

H. V. WILLMAN.
LIGHTING FIXTURE.
APPLICATION FILED JUNE 24, 1912.

1,053,689.

Patented Feb. 18, 1913

FIG. 1.

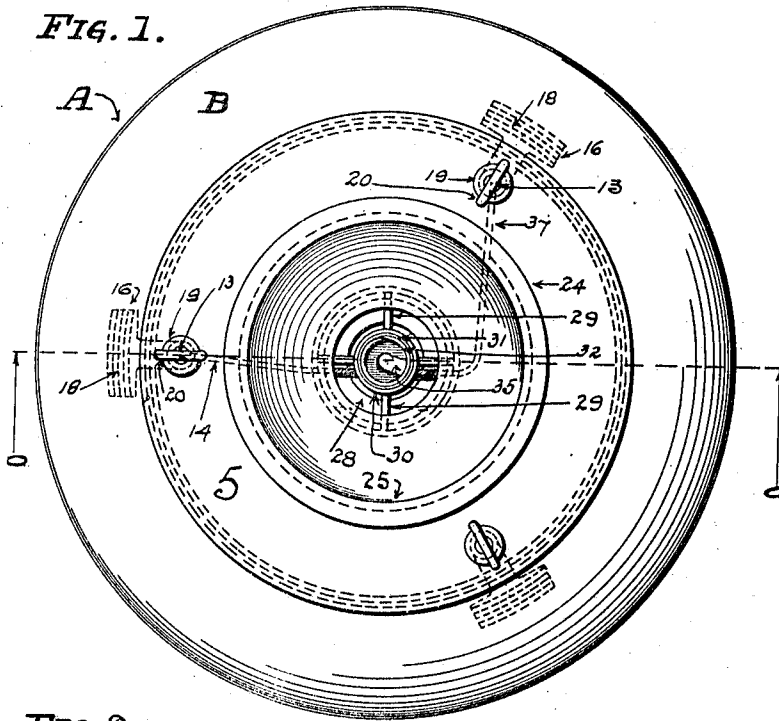


FIG. 2.

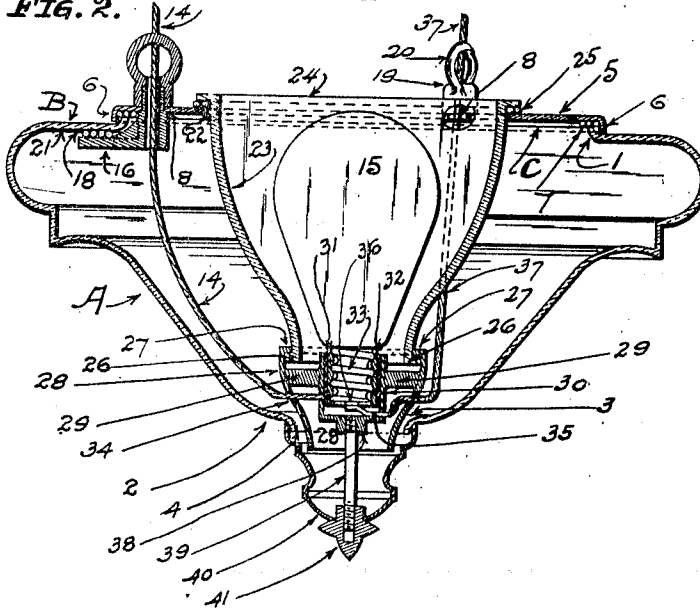


FIG. 3.

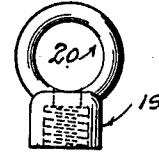


FIG. 4.

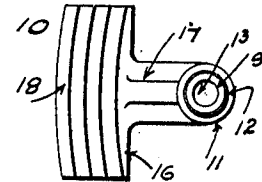
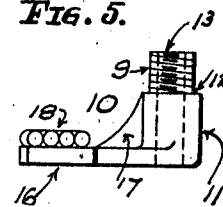


FIG. 5.



