Aug. 11, 1936. F. O. BUDNICK 2,050,559

RISER POST CONNECTER

Filed Feb. 7, 1934

Fig. 1.

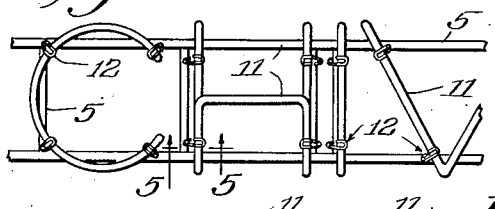


Fig. 2.

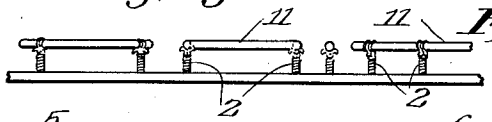


Fig. 3.

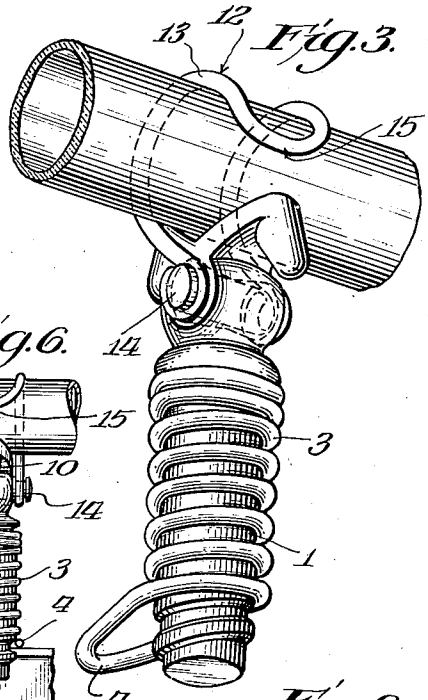


Fig. 4.

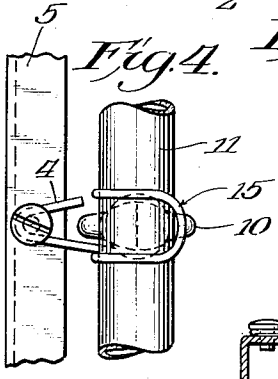


Fig. 5.

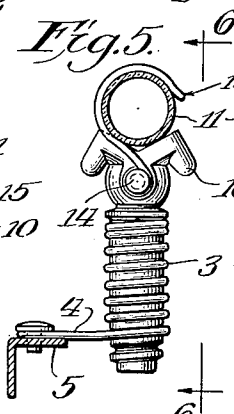


Fig. 6.

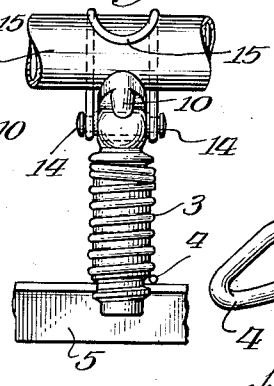


Fig. 9.

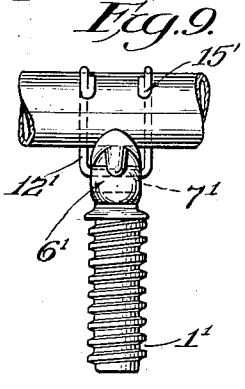


Fig. 10.

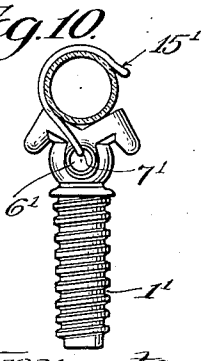


Fig. 7.

