

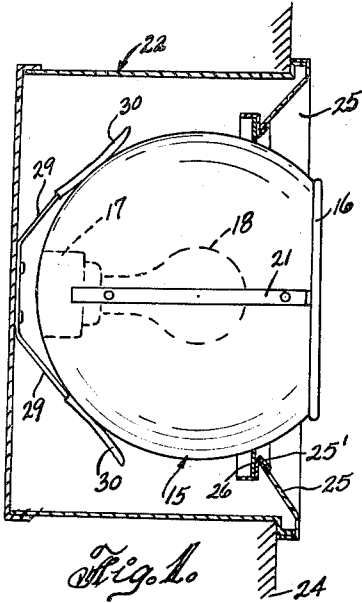
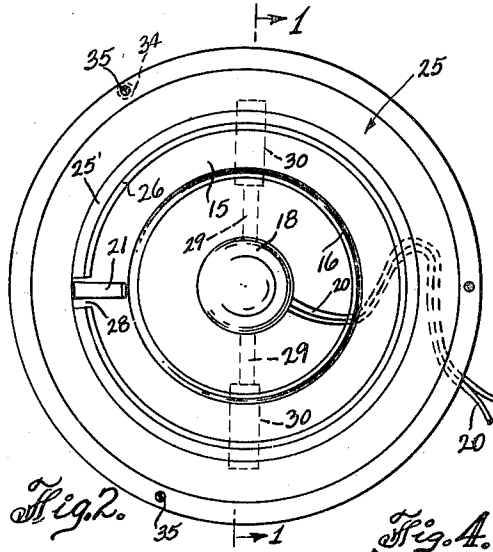
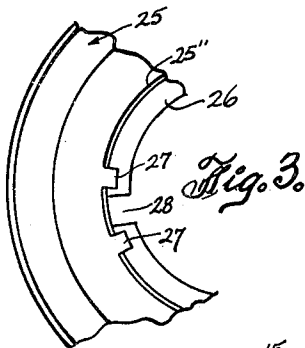
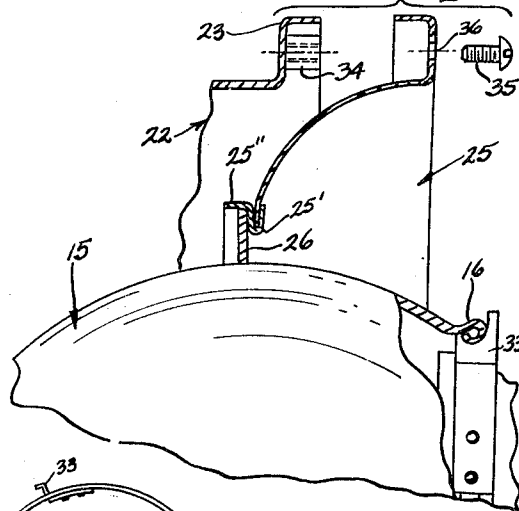
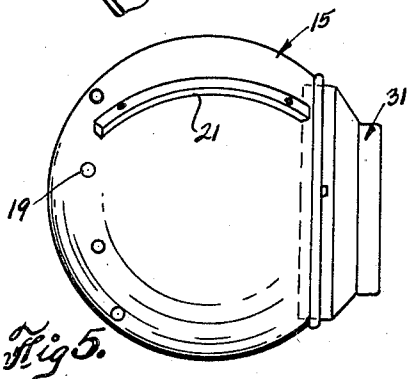
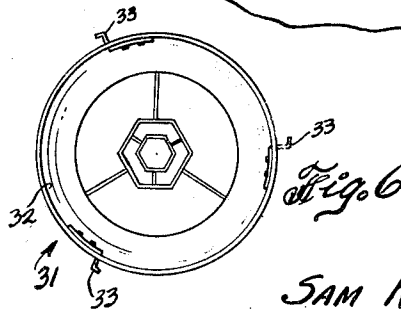
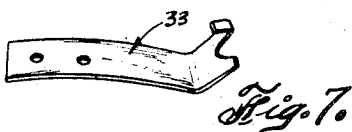
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ELECTRIC LIGHTING FIXTURE

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ELECTRIC LIGHTING FIXTURE

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3 Claims. (Cl. 240—78)

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The present invention relates to electric lighting fixtures and lamps and particularly to the type adaptable for spot light purposes where the reflector is shiftable by use of a ball joint structure.