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UNITED STATES PATENT OFFICE.

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LIGHTING-FIXTURE.

1,053,689.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, HERMAN VALENTINE WILLMAN, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Lighting-Fixtures; and I do hereby declare that the following description of my said invention, taken in connection with the accompanying sheet of drawings, forms a full, clear, and exact specification, which will enable others skilled in the art to which it appertains to make and use the same.

This invention has general reference to improvements in lighting fixtures, and it consists, essentially, in the novel and peculiar combination of parts and details of construction, as hereinafter first fully set forth and described, and then pointed out in the claims.

In the drawings already mentioned, which serve to illustrate my said invention more fully, Figure 1 is a plan of my newly invented device. Fig. 2 is a vertical section of the same in line 0 0 of Fig. 1. Fig. 3 is a side elevation of one of the rings by which my lighting fixture is supported. Fig. 4 is a plan of one of the brackets employed in connection with the ring shown in Fig. 3. Fig. 5 is a side elevation of the bracket illustrated in Fig. 4.

Like parts are designated by corresponding characters or symbols of reference in all the figures of the drawing.

My improvement in lighting fixtures has particular application to that class of devices in which a transparent or translucent bowl of semispherical or similar shape is employed in connection with a parabolic, prismatic reflector within the same, which reflector points upwardly toward the ceiling, and contains the electric bulb or other source of light. These bowls are supported from the ceiling, and only a short distance away therefrom, by means of ornamental chains, cables, or rods, about which are entwined certain feed wires from the source of electric or other energy, which lead to the incandescent bulb or lamp within the bowl. When properly constructed, these fixtures are an ideal means for producing a diffused, uniform, non-glaring light in a room at a minimum expenditure of light producing energy. Heretofore this class of fixtures has been open to serious objections. First and foremost, the bowls and reflectors form con-

venient dust receptacles for the collection of the minute particles of dust floating in the atmosphere, which renders it necessary that they be frequently taken down and cleaned, at the cost of considerable time and expense, and at the risk of breakage by frequent and repeated handling. Again, the supporting means for the bowls, where attached thereto, being opaque, cast annoying shadows, greatly detracting from the lighting value of the fixtures.

The aim and essence of my invention, therefore, is the provision of simple and efficient means for rendering the bowl proper entirely dustproof on the interior thereof, and, incorporated therewith, further means whereby any dust collected by the reflector, is deposited by gravity in a pendant cup, which cup is located entirely without the bowl, from which it may be removed at any time without taking down or dismantling the fixture. Correlated with these means are efficient hanging devices, both for holding the bowl itself and also for supporting the entire fixture, such devices being so arranged as to cast no shadow whatever.

A further object of this invention is the production of a simple, cheap, and efficient fixture which can be assembled entirely in the shop, so that all that is required at the place where same is to be hung, is to couple on the supporting chains and to connect the two electric or other feed wires to the nearest source of energy, all internal wiring in the fixture having been done in the shop and the wires led to the exterior of the bowl.

I accomplish these results as illustrated in the drawings, in which—

A is the bowl, which is produced in milk white or ground glass, or other translucent or transparent material, and which is of circular contour in plan. In cross section it may be of the arbitrary design or shape illustrated, or of any contour which the dictates of the trade or the artistic taste of the designer may determine. Said bowl has a flat top B, in which is formed an axial circular opening C, having an upturned lip or flange 1, surrounding said opening. Bottom wall 2 of said bowl is similarly provided with an axial circular opening 3, of a diameter smaller than opening C in the top B, and having an outwardly turned lip or flange 4.

Covering opening C in bowl A, is a flat, metallic, opaque disk 5, which disk is pro-

vided with a downturned marginal flange 6, the diameter of which disk, within said flange, being slightly greater than the external diameter of the lip 1 surrounding said opening C in the top of the bowl A. Upon the inner face of this disk, adjacent to the marginal flange 6, is cemented one or more strands of rope shaped asbestos, or rubber, or other packing 7, said packing being in one continuous piece, spirally arranged on said disk, the convolutions thereof being in close contact with each other. This packing is adapted to contact with the above mentioned lip 1 and to seal said opening C against dust or other foreign matter, when said disk is fastened in place.