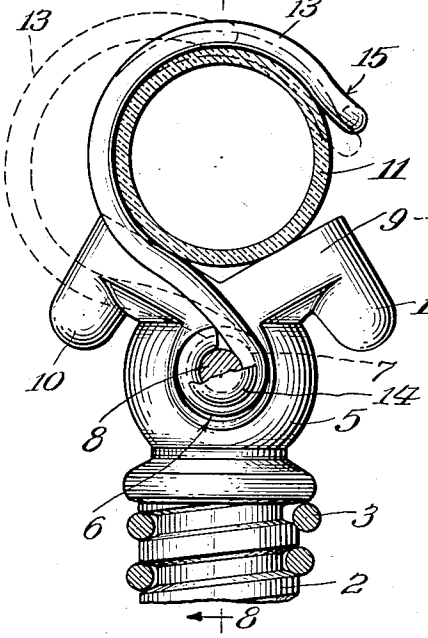
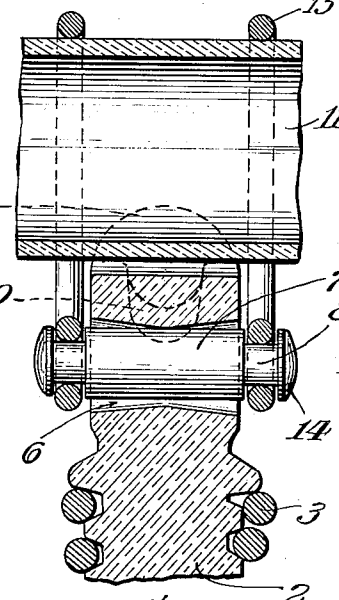


Fig. 8.



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UNITED STATES PATENT OFFICE

2,050,559

RISER POST CONNECTER

Frank O. Budnick, Chicago, Ill.

Application February 7, 1934, Serial No. 710,196

2 Claims. (Cl. 248—50)

This invention relates to improvements in electrical insulating supports for neon and similar types of gas-filled electric lamps, usually of tubular formation, the invention having for an object to provide a simple yet practical form of insulative support or riser post for neon and similar types of electric lamps whereby the usual tubular structure constituting the lamp casing may be conveniently, quickly, and positively, yet detachably secured thereto, and when so secured, prevented from objectionable or undesirable relative movement with respect to the riser.

It is also an object of the invention to provide a device of the character stated, which, through its usage will avoid breakage of tubes, as is so often the case when the tubes are secured to riser posts or to other supports by tie wires engaging about and with the same, depending for security of connection upon the twisting together of the free ends of the tie wires, or similar makeshift securing devices.

Other objects of the invention will be in part obvious and in part pointed out hereinafter.

In order that the invention and its mode of operation may be readily understood by those skilled in the art to which it appertains, I have in the accompanying drawing and the detailed description based thereupon, set out several embodiments of my invention.

In the drawing:

Figure 1 is a fragmentary elevation of a neon type of sign, the lamps of which are secured to riser posts by the use of the present invention;

Figure 2 is a side elevation of the construction illustrated in the immediately preceding figure;

Figure 3 is an enlarged perspective of a riser post equipped with the invention;

Figure 4 is a fragmental top plan view of a portion of a neon lamp and supporting frame therefor, showing said portion of the neon lamp provided with the invention, and mounted upon said supporting frame;

Figure 5 is a transverse section taken on the line 5—5 of Figure 1, looking in the direction in which the arrows point;

Figure 6 is an elevation taken at substantially right-angles to the Figure 5, along the line 6—6 of Figure 5, looking in the direction in which the arrows point;

Figure 7 is an enlarged fragmentary detail, partly in section, showing the specific manner in which a neon lamp is engaged by the connecting or securing clip of the invention;

Figure 8 is a longitudinal section taken on the line 8—8 of Figure 7, looking in the direction in which the arrows point;

Figure 9 is a front elevation of a slightly modified form of the invention, and,

Figure 10 is a view taken at substantially right-angles to that of the Figure 9, also illustrating said modified form of the invention.

Having more particular reference to the drawing, in connection with which like characters of reference will designate corresponding parts throughout, 1 indicates an electricity non-conductive riser post, made of glass, porcelain or other suitable material, the shank of which may be and preferably is screw-threaded, as at 2, to permit of its threading engagement with the spirally formed sleeve of an attaching bracket or fixture 3, of well known construction, the lower end of the attaching fixture being provided with a looped, laterally extended finger 4 through which a screw, bolt, or other connection is passed into engagement with a bar or other element of a supporting structure, such as designated by the numeral 5, thus forming an effectual and stable support.

