ABSTRACT: An electrical lighting fixture having an easily mountable and removable bail at each mounting bracket for supporting and connecting the lamp of the lighting fixture. The bail serves to intercept the lamp should it become detached at either or both ends and hold it from falling. The balls are either manually pinched or manually spread to mount and remove them form the bifurcated ceramic body of each mounting bracket. The distal end of the lamp having a metal terminal socket is positioned between the tines of the mounting bracket and receives a spring-biased pin providing support and electrical connection for the lamp. In a modification, the balls extend from the floor of a pan made of a material through which light can pass and serves to catch fragments of the lamp should it become shattered and also serves to diffuse the light. The pan and its associated balls are in releasable engagement.
LIGHTING FIXTURE USING DOUBLE-ENDED QUARTZ LAMPS

The present invention relates to electrical lighting fixtures and more particularly to the type employing an exposed double-ended halogen quartz incandescent lamp which spans a pair of spaced brackets offering spring-biased current terminal connectors having pins setting into end sockets of the lamp, thus holding the lamp in proper place by a pinching action thereon.

The principal object of this invention is to provide a novel and improved electric lighting fixture of the character described, affording means to intercept the lamp should it become unscrewable from the supporting contact terminals, whereupum it would otherwise fall to the floor and possibly create a hazard.

A further important object of this invention is to provide for the interception of fragments of the lamp, should it become shattered due to any cause.

A further object thereof is to provide such safety features in a manner which will not interfere with the illumination afforded by the lamp while in proper order.

Another object is to provide a novel and improved safety electric fixture construction which is simply as regards the means provided for lamp structure interception, and which is reasonably cheap to manufacture, easy to manipulate and efficient in carrying out the purposes for which it is designed.

Other objects and advantages will become apparent as this disclosure proceeds.

For one practice of this invention, a casing may serve as the frame to support lamp-end mounts in spaced relation; each mount having a bifurcated ceramic body between whose tubes, an end of the double-ended straight halogen quartz incandescent lamp is positioned where its terminal socket is engaged by a spring-biased pin which makes the electrical connection and supports the lamp end. The lamp being exposed, and so to avoid its falling out should it become detached from a pin supporting it, a ball of resilient material is mounted across related tines after the lamp is mounted. These balls are easily mountable and removed, for which their construction may require either a manual pinching or a spreading action. The balls may carry a pan of material through which light can pass, to serve to catch glass and filament fragments should the lamp become shattered due to any cause. Said pan and its associated balls may be in detachable engagement.

In the accompanying drawing forming part of this specification, similar characters of reference indicate corresponding parts in all the views.

FIG. 1 is a perspective view showing a lighting fixture equipped with the safety means to prevent the double-ended straight quartz lamp from falling out.

FIG. 2 is an exploded perspective view showing the lamp mount parts; the body member whereof is adapted to mount such safety means, which is a resilient ball.

FIG. 3 is a fragmentary perspective view of an end of the lamp.

FIG. 4 is a perspective view of the ball.

FIG. 5 is a perspective view of the ceramic body of a lamp mount, its modified construction.

FIG. 6 is a perspective view of a safety ball suited for use in the lamp mount component of FIG. 5.

FIG. 7 is a perspective view of another form of ceramic body of a lamp mount.

FIGS. 8 and 9 are perspective views of ball structures for use with the mount component of FIG. 7.

FIG. 10 shows the fixture with its lamp end downward, including a pan made of mesh material, attached to the balls.

FIG. 11 is a top plan view of the pan made of a translucent material, associated with the balls.

FIG. 12 shows one manner of having the pan and balls in releasable engagement.

In the drawing, the electrical lighting fixture which is a spotlight indicated generally by the numeral 15, comprises an open-mouth casing 16 having a swivel support 17 extending rearwardly from its wall. In this casing is a reflector 18 having suitable openings through which extend the ceramic body members 19, of the spaced mounts for the terminal ends of a double-ended, straight, halogen quartz incandescent lamp 20.

