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MEANS FOR REGULATING THE POSITION OF
COLD CATHODE LIGHTING SUPPORTS
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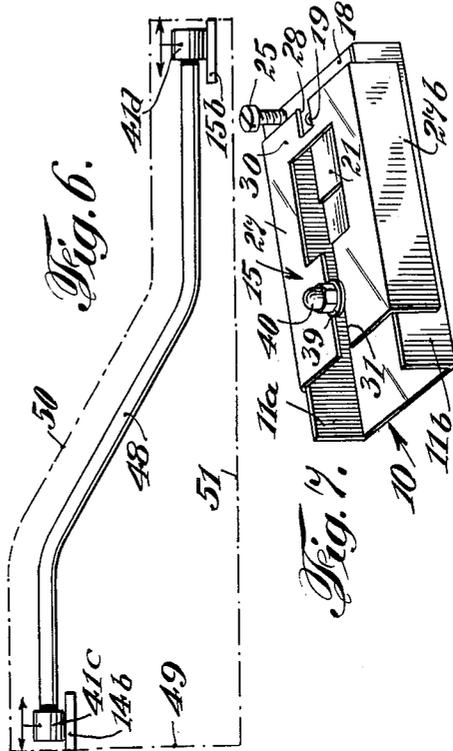
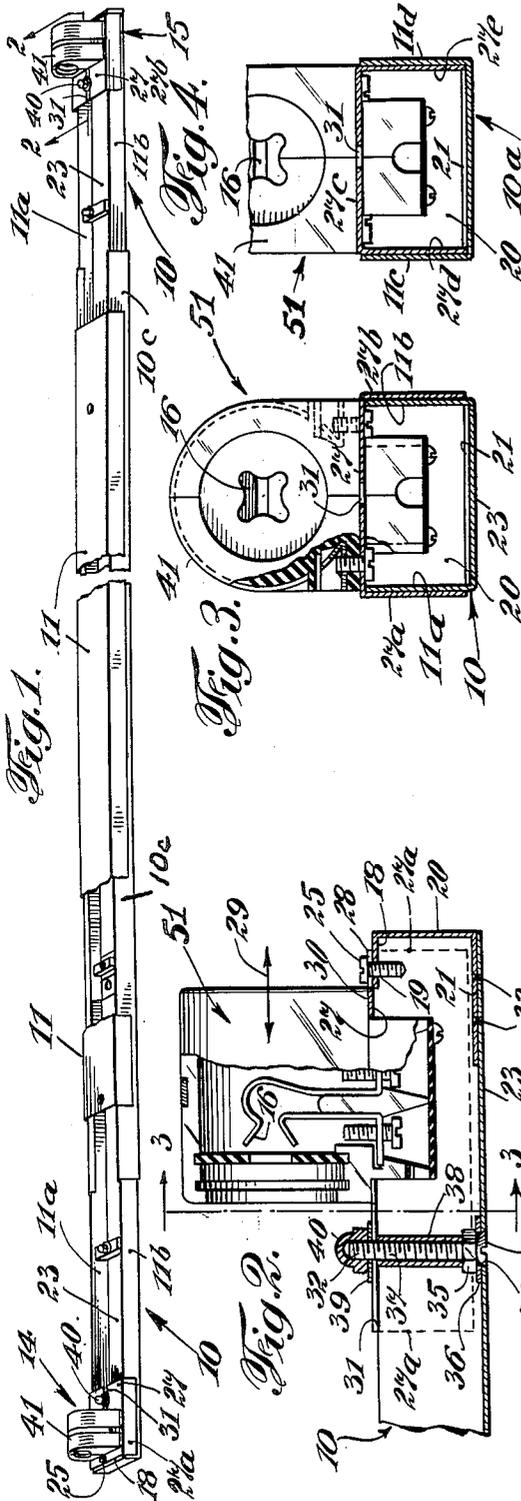


Fig. 5.
Fig. 6.

