.

In order to stiffen or increase the tension of the loop, as against outward bending strains the ends of said loop are provided with integral upturned ribs or flanges 17.

In order to resist bending strains between the wall 13 and base plate 10 reenforcing flanges 18 are formed on the metal at the points where the side edges of the base plate unite with the wall 13.

Formed in the upper portion of the loop 15, is an aperture 19 for the reception of the glass post that is adjustably seated in the bracket.

To provide a support for the lower portion of the post that is applied to the bracket, the central portion of the offset upper portion 13a of wall 13 is cut away to form a vertically disposed notch 20 and thus when a post is inserted in the bracket, its lower portion bears on the front face of wall 13 and a short distance above this point of engagement said post engages against plate 14.

A modified arrangement of the bearing for the lower portion of the post is illustrated in Fig. 6, wherein the metal in the central portion of wall 13a is pressed rearwardly to form a vertically disposed concave seat 21.

The post that is applied to the bracket and

which serves as a support and point of attachment is a luminous tube such as T, is preferably formed of glass, porcelain or other insulating material and comprises a substantially cylindrical body **22**, the upper or outer end of which terminates in a seat or saddle **23** upon which the tube T rests.

Formed on the upper or outer portion of the post, preferably on opposite sides of the seat **23**, are lugs **24** that are engaged by the wire W that is utilized in securing the tube T to the post.

Formed on the surface of the post and extending transversely thereof, is a series of notches **25**, preferably spaced equal distances apart and said notches being of such size as to receive the inturned lip **16** on the free end of loop **15**. These notches, as illustrated in Figs. 1 and 2, are preferably arranged parallel with each other and at right angles to the axis of the post **22**, although practically the same result may be produced by forming a spirally disposed thread or groove in the surface of the post. These notches may be of any desired length and as illustrated in Figs. 2, 3 and 6, said notches extend approximately halfway round the circumference of the post and the depth of said notches gradually decreases toward their ends.

In Fig. 7 I have illustrated the notches, as extending approximately one-third around the circumference of the post.

To insert the post in the bracket, the lower end of body **12** is inserted through aperture **19**, with the post positioned so that the notches therein are out of registration with the lip **16**.

When the end of the post engages the end of lip **16**, the outer portion of the loop **15** is flexed outwardly as pressure is applied to the post and thus the edge of said lip bears with considerable pressure against the surface of the post.

When the post has been moved to the proper position through the loop, it is rotated approximately a quarter or a third of a complete revolution so that the lip **16** rides into one of the notches in the post, thereby effectively securing the post in the bracket until it is later rotated to effect a disengagement of the lip **16** from the notch in which it has been engaged.

When the lip is positioned in one of the notches, the resiliency of the free end portion of the loop exerts pressure against the post to cause the same to firmly rest in the notch **20** or in the seat **21** and thus the post is firmly held in the bracket in the desired adjusted position.

To withdraw the post from the bracket, said post, after having been detached from the tube T, is rotated approximately a quarter or a third of a complete revolution, which effects disengagement of lip **16** from the notch in which it has been engaged and the post may now be drawn upwardly or outwardly from the bracket.

In the modified construction illustrated in Fig. 8, the loop **15** is made slightly longer than in the form illustrated in Figs. 1 and 2 and a portion of the metal in said loop opposite the plate **14** is folded double and bent inwardly to form a projection **26** that is adapted to enter any one of the notches formed in the post and from this projection the end of the metal from which the loop is formed extends outwardly and downwardly to form a lip **27** that may be engaged by the fingers or a suitable tool to flex the loop so as to lift the projection out of the notch in which it is engaged.

In the modified construction illustrated in Fig. **9**, the bracket comprises a base plate **28** slotted to receive an attaching screw **29** or the like and the metal forming said plate is at one end thereof extended upwardly at right angles to form a wall **30**. From the upper end of this wall the metal forming the bracket is extended outward in a substantially horizontal plane to form a plate **31** and formed therein, is a post receiving aperture **32**. From the outer end of plate **31**, the metal is bent upwardly and thence inwardly to provide a plate **34** that occupies an inclined position relative to the planes occupied by the base **28** and plate **31**.

Formed in the inclined terminal portion **34** of the bracket, directly above aperture **32**, is a post receiving aperture **35** that may be slightly oval in shape.

When this form of support is used, the free end of the inclined plate **34** is pressed downwardly toward plate **31** to permit the body of the post to be inserted through the apertures **35** and **32** and after the post has been properly adjusted, plate **34** is released and it will at once spring back toward its normal position so that one or opposite edges on the opening **35** will engage in a notch or notches in the body of the post to securely retain the same in the desired adjusted position.

Thus it will be seen that I have provided a neon tube support that is relatively simple in construction, inexpensive of manufacture and very effective in performing the functions for which it is intended.

The construction of the base is such that it firmly holds the inserted post and the latter by a slight rotary movement in either direction may be positioned so as to be easily and quickly withdrawn from the supporting bracket.

It will be understood that minor changes in the size, form and construction of the various parts of my improved neon tube support may be made and substituted for those herein shown and described without departing from the spirit of my invention, the scope of which is set forth in the appended claims.

I claim as my invention:

1. In a device for mounting luminous gaseous discharge tubes upon and in spaced relation to a backing plate, a bracket comprising a base, a wall projecting substantially at right angles from one end of said base to provide a bearing for the lower portion of a tube-supporting post that is inserted in the bracket, the free end of said wall terminating in an open loop, that portion of the loop opposite the opening therein being provided with an aperture for the reception of a tube supporting post and a post engaging lip on the free end of said loop.

2. In a device for mounting luminous gaseous discharge tubes upon and in spaced relation to a backing plate, the combination with a substantially L-shaped bracket having a portion of one of its legs bent to form an open loop, said loop being provided with a post receiving aperture disposed substantially opposite to the opening in the loop and the free end of said loop terminating in a lip, of a tube supporting post adapted to be inserted through the aperture in the loop and through the opening thereof and said post being provided with a series of spaced arcuate notches for the reception of the lip on the free end of said loop.

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