LAMP FIXTURE FOR TUBULAR LAMPS

Fig. 1

Fig. 2

Fig. 3

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Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

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This invention relates to lamp fixtures and is more particularly concerned with lamp sockets and socket connectors adapted for use in mounting double-ended gaseous discharge lamps of the type provided with a single contact pin at each end thereof.

An object of this invention is to provide an improved lamp fixture construction in which a single contact pin of a tubular lamp may be laterally mounted and supported in engagement with a flexible contact member acting to yieldably resist disengagement of the contact pin from the socket.

It is a further object of this invention to provide a socket and socket connector construction in which the sockets are detachably connected to the socket connectors and are adapted to be rotatively positioned thereon for the purpose of spacing tubular lamps and also for arranging same in axial, angular or parallel relation.

Another object of this invention is to provide a lamp fixture adapted to position tubular lamps in proper spaced relation to provide the most effective illumination.

A further object of this invention is to provide an improved lamp fixture construction embodying a wire contact member having its ends disposed in spaced parallel relation for yieldable contacting engagement with lamp contact pins provided on adjacent ends of a pair of parallel or axially arranged tubular lamps.

This invention further contemplates the provision of a lamp fixture provided with a tortuous slot for the reception of a lamp contact pin, the opposite ends of the slot being separated by means of a baffle wall to prevent the insertion of foreign objects into engagement with the contact members.

It is a further object of this invention to provide a socket construction adapted to facilitate the replacement of tubular lamps of the type provided with contact members disposed at opposite ends thereof. In the replacement of lamps provided with two or more contact pins at each end, it is necessary to align the several pins with their respective socket slots, and it is further necessary in some types of lamp mountings to rotate the lamps subsequent to their mounting within the sockets. During rotational movement and replacement of lamps of this type, the contact pins are often bent or broken by inexperienced workmen. The present invention contemplates the provision of a socket construction adapted for use with tubular lamps provided with a single contact pin at each end thereof in order that replacement of lamps may be accomplished by inexperienced workmen and without causing injury to the lamp, the lamp fixture or the workmen.

Another object of this invention is to provide a socket and socket connector construction which is relatively inexpensive in construction and which will not readily get out of order or become short circuited in use.

This invention embodies other novel features, details of construction and arrangement of parts which are heretofore set forth in the specification and claims and illustrated in the accompanying drawings wherein:

Fig. 1 is a side elevational view showing a set of lamp fixtures embodying features of this invention.

Fig. 2 is a plan view of same.

Fig. 3 is a sectional view taken along the line 3—3 of Fig. 2, showing an improved socket and socket connector unit for mounting adjacent ends of tubular lamps having bases provided with single contact pins.

Fig. 4 is a transverse sectional view taken along the line 4—4 of Fig. 3.

Fig. 5 is a transverse sectional view taken along the line 5—5 of Fig. 4.

Fig. 6 is a perspective view showing a socket.

Fig. 7 is a perspective view showing a connector with the sockets removed.

Fig. 8 is a longitudinal sectional view showing an improved terminal fixture.

Referring now to the drawings for a better understanding of this invention and more particularly to Figs. 1 and 2 therein, the lamp fixtures are shown as comprising a plurality of lamp sockets 6 of insulating material adapted to receive and support tubular lamps 7 having bases 8 provided with single contact pins 9. The socket 6 is of the type shown and described in my copending application, Serial No. 584,836, filed March 28, 1945.

The socket is preferably formed with a flange portion 12, a front wall 13, a back wall 14 and a side wall 16 to define a chamber 17. A tortuous slot 18 is formed in the front face 13 and the side wall 16 of the lamp socket and terminating in a contact seat 19. A baffle wall 21 is formed within the chamber 17 of the socket and disposed between the contact seat 19 and the entrance to the slot 18. Four corner posts 22 project outwardly in parallel spaced relation from the flange portion 12, and provided with apertures 23 counterbored at 24 to receive mounting bolts 25.
and 7 in the drawings, an improved socket connector, generally indicated at 26, is shown as comprising an elongated body portion 27 of insulating material provided with two sets of transversely disposed arms 28 which coact with the body portion to engage the corner posts 32 of the lamp sockets 6. As illustrated in Fig. 2, it will be observed that the sockets 6 may be arranged on the connector 25 for mounting a pair of lamps in either axial alignment or parallel alignment. However, it is contemplated that the corner posts 32 of the lamp sockets 6 may, if desired, be disposed on the flange 12 in order to arrange a pair of tubular lamps in angular relationship.

A longitudinally extending recess 29 is formed in the face of the connector 26 to receive a contact holder 31 of insulating material comprising an elongated body portion 32 and a pair of spaced contact supporting arms 33. The body portion 32 of the contact holder is snugly engaged within the recess 29, and the inner face thereof is formed with a longitudinally extending groove 34 adapted to receive a connecting portion 35 of a contact member 36 provided with a pair of flexible contact arms 37. The contact supporting arms 33 of the contact holder 31 are formed with centrally disposed apertures 35 to receive and snugly engage the flexible contact arms 37 throughout a portion of their length.

As illustrated in the drawings, the contact arms 37 and their connecting portion 35 are preferably formed of round resilient wire, but it is contemplated that the arms 37 and connecting portion 35 may be formed of two or more electrically connected pieces. During assembly the contact holder 31 is preferably secured against displacement from the recess 29 of the connector 26 by means of a suitable insulating cement.

