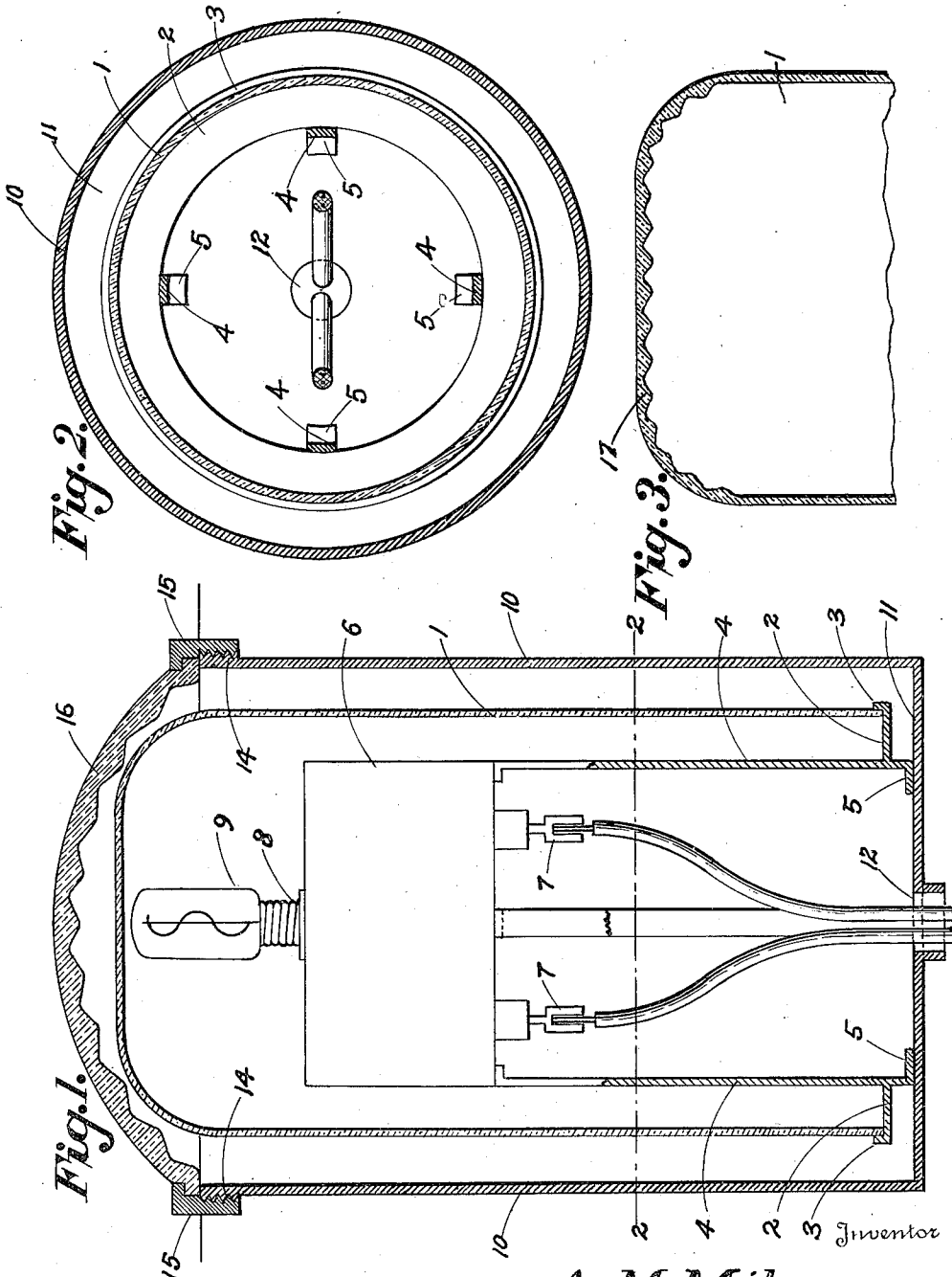


Nov. 1, 1949

A. McK. MILES  
LIGHTING FIXTURE

2,486,754

Filed March 14, 1945



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## UNITED STATES PATENT OFFICE

2,486,754

## LIGHTING FIXTURE

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Application March 14, 1945, Serial No. 582,597

2 Claims. (Cl. 240—1.2)

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This invention relates to lighting fixtures, and more particularly to lighting fixtures exposed to water either normally or occasionally as is particularly the case with airport lights which are set below the surface of the ground and liable to being submerged by water during heavy rains.

An object of the present invention is to provide an improved lighting fixture which can be readily installed in connection with airport fixtures now in use or constructed as independent elements for new installations.

A further object of the invention is to provide a lighting fixture of the type indicated eliminating all sealed joints, packing and the like, and yet providing absolute security from water.