In the face of the disk 5, concentrically with its circumference, and at points a short distance within the inner convolution of the packing 7, are punched a series of equidistantly arranged holes 8, for the reception of shanks 9 of supporting brackets 10. Each of these brackets comprises a hub 11, having a shoulder 12, above which projects said shank 9, which shank is screw threaded its entire length. Said hub and shank have a common axial passage 13 throughout their total length, through which is adapted to be passed one of the electric or other feed wires, as 14, leading from the light bulb 15 to the exterior of the bowl as hereinafter referred to. At its lower end, the hub 11 is provided with a lateral projection 16, a rib 17 being interposed to insure stiffness between the parts. The upper face of this projection 16 has cemented to it a series of strands or rope asbestos, rubber, or other packing 18, which packing forms a yielding or elastic contact with the inner face 21 of the top wall B of the bowl A. Fitting the screw threaded shank 9, of the hub 11, is a nut 19, which nut terminates in an upwardly projecting ring 20, to which the chains, cables, or rods by which the fixture is to be supported are connected.

The lateral projections 16, through their hubs 11 and shanks 9, are dependent from the disk 5, said shanks passing through the openings 8 in said disk, with their shoulders 12 bearing against the inner face thereof when said shanks are securely fastened in position by nuts 19. When said nuts 19 are properly screwed home on shanks 9, the strands of packing 18, cemented to the projections 16, and the packing 7, interposed between the disk 5 and the top B of the bowl A, are sufficiently compressed to form a dust proof seal between the said disk 5 and the interior of the bowl A. To the rings 20, surmounting the nuts 19, above mentioned, are intended to be attached the supporting chains or cables already referred to, and it will now be observed that the rings and nuts being wholly located upon the disk 5, no shadow can possibly be cast by them. The

disk 5 has an axial, circular opening 22 for the passage therethrough of a parabolic, prismatic reflector 23, which reflector has a marginal flange 24 resting upon one or more strands of rope asbestos, rubber, or other packing 25, interposed between said flange and the top surface of said disk 5, the object of which packing is to form a seal around opening 22 against the entrance of dust into the interior of the bowl A. At the lower edge of the said reflector 23 is provided a flange 26, which flange is engaged by prongs or lips 27 of a hollow sleeve 28, in the interior of which sleeve, axially arranged, and held rigidly in place by braces 29, is a cup 30, which cup has an internal, insulating, cylindrical lining 31, within which is arranged an interiorly threaded, metallic sleeve 32. This sleeve engages the screw threaded shank 33 of the lamp bulb 15, hereinafter referred to. The feed wire 14, already mentioned, enters sleeve 28 through an aperture 34, and is connected to metallic sleeve 32, forming one pole of an electric or other circuit. In the bottom of cup 30, and properly insulated therefrom, is a spring 35, contacting with a contact strip 36 on the end of the shank 33 of said bulb 15, and from said spring 35, leads a feed wire 37, which feed wire is passed through the passage 13 of one of the series of brackets 10 supporting the bowl A, to the exterior thereof. The spring 35 and the contact strip 36, form the opposing pole of the circuit, in a manner easily comprehended.

On the exterior of the bottom of the cup 30, already referred to, is formed a boss 38, apertured and threaded to receive the screw threaded end of a stud 39, which stud is similarly threaded at its free end for the reception of a nut 41, which nut bears against, and holds in place, a cup 40. This cup fits over the opening 3, of the bottom 2, of the bowl A, and closes the same against entrance of dust, and it may be spun in brass or copper in any fanciful design, and when highly polished, forms an ornamental adjunct to the bowl. The nut 41 is finished in harmony with the said cup for obvious reasons.