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MEANS FOR REGULATING THE POSITION OF COLD CATHODE LIGHTING SUPPORTS

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1 Claim. (Cl. 240—11.4)

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In the art of cold cathode lighting, the tubes are of different standard sizes, as from 52" to 93", in the following sizes: 52", 64", 76", 84" and 93" applicable to mounting bases provided with a pair of spaced sockets of standard types. These sockets are fixed in position on their bases and are spaced in accordance with the foregoing tube lengths. The lamps or tubes, however, are not of the exact sizes due to the necessity of closing the ends by a blowing operation. Due to the variation in length between the fixed sockets and the tubes, injury to the lamp frequently results, often resulting in breakage when installing or in later use.

The invention is to provide an adjustable telescopic frame mounting to enable the mounting to be used for any of these lengths, which mountings hold the sockets in place at a proper distance from each other. As the lamps are not accurately sized, a further adjustment of the sockets becomes necessary to accurately space them for the lamps to be inserted, which adjustment is provided by a movable socket support.

Frequently, cold cathode lighting is used in special localities, as special show cases made of special design, which special sizes present special difficulties in mounting.

The invention enables the special lamps in any special environment to be accommodated, and avoids the serious disadvantages referred to.

The invention consists of a socket unit having a base member or mounting adapted to be fixed in place on any suitable support, a socket supporting member movable in respect to said fixed base member, and means for securing the socket supporting member to the base member at the proper position for the socket to receive its lamp terminal without straining the lamp structure.

Preferably, though independently usable, said unit is made a part of a lamp mounting member having a pair of spaced sockets, one at each end, and freely movable towards and from each other, to receive lamp tubes of different standard lengths, the final adjustment to the variability of such lengths being made by the moving of the socket on its supporting member of the unit to the lamp terminal.

The invention will be more fully described hereinafter, embodiments thereof shown in the drawings, and the invention will be finally pointed out in the claim.

In the accompanying drawings,

Fig. 1 is a perspective view of a lamp tube holder embodying this invention.

Fig. 2 is a transverse vertical section taken on line 2—2 of Fig. 1;

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Fig. 3 is a view, partly in section taken on line 3—3 of Fig. 2, seen in the direction of the arrows;

Fig. 4 is a similar view, but illustrating a modification wherein the legs of the cap enter within the mounting;

Fig. 5 shows, diagrammatically, a U-shaped tube lamp, with the invention applied thereto;

Fig. 6 shows, diagrammatically, an angular tube lamp, with the invention applied thereto;

Fig. 7 is a perspective view of an end piece without the electrical mechanism.

Similar characters of reference indicate corresponding parts throughout the various views.

Referring to the drawings, the channel member 10 or mounting has preferably a covering member or cover 11. The channel member 10, as also the covering member 11, can be telescopically correlated, to enable longitudinal extension or shortening.

At each end of the channel member 11, an end piece or cap 14 or 15 is provided. Each end piece is provided with the known lamp contact piece 16. The end piece is adjustably secured to the channel member. For this purpose, each end piece consists of an inverted U-shaped member or cap 14 or 15 enclosing or partially surrounding the U-shaped channel member 10. The member 10 has a bent over horizontal flange 18 with a screw-threaded opening 19, the flange 18 being bent over from the end wall 20 of the member 10. Of course, this portion can be made by separate pieces suitably welded. For instance, the end wall 20 also has a bottom flange 21 which is welded at 22 to the bottom 23 of the member 10.

A screw or bolt 25 passes through the top 30 of the member 15, a slot 28 being provided. The screw engages the screwthreaded opening 19, and when secured tight, holds the movable parts in fixed position. The top 27 has depending walls 27a and 27b, which are parallel and in contact with the walls 11a and 11b. Thereby, the end pieces may be adjusted in position as required. Thus, the end piece 15 is capable of being positioned in either direction, as indicated by the arrow 29.

The end piece 15 (as also 14) has its top portion 27 at the other side of the socket 51, provided with a slit 31, through which a fixed vertical screwthreaded member 37 passes. This member 37 can be arranged in any suitable manner, but the specific form shown provides a headed shank 33, passing through an opening 34 with bottom 23 of the member 10, and has a nut 35 and washer 36 in clamping relationship, the shank 37 being surrounded by a sleeve 38. A

washer 39 is placed above the slot 31 and a screw-threaded nut 40 is screwed on the top end 32 until a clamping action takes place. Thereby the end piece is securely held in position at the desired location.

The interior of the electrical connection supported by the end piece need not be described as it is well known, it being sufficient to add that it has a porcelain enclosing member 41 secured to the end piece.