Of course, it is to be understood that different types of riser post attaching brackets or fixtures may be used in lieu of the type of fixture referred to immediately above, without departing from the spirit of my invention.

The normally upper end of the riser post 1 is preferably slightly enlarged, as at 5, and formed with a bearing opening 6, the opposite portions of which are inwardly tapered, as at 6a, and through which a bearing pin 7 is engaged; the opposite and preferably reduced ends 8 of the pin being extended for distances beyond the opposite sides of the riser post 1, as is shown in the Figures 3, 6, and 8.

A cradle or saddle 9 is formed upon the outer side or normally upper end of the enlarged portion 5 and if desired, the opposite extremities of said cradle or saddle may be provided with downwardly extending fingers 10, whereby a permit of the usage of ordinary tie wires for securing the neon tube in the cradle or saddle 9 and to the riser, as is now done, should the same be desired.

With a view toward providing the riser post with means for securing a neon tube 11 in firm engagement with the riser post cradle or saddle 9, I provide a substantially semi-circular clamp or securing device, generally designated by the numeral 12. Said securing device 12 is preferably formed of a single length of spring wire of suitable gauge, bent intermediately of its ends, as is

shown in the Figures 3 and 4 to provide semi-circular sides 13, the free extremities of which are looped or otherwise formed to provide for snug rotatable engagement with the extended extremities 8 of the pivot pin 7, whereupon the free ends of the pivot pin extremities are swaged or upset, as at 14, to prevent lateral disengagement of said semi-circular sides 13 therefrom, and yet allow for relative rotary movement therebetween. In this way, it is obvious that a pivotal connection of the securing device 12 to the riser post 1 will be effected. The basal portion of the length of spring wire from which the device 12 is formed, i. e., the free or swingable end of said securing device is preferably outwardly curved, in the manner indicated by the numeral 15, thus, facilitating the engagement of a suitable implement or the fingers of a user's hand thereunder at times when it becomes desirable to disengage the securing device from the tube 11.

By reason of the semi-circular formation of the swingable securing device 12 and the forming of the free end of said device in the manner as indicated by the numeral 15, it will be understood that when a tube 11 is engaged in the cradle or saddle 9 of the riser post 1, said securing device may be satisfactorily moved thereover in a direction transversely of the same, and that the inherent spring of said device 12, with such pivotal movement transversely of the tube 11, will cause the same to clampingly and snugly engage over such tube in a manner to firmly connect or secure it in its seated position with respect to the cradle 9. Furthermore, because of the fact that the securing device 12 is pivotally connected to the riser post 1 substantially co-incidentally with the longitudinal axis of said post, it will be readily understood that when the spring securing device 12 has once been engaged transversely over the neon tube 11, such engagement will be maintained, notwithstanding the application of lateral stresses to the tube or to the securing device; this being primarily occasioned by reason of the curvature of said securing device and its relation to said co-axial pivoting upon the riser post, as well as its inherent spring qualities.

From the foregoing, it will be understood by workers skilled in the art, that I have provided a type of neon or similar tubular lamp securing means for riser posts materially in advance of or better than the comparatively makeshift types of means heretofore utilized for securing such tubular lamps to riser posts, as for example, tie wires which are engaged under the extremities of the saddle 9 of the riser post 1, and then engaged over the tube, whereupon the ends of such tie wires are twisted together for permanency of connection. Not only am I enabled, through the instrumentalities of the herein described invention, to secure a more positive and stable connection of neon or similar gas-filled tubular lamps to riser posts equipped with the invention, but it is also of importance to note that through the usage of the invention, a material saving of time and labor is effected, in that riser posts or other types of supporting devices equipped with the invention may have the tubular lamps engaged therewith instantly and positively connected to the same merely by swinging the securing device 12 transversely over and into snug clamping and spring engagement with the tubes.