An object of this invention is to provide an electric lighting fixture of the character mentioned, of novel and improved construction, wherein the reflector constitutes part of the ball joint structure, but whose movement, though of considerable scope, is nevertheless limited to avoid injury to the wires or cable which are connected to the socket carried on the reflector, by eliminating an undue amount of torsional twist which such connecting leads would be subject to otherwise.

A further object of this invention is to provide a novel and improved electric lighting fixture of the type set forth, wherein the reflector and its casing, upon assembly in a simple manner, effect a unique ball joint structure.

Another object hereof is to provide a novel and improved article of the class described, which is simple in construction, reasonably cheap to manufacture, easy to use and efficient in carrying out the purposes for which it is designed.

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

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

Fig. 1 is a side elevational, partly sectional view of a recessed type electric fixture embodying the teachings of this invention. This lighting fixture is shown to be of a construction which is mounted recessed in walls, ceilings or floors, particularly adaptable for use in display windows, footlights for stage and signs, business place and ball room spotlight and various other installations. Said view may be deemed a section, with some parts shown in full, taken at lines 4—4 in Fig. 2.

Fig. 2 is a front view of said fixture; the front grill cap mounted on the mouth of the reflector shell, being omitted for the sake of clarity of illustration.

Fig. 3 is a fragmentary rear view of a ring member which is mounted on the rim of a casing within which casing the reflector shell is housed. It is the purpose of this view to show the manner in which a friction ring included in this embodiment, may be mounted on said ring member.

Fig. 4 is an enlarged "exploded" view, giving a detailed showing in fragmentary form, of the structure of the various components mentioned, including the front grill cap.

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Fig. 5 is a perspective view showing the reflector shell with the grill cap on its mouth.

Fig. 6 is a rear or inside view of the grill cap.

Fig. 7 is a perspective view of a blade spring element carried on the grill cap and used to releasably mount said cap onto the reflector shell.

In the drawings the numeral 15 designates generally the reflector, which is a receptacle or shell or bowl whose surface constitutes more than half of a sphere. The rim of its mouth is formed with the bead 16, and it has mounted within it at its bottom, a socket 17 for reception of an electric bulb 18. The numeral 19 indicates ventilation holes, through any of which lie 20, the leads connected to the socket 17. An arcuate bar 21, is mounted on the outside surface of the reflector bowl 15, and extends substantially from the mouth bead 16 to the bottom region of said reflector.

The casing may be a cylindrical receptacle 22 formed with an angular flange 23 at its mouth, which flange is for contact with for instance the surface of the wall in which the fixture is mounted recessed as at 24, and said flange is adapted to receive therein the ring structure 25 which as one function thereof, serves to maintain the assembly of the reflector bowl 15, within its casing 22.

Said retaining ring 25 is dished and around its hole carries a flanged ring 25' which serves as a seat for a friction ring 26 which encircles and frictionally engages the spherical reflector bowl 15 in a plane intermediate the mouth of the reflector and the diametral plane through the reflector, which plane may be defined as the one parallel to said friction ring 26. The flange 25' of the flanged ring 25', has slits cut therein to permit tabs 27 thereby formed, to be folded over to securely mount the friction ring 26 onto the reflector-retaining ring 25; a plurality of such tabs being provided in spaced relation around the friction ring 26. Although shown of two pieces as a matter of practicability for manufacture, the rings 25 and 25' may be integral. Of course, other suitable construction may be provided for mounting the friction ring 26 onto the retaining ring 25.

A spring means is provided to maintain the reflector bowl 15 in engagement with and within the friction ring 26 of the retaining ring 25, thereby effecting a ball-joint structure, whereby the said reflector bowl may be manually adjusted to any desired position, limited however by the track bar 21 within notch 28 in the retaining ring assembly. Such spring means may comprise a blade spring structure carried on the inside of

the casing 22, and presenting a plurality of arms 29 which are stressed when the fixture is assembled as shown in Fig. 1. The extremities of said spring arms which contact the reflector bowl 25, may have each, a rough fabric sheath indicated by the numerals 30.