In Fig. 1 is shown a straight line lamp support, which has its member 10 support both end pieces 14 and 15, and the member 10 is made by the makers thereof for fixed standard sizes of different lengths.

In Fig. 5 is shown diagrammatically a U-shaped lamp 45, with its two electrical connections 41a and 41b, which are supported by the corresponding end pieces constructed in accordance with the present invention and made adjustably movable on the member 10b.

In Fig. 6 a sample of lamp 48 of special shape is shown, typical for other shapes. The electrical connections or sockets 41c and 41d, are supported on end pieces 14b and 15b, which are movably disposed until fixed in position. The lamp 48 is supported by the sockets 41c and 41d. Side walls 49, 50 and 51 generally shown complete the lamp supporting frame. The sockets 41c and 41d are adjusted in position on the end pieces 14b and 15b, and then secured as described.

In Fig. 4, the U-shaped member 10a has upstanding walls 11c and 11d, and within the member 10a, the inverted U-shaped member with its top wall 27c and downwardly depending walls 27d and 27e, is seated within the member 10a, in contrast to the embodiment shown in Fig. 3, wherein the member having the top wall 27 has its depending walls 27a and 27b extend downwardly outside of the member 10. These various embodiments are shown as examples to which the invention may be put.

In Fig. 1, the extension and restriction mechanism is shown as an example, which enables the mounting to be adapted to the shortest or to the longest of the standard sizes of lamps. The central piece 10c, is engaged by two end mountings 11a, telescopically engaged, and these parts are covered by the cover 11.

The end piece proper, without the socket is shown in Fig. 7. The screw 25 is displaced to show that it may be inserted into the opening or hole 19, to clamp the upper surface 30 of the top 27 to the top 18, the slot 28 permitting the passage of the screw shank, with the head of the screw 25 abutting against the upper surface 30 of the top 18. The slot 31 provides for the adjustable passage of the screw 37, its head 40 pressing the washer 39, which abuts against the upper surface of the top 27. In Fig. 7, an embodiment is shown like that of Fig. 3. The essential feature is the end piece unit 15, whether constructed like Fig. 3 or Fig. 4, or otherwise, to carry out the fine adjustment necessitated by the irregular sized lamps, due to blowing of the ends of the tubes. Such units are shown in Fig. 5, as 14a and 15a, and in Fig. 6, as 14b and 15b; however, they may be mounted.

Thus, in all the various shapes commonly sup-

plied to the trade, or specially ordered, the incapacity of the manufactured product accurately fitting into fixedly established spaced contact points is presented, and this serious disadvantage is overcome by the improvement shown and described, which enables an adjustment to be made at the point of installation, and thereby prevent the contact mechanism or the lamp tube from being injured.

I wish it to be understood that I do not desire to be limited to the exact details of construction shown and described, for obvious modifications will occur to a person skilled in the art.

I claim:

15 In means for regulating the position of a cold cathode lighting support, having an extensible U-shaped mounting with a bottom and parallel upstanding legs, and an inverted U-shaped cover having its bottom of the U enclosing the open top of the U of said mounting with the legs of the inverted U in parallelism with the legs of said mounting and with said legs in sliding engagement, said cover being shorter than the mounting, so as to leave the ends of said mounting exposed at its ends, the combination of an inverted U-shaped cap at the end of said mounting and over the exposed end of said mounting for closing the same and having its bottom parallel with said bottom of said mounting, and having its legs in sliding engagement with said legs of said mounting, said bottom of said end of said mounting having a vertical screw secured thereto, and said bottom of said cap provided with a longitudinal slot aligned with said screw, and providing for the passage of said screw, a head for said screw to clamp the bottom of said cap to said bottom of said mounting, said screw and said slot of said cap being longitudinally at one side of a lamp socket base receiving opening in said cap, said cap having a longitudinal slot at its end at the other side of said opening, a horizontal member forming part of said mounting extending from the end of said mounting inwardly to form a platform for said end of said cap and having a bore, and a fastening screw extending through said slot of said cap and into said bore for fastening said cap end to the end of said mounting, whereby the lamp socket base opening in the cap may be accurately adjusted to position relative to the mounting after the mounting has been adjusted to the approximate general length.

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