Attention is now called to the fact that the hollow sleeve 28 tapers down in diameter toward its lower end, which lower end projects through the opening 3 in the bottom wall 2 of the bowl A, and into the cup 40 a considerable distance, so that any dust dropping down into and through the reflector 23 will be deposited in the said cup 40, which, in addition to being an ornament to the bowl, acts as a dust receptacle.

I will now proceed to explain the method of assembling the various parts of my invention. The shanks 9 of the brackets 10 are first entered into the openings 8 in the disk 5, and the nuts 19 loosely screwed

thereon. Disk 5 is then placed over opening C in the top of bowl A, and, by reaching through the opening 22 in said disk, the lateral projections 16 are swung outwardly under the top wall B of said bowl, after which the said nuts 19 are tightly screwed up until the shoulders 12 of the hubs 11 are in contact with the inner face of the disk 5, thereby securing said disk to the bowl A. Reflector 23 is then engaged with hollow sleeve 28, and, assuming that the wires 14 and 37 are properly connected to the metallic sleeve 32 and spring 35, respectively, the free ends of said wires are passed to the interior of the bowl A, and out therefrom through the passages 13 in the brackets 10. The reflector 23, with the hollow sleeve 28, is then passed through opening 22 in the disk 5; the cup 40 placed over the opening 3, in the bottom 2, of the bowl A, and the nut 41 applied to the stud 39 and tightly screwed up thereon, thereby holding the reflector, its hollow sleeve, and the cup 40 in proper position, and, necessarily compressing the packing 25, under the flange 24, of the reflector 23, the central opening 22 of the disk 5, is sealed against the entrance of dust into the bowl A. It will now be observed that all dust collecting in the reflector will drop by gravity through the same, through the hollow sleeve 28 underneath, and into the cup 40, from whence it can easily be removed. If it be desired to clean the reflector, the same can be accomplished by unscrewing the bulb 15 from its socket, when there will be ample room for the application of a dust cloth; all dust not adhering to said cloth naturally dropping into the cup 40 before mentioned.

Hereinbefore I have described the preferred mode of construction of my invention, but I desire it distinctly understood that changes and modifications therein may be made without departing from the spirit or scope of the said invention.

Having thus fully described my invention, I claim as new and desire to secure to me by Letters Patent of the United States:—

1. In a lighting fixture, a translucent bowl having an opening in the top, an opaque cover for said top, means located on said

cover and engaging the interior of said bowl for supporting the same, a dust proof seal between said top and said cover, a central opening in said cover, an upwardly pointing reflector within said bowl dependent from said cover, a lighting bulb in said reflector, and means connected with said reflector whereby dust collected therein will drop to a point outside of said bowl.

2. In a lighting fixture, a translucent bowl having an opening in the top and bottom thereof, an opaque cover for said opening in the top, means located on said cover and engaging the interior of said bowl for supporting the same, a dust proof seal between said top and said cover, a central opening in said cover, an upwardly pointing reflector within said bowl and supported about said opening, a dust proof seal between said cover and said reflector, a lighting bulb in said reflector, feed wires from said bulb leading into said bowl, and outward therefrom through passages located in said supporting means for said bowl, a cup closing said opening in the bottom of said bowl, and means connected with said reflector whereby dust collecting therein will drop into said cup.

3. In a lighting fixture, a translucent bowl having an opening in the top and bottom thereof, a cover for said top, supporting means for said cover and bowl, a central opening in said cover, an upwardly pointing reflector suspended therein, an opening in the bottom of said reflector, a lighting bulb in said reflector, a hollow sleeve engaging the lower end of said reflector, said sleeve projecting through the opening in the bottom of said bowl, means within said sleeve for engaging said lighting bulb, a cup closing said opening in the bottom of said bowl, and means connected with said sleeve to retain said cup in position.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

HERMAN V. WILLMAN.

In the presence of—
J. T. FARMER,
P. G. TROTTER.