Further objects will more particularly appear in the course of the following detailed description.

The invention consists in the novel construction, arrangement, and combinations of parts hereinafter more particularly described and claimed.

One sheet of drawings accompanies this specification as part thereof, in which like reference characters indicate like parts throughout.

Figure 1 is a vertical, medial cross-section of the improved lighting fixture installed in a standard airport field lamp installation;

Figure 2 is a horizontal cross-section taken on line 2—2 of Figure 1; and

Figure 3 is a fragmentary vertical cross-section through the top portion of a modified form of a bell.

For illuminating modern airport runways, it is customary to set the lighting fixtures below the ground with only the lens exposed on the ground level so as to avoid obstructions on the runway. In connection with such installations it is extremely difficult to prevent surface water from entering and interfering with the lighting equipment. In accordance with the present invention it is proposed to provide a self-sealing container for the lamp proper and all the electrical equipment desired to be associated with the lamp within a bell-like member so proportioned as to assure the air content of the bell when fully compressed by the maximum water pressure possible into a space within the bell ample to house the lamp and its associated electrical equipment.

Referring to the accompanying drawing, the improved lamp fixture comprises a bell 1 which may be formed of glass or any other equivalent or similar transparent material, it only being

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essential that the upper or closed portion of the bell be of transparent character, although preferably this bell will be formed as a unitary element. The bell is proportioned in length to operate in connection with any depth of water to which the bell can possibly be submerged. It is conceivable that fittings of the present type could be used at the bottom of bodies of water of substantial depth or as herein illustrated merely in rather shallow receptacles sunk below ground level as on a landing field. In either case the bell 1 will be made of a length proportioned to the possible depth of water surrounding it so that the air content of the bell when subjected to the pressure of the surrounding water will be compressed within the bell to occupy a substantial portion of the bell at the top thereof sufficient to house the electrical lamp 9 and its associated electrical fixtures above any possible water level which can be reached within the bell.

A base is provided to receive the bell in inverted position and as herein illustrated this base comprises an annular member 2 having an exterior flange 3 to secure the bell in inverted position upon the ring and the ring is associated with a plurality of vertical upwardly-extending supports 4 spaced around the inner periphery of the ring 2. The bottom ends of these supports may be turned to provide feet 5 and upon the upper ends of the supports 4 is positioned a transformer 6 having on its lower face slip electrical connections 7—7 and on its upper face a lamp socket 8 adapted to receive a bulb 9 of any desired type. It will be understood that the transformer 6 will be selected in accordance with accepted practice to provide suitable current for the type of bulb 9 desired.

The construction illustrated in Figures 1 and 2 is adapted to be used in connection with standard equipment now found on many airports comprising a cylindrical container 10 having a closed bottom 11 formed with a central electrical conduit opening 12. These receptacles are sunk into the ground at suitable positions on the runway and each of these receptacles has on its upper end a threaded annular portion 14 adapted to receive a similarly threaded ring 15 having an inwardly directed flange to secure a lens 16 covering the upper end of the container. For use in such existing installations, the bell 1 of applicant's device can be formed with a plain top portion, the only essential being that it be transparent.

For new installations, applicant's bell can have

its upper end closed and itself formed as a lens 17 as illustrated in Figure 3, in which connection no additional or supplementary lens would be required.

Various modifications in the details of construction will readily suggest themselves to those skilled in the art but within the scope of the present invention as claimed.

Having thus described my invention, I Claim:

1. A lamp fixture adapted to be installed below the ground level where it would be subject to possible submersion in water, comprising a base, supports associated with said base, an electrically operated lamp and associated electrical apparatus having exposed electrical connections for supplying power to said lamp mounted on said supports, a completely impervious unitary bell encompassing said lamp and said electrical apparatus, the closed end of said bell being transparent and the lower open edge of said bell being disposed below said electrical apparatus and mounted on said supports, the exposed connections to said electrical apparatus being disposed sufficiently above the lower edge of said unitary bell so that the volume of air which would be trapped above the lower edge of said bell would prevent water from rising up to the exposed electrical connections of said electrical apparatus.

2. A lamp fixture adapted to be installed below the ground level where it would be subject to possible submersion in water, comprising a base, supporting means associated with said

base, an electrically operated lamp and associated electrical apparatus having exposed electrical connections for supplying power to said lamp supported on said supporting means, a completely impervious unitary bell encompassing said lamp and electrical apparatus, the closed end of said bell being transparent, means on said fixture for supporting said unitary bell with the lower open edge of said bell being disposed below said electrical apparatus, the exposed connections to said electrical apparatus disposed sufficiently above the lower edge of said unitary bell so that the volume of air which would be trapped above the lower edge of said bell would prevent water from rising up to the exposed electrical connections of said electrical apparatus.

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