Each of said ceramic members, which are securely positioned in any suitable member mounting them behind the reflector within the casing as is well known in the art, has a bifurcation at its extending distal end, between whose tines are positioned the terminal ends of the lamp, each of which presents a tubular terminal metal socket 21 into which enters a pin 22 projecting laterally from one of companion blade springs 23, 23', for entry into said sockets 21, whereby the lamp is supported and electrical connection made thereto; the blade springs of the lamp mounts being respectively connected by conductors 24, 24' to a source of current.

The facing surfaces of the tines 25, 25' are provided with transverse grooves 26, 26' substantially parallel to the axis of the lamp 20, to frictionally receive the oppositely directed flat distal tabs 27, 27' respectively, which are the "feet" of an omega-shaped ball 28 made of springy strip material. Upon squeezing the opposite arms 29, 29' of the ball, the terminal tabs 27, 27' approach each other, so it is evident that the ball 28 is easily mounted to form an encompassment around the reduced end 30 of the lamp, and just as easily removed when necessary, by a similar squeeze.

Instead of the grooves 26, 26', the ceramic body's tines may be provided with opposite holes 31, 31' to receive the distal ends 32, 32' of the omega-shaped spring wire ball 33, when the latter is squeezed, set between the tines 34, 34' and released to enter said holes 31, 31' respectively.

The ball when fashioned as 45, offers the coplanar inward terminal tabs 46, 46' for entry into the respective grooves 47, 47' which are on the remote outer faces of the tines 48, 48' of the ceramic body member 49. To mount this ball 45, its arms need be spread apart, and likewise to remove same. A similar spreading apart of the arms of the spring wire ball 50 is necessary to mount it so its inward aligned pints 41, 41' enter the holes 31, 31' respectively, and likewise to remove it from the ceramic body member 42.

It is evident that should the lamp 20 become disengaged through some mechanical fault or excess vibration, it will be intercepted by the balls it is associated with, or by one of them if only one end becomes detached, and so the lamp will be kept from falling down to the floor. These lamps become very hot, and are liable to do damage and hurt in falling to the floor. This, the present invention avoids.

All the balls shown are preferably of resilient material so they retain proper shape to be mounted, removed and remounted again and again, as need be. In those that need to be squeezed to be mounted, the normal distance between their distal ends must exceed the distance of the space between the tines of the ceramic member they are to be associated with.

Those balls which require a spreading apart to be mounted, must have their distal ends in normal condition, nearer to each other than the distance between the outer faces of the tines they are to be mounted on.

Should the lamp become shattered due to any cause, its fragments may be prevented from falling to the ground, by having a structure including a pan 35 of mesh or screen material, or of translucent glass or plastic as 36. The balls 37 may be secured to the pan by screws 38, or detachably mounted by having a male globe snap part 39 mounted on the pan, for releasable engagement in a hole 40 in the ball. Said pan will serve to diffuse the light.

This invention is capable of numerous forms and various applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiments shown herein shall be deemed illustrative and not restrictive and that the patent shall cover all patentable novelty herein set forth; reference being had to the following claims rather than to the specific showings and description herein, to indicate the scope of this invention.
I claim:

1. An electrical lighting fixture comprising an exposed double-ended straight halogen quartz incandescent lamp having terminal ends; said lighting fixture having a pair of dielectric mounting brackets, each of said mounting brackets being bifurcated to define a pair of tines, said lamp being positioned between the mounting brackets and having its terminal ends extending between the tines; each of said mounting brackets having spring-biased terminal connectors and pins projecting from said connectors engaging the terminal ends of said lamp; a resilient bail secured to each mounting bracket and spanning the tines thereof, each of said bails having oppositely directed extensions at its distal end, means on the distal end region of the tines for resiliently releasably engaging the extensions, whereby upon accidental detachment of one of the terminal ends of said lamp from the pin engaging it, said end upon falling will be intercepted by the bail; a pan facing the lamp and being made of a material through which light can pass, said pan being resiliently releasably attached only to said bails, whereby upon breaking of the lamp the broken pieces will fall into the pan.

2. An electrical lighting fixture as defined in claim 1, wherein each of said bails have a hole therein and said pan has a pair of male glove snap elements thereon, said elements positioned so as to be in alignment with the hole in each of said bails; said elements being in resilient releasable engagement with said holes.