As illustrated in Figs. 1 and 2 the lamp sockets 6 are secured in assembled relation on their respective connectors 25 by means of bolts 23 which extend through the apertures 22 provided in the corner posts 22 of the sockets and terminate on the far side of a reflector plate 41, or the like, to receive nuts 42. After assembly it will be noted that the flexible contact arms 37 are disposed in position to be yieldably engaged by a contact pin 9 when a lamp is mounted to the contact arms 37 act to yieldably resist displacement of the contact pin 9 from the contact seat 19 formed at the inner end of the slot 18. Due to the central positioning of the flexible contact arms 37 within the sockets 6, a pair of sockets may be positioned on a connector 25 to connect the adjacent ends of a pair of axially disposed lamps 7, or the sockets may be arranged upon a connector for engagement with a pair of tubular lamps arranged in spaced parallel alignment.

Figs. 1, 2, 8 and 9 illustrate a terminal fixture comprising a terminal base 46 of insulating material having four radially disposed arms 47 for engagement by the corner posts 22 of a socket 6. The terminal base is provided with a contact supporting portion 50 which is adapted to project into the chamber 11 of a socket 6 substantially the same distance as the portion 33 provided on the holder 31. The terminal base is also provided with a frusto-conical portion 48 adapted to be mounted in and to project a substantial distance beyond an opening in the reflector plate 41 or the like, and longitudinally extending opening 49 is provided in the base 46 to receive a terminal bolt 51. The head end of the bolt 51 is drilled at 52 to snugly receive one end of a flexible wire contact member 53. To prevent displacement of contact 53 from its mounting recess 52, the contact may be brazed in position by the use of silver solder. The terminal base 48 is secured in assembled relation with its respective socket 6 upon a reflector 41 by means of bolts 23 and nuts 42.

While this invention has been shown in but two forms, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit and scope of the claimed invention.

I claim as my invention:

1. In a lamp fixture to support adjacent ends of a pair of tubular lamps having single contact pins on their ends, a socket connector, a contact member mounted on said socket connector, two resilient contact arms provided on said contact member to project in spaced parallel alignment from said socket connector, a pair of lamp sockets detachably mounted on said socket connector to receive and completely enclose said contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin for transverse contacting engagement with the free end of its respective contact arm.

2. In a lamp fixture to support adjacent ends of a pair of tubular lamps having single contact pins on their ends, a socket connector, a contact member mounted on said socket connector, two resilient contact arms provided on said contact member to project in spaced parallel alignment from said socket connector, a pair of lamp sockets detachably mounted on said socket connector to receive and completely enclose said contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin for transverse contacting engagement with the free end of its respective contact arm, said lamp sockets being formed at their inner ends with post portions, and said socket connector being formed with two sets of radially disposed arms to engage the post portions of their respective lamp sockets.

3. In a lamp fixture to support adjacent ends of a pair of tubular lamps having single contact pins on their ends, a socket connector, a contact member mounted on said socket connector, two resilient contact arms provided on said contact member to project in spaced parallel alignment from said socket connector, a pair of lamp sockets detachably mounted on said socket connector to receive and completely enclose said contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin for transverse contacting engagement with the free end of its respective contact arm, a contact holder provided on said socket connector to engage the inner ends of said contact arms, and means to secure said lamp sockets, contact holder and socket connector together.

4. In a lamp fixture to support adjacent ends of a pair of tubular lamps having single contact pins on their ends, a socket connector, a contact member mounted on said socket connector, two resilient contact arms provided on said contact member to project in spaced parallel alignment from said socket connector, a pair of lamp sockets detachably mounted on said socket connector to receive and completely enclose said contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin for transverse contacting engagement with the free end of its respective contact arm, a contact
holder mounted on the front face of said socket connector, said contact holder being formed with apertures to snugly engage the inner ends of said contact arms.

5. In a lamp fixture, a socket connector, a contact holder imbedded in the front face of said socket connector, said contact holder having apertures disposed in spaced parallel alignment, resilient contact arms having their inner ends mounted in said apertures and their outer ends free and projecting beyond said contact holder, lamp sockets detachably mounted on said socket connector to completely enclose their respective contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin to transversely engage the free end of a contact arm.

6. In a lamp fixture, a socket connector formed with a recess in its front face, a contact holder mounted in said socket connector recess, a pair of hollow contact supporting arms extending outwardly in spaced parallel relation from said contact holder, a contact member engaged between said socket connector and said contact holder, resilient contact arms provided on said contact member with their inner ends snugly received and supported within said hollow supporting arms, the outer ends of said resilient contact arms being free to yieldably resist lateral displacement, and a pair of lamp sockets detachably mounted on said socket connector to completely enclose the free ends of said contact arms, each of said lamp sockets having a slot extending through its side wall to receive a lamp contact pin to transversely engage the free end of a contact arm.

7. In a lamp fixture, a base, radially disposed arms formed on said base, a resilient contact arm secured to and extending outwardly from said base, a lamp socket to enclose said contact arm, posts formed on said lamp socket to engage said radially disposed arms, said lamp socket having a slot extending through its side wall to receive a lamp contact pin for transverse contacting engagement with said contact arm, and a hollow contact supporting arm on said base to snugly enclose and support said resilient contact arm throughout a portion of its length.

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