Particular attention is invited to the fact that the bearing pin 7, received in the opening 6 of the enlarged portion 5 of the riser post, normally seats or engages upon the adjacent extremities of the oppositely tapered portions 6a; thus, the pin 7 is afforded a point of bearing fulcrum with respect to said bearing opening 6 of the enlarged riser post portion 5. As the result of this particular mode of engagement and seating of the bearing pin 7 in the bearing opening 6, it will be understood that a pivotal or fulcruming movement of the pin will be allowed and as a consequence of this, that said pin will permit of a rocking-like engagement of the securing device 12 with a tube 11, hence, allowing the device to automatically compensate or adjust itself with respect to the tube 11, when abnormal stresses are imparted to the latter, without disturbing or decreasing the efficiency of its clamping engagement with respect to or upon the cradle or saddle 9 of the riser post 1. This automatically compensating mounting of the bearing pin 7 with respect to the riser post is of prime importance in that it will allow for a limited amount of "play" or movement of a tube 11 secured thereby, without detracting from the efficiency of the securing connection.

At this point, it is of moment to note that if desired, the upper or outer surface of the cradle or saddle 9, instead of being formed plane, may be convexed to an extent such as will permit of rocking engagement of a tube 11, secured upon the device with respect to said saddle and yet, at the same time, maintain a positive seating engagement or contact of such tube 11 with respect to the cradle or saddle 9, hence, insuring the maintenance of a firm clamping-like connection of the tube to the riser post.

I desire to have it understood that whereas I have illustrated and described, with some degree of particularity, the invention as being adapted to a certain type of riser post, this adaptation may be modified or varied, i. e., different types or designs of riser posts or other attaching or mounting devices may be equipped with the invention according to manufacturing or usage dictates without departing from the spirit or scope of said invention. Furthermore, I also desire to have it expressly understood that the type of securing device illustrated in the heretofore described embodiment of the invention may be varied without going beyond the province of my invention. For example, a type of securing device, such as illustrated in the Figures 9 and 10 may be utilized. In this particular embodiment of the invention, the securing device 12' is formed of a single length of spring wire or similar material bent intermediately of its ends to provide a pivotal or bearing portion 7'; the opposite sides of said device being semi-circular in shape, corresponding to the sides 13 of the hereinbefore described securing device 12, while the free ends of said semi-circular sides are preferably bent slightly outwardly, as indicated by the numeral 15' and lipped, so as to render their transversal engagement on a neon or similar tube practical. The construction of this modified form of the invention, it will be noted, substantially corresponds to the construction described in connection with the preceding embodiment of said invention, with the exception that the intermediate portion 7' of the securing device 12' is pivotally or rotatably engaged through the bearing opening 6' of the enlarged portion 5' of the riser post 1', hence, dispensing with the need of a separate pivot pin or the like.

Manifestly, the constructions shown are capable of still further modifications, and such modification as is within the scope of my claims, I consider within the spirit of my invention.

I claim:

1. A riser post provided with a seat adjacent one of its ends, the portion of the post in proximity to an intermediate portion of the seat having a bearing opening formed therein, said bearing opening being inwardly tapered, in opposite directions, to a point substantially medially of the same, a spring clip, a pivot pin engaged in the bearing opening normally contacting with the medial portion of such opening and having its outer ends connected to an end of said spring clip, the free portion of the clip being swingable over said seat whereby to engage with and to clampingly secure an article resting upon the seat to the supporting body.

2. A riser post provided with a seat on one of its ends and a bearing opening in the riser post in proximity to the seat, said bearing opening having a point of fulcruming engagement therein intermediate of its opposite ends, a bearing pin received through the bearing opening engageable with said point of fulcruming and a clip pivotally connected at one end to the opposite ends of the bearing pin and swingable over the seat to secure an article thereupon, the path of pivotal movement of the clip with respect to said seat being substantially transversely of the character of movement of said bearing pin within the bearing opening.

FRANK O. BUDNICK.