The mouth of the reflector bowl 15 may have mounted thereon or thereover, a detachable lens, or else, for instance, a grill cap 31, whose rim flange 32 may have mounted thereon a plurality of blade spring catches 33 for releasable attachment and cooperating engagement with the bead 16 of the reflector bowl 15.

Due to the limitation of movement of the reflector bowl 15, because of the restraint of the track bar 21 in notch 28, said reflector bowl cannot have any appreciable rotary movement about a predetermined axis, in the instance illustrated, about the axis passing through the center of the sphere of the reflector form and the axis of the mouth of said reflector 15. This limitation holds the leads of the connecting wires 20, against being twisted to any appreciable extent in torsion and requires that said leads have but limited play within the casing 22, and they are not pulled on beyond their given slack. The wires therefore are free from being broken, disconnected or short-circuited.

For assembly, I have provided the casing with a number of fixed nuts 34 brazed or welded as shown in Fig. 4, for reception of screws 35 passed through holes 36 in the retaining ring 24. As matter of suggestion, the friction ring 26 and the sheaths 30 may be of friction brake lining materials, asbestos composition and the like, while all other parts be of metal.

This invention is capable of various forms and numerous applications without departing from the essential features herein disclosed. It is therefore intended and desired that the embodiment herein 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 description herein to indicate the scope of this invention.

I claim:

1. In an electric lighting fixture of the character described, a reflector bowl presenting a surface of part of a sphere including a diametral region, a structure supporting said reflector bowl, including a ring and a receptacle forming a chamber with said ring; the said ring surrounding the reflector bowl and contacting same between its mouth and a diametral plane thereof; the reflector bowl being positioned within the said chamber and extending through said ring whereby the mouth of the reflector bowl is exterior of the supporting structure; the reflector bowl being adapted for ball-rolling movement in contact with said ring so positioned, co-operating means on the reflector bowl and the supporting structure to limit the scope of such ball rolling movement, another co-operating means on said reflector bowl and the supporting structure to maintain said reflector bowl against rotational movement about a predetermined axis, a socket carried within the reflector bowl adapted for mounting therein an electric light bulb and a plurality of blade springs mounted within the receptacle and acting against the spherical surface of the reflector bowl to maintain the re-

lector bowl in constant contact in position against said ring.

2. In an electric lighting fixture of the character described, a reflector bowl presenting a surface of part of a sphere including a diametral region, a structure supporting said reflector bowl, including a ring surrounding the reflector bowl and contacting same between its mouth and a diametral plane thereof; the reflector bowl being adapted for ball-rolling movement in contact with said ring so positioned, co-operating means on the reflector bowl and the supporting structure to limit the scope of such ball rolling movement, another co-operating means on said reflector bowl and the supporting structure to maintain said reflector bowl against rotational movement about a predetermined axis, comprising a bar carried on the exterior of the reflector bowl in a plane substantially parallel to such axis and a track means on the supporting structure; said bar being slidably positioned through said track means free for longitudinal movement therethrough and capable of swinging movement in said track means at any position of said bar and at most a slight lateral movement, a socket carried within the reflector bowl adapted for mounting therein an electric light bulb and spring means carried on the supporting structure to maintain the reflector bowl in constant contact in position against said ring.

3. In an electric lighting fixture of the character described, a reflector bowl presenting a surface of part of a sphere including a diametral region, a structure supporting said reflector bowl, including a ring surrounding the reflector bowl and contacting same between its mouth and a diametral plane thereof; the reflector bowl being adapted for ball-rolling movement in contact with said ring so positioned, co-operating means on the reflector bowl and the supporting structure to limit the scope of such ball rolling movement, another co-operating means on said reflector bowl and the supporting structure to maintain said reflector bowl against rotational movement about a predetermined axis, comprising a bar carried on the exterior of the reflector bowl, extending downwardly from the mouth of said reflector on its spherical surface; the ring being provided with an opening; said bar being positioned through said opening, free for longitudinal movement therethrough and at most a slight lateral movement therein, a socket carried within the reflector bowl adapted for mounting therein an electric light bulb and spring means carried on the supporting structure to maintain the reflector bowl in constant contact in position against said ring.

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