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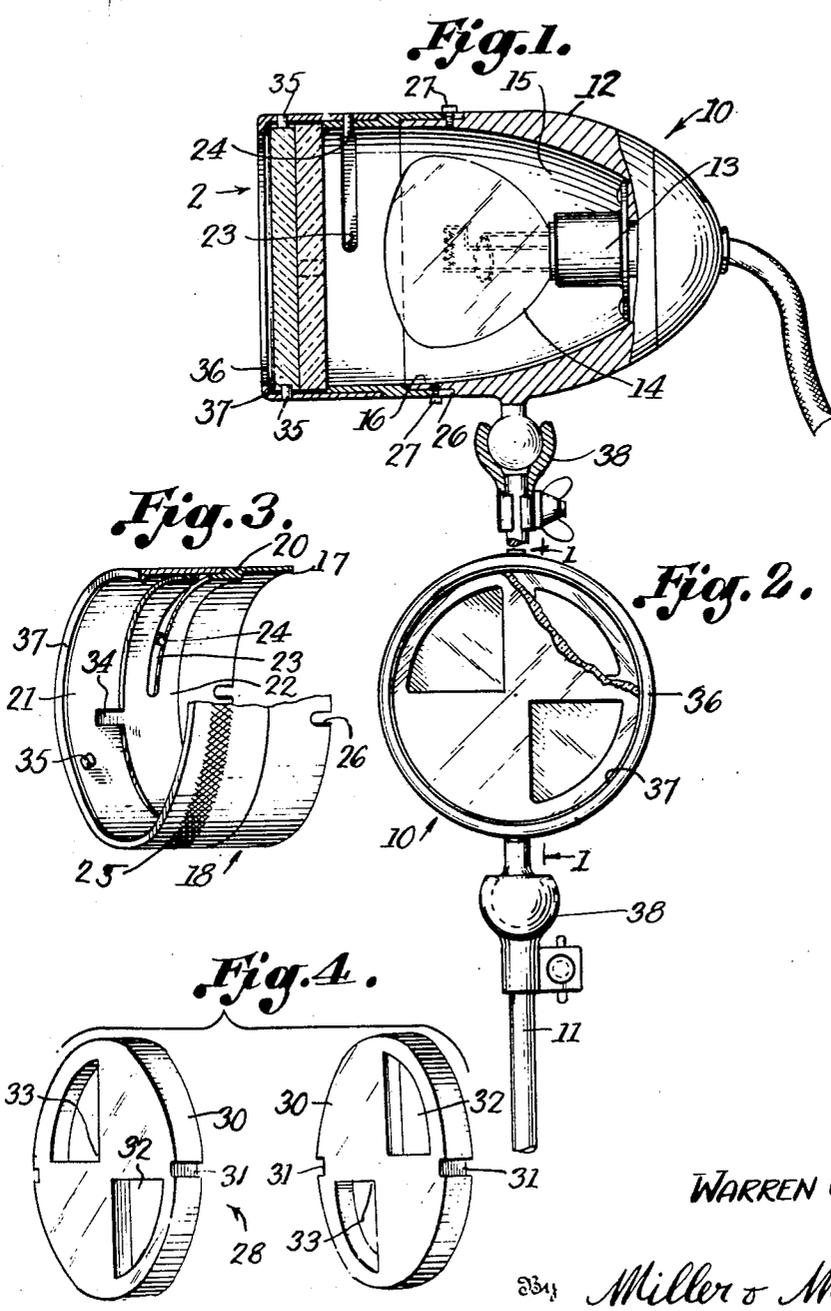
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ULTRAVIOLET SCREEN FOR FLUORESCENT LAMPS

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## ULTRAVIOLET SCREEN FOR FLUORESCENT LAMPS

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7 Claims. (Cl. 240—8.16)

This invention relates to an ultra-violet screen for a fluorescent lamp and has for an object to provide an improved ultra-violet screen for use on a fluorescent lamp, which screen is of the type that it can be easily and quickly manually manipulated to permit visible light to pass there-through or to cut off the visible light and to permit only ultra-violet light to pass therethrough.

A further object of the invention is to provide a fixture for an ultra-violet screen for a fluorescent light especially adaptable for use as an instrument light particularly on aircraft, having means for shading the light from the operator's eyes while making the same easily usable for the purpose intended.

Still a further object of this invention is to provide an ultra-violet screen and a mounting for the screen and a fluorescent lamp to be used therewith, which can be inexpensively manufactured, easily assembled and quickly disassembled and reassembled whenever necessary, for access to or replacement of the fluorescent bulb within the fixture.

With the foregoing and other objects in view, as will hereinafter become apparent, this invention comprises the combinations, constructions and arrangements of parts hereinafter set forth, disclosed, claimed and illustrated in the accompanying drawing.

In the drawing,

Fig. 1 is a partly sectional view of the lamp, fixture and screen of this invention, being substantially on line 1—1 of Fig. 2;

Fig. 2 is a front view of the lamp and fixture looking in the direction of the arrow 2 on Fig. 1;

Fig. 3 is a perspective view of the screen-holding rim; and

Fig. 4 is a perspective view of the complementary units forming the screen.

There is shown at 10 the fixture of this invention comprising a mounting bracket 11 on which is adjustably secured the fixture body 12. Within the fixture body 12 is provided a lamp socket 13 for holding a fluorescent lamp 14 there-within, the inner surface 15 of the fixture body 12 being provided with the customary polished reflecting surface. The open end of the fixture body 12, through which the lamp is to be inserted, is provided with a reduced neck 16 so as to receive thereon the complementary counter-bore 17 of a screen-holding rim 18.

This screen-holding rim consists of two rings 20 and 21, the ring 20 having the aforementioned counter-bore 17 at one edge thereof and being provided at its other edge with a reduced

neck 22 to rotatably receive the other ring 21 thereon. Extending circumferentially about and through reduced neck 22 are two oppositely disposed slots 23, each slot extending 90 degrees thereabout. Projecting through the ring 21 are two oppositely disposed rivets 24, one rivet extending into each of the slots 23. As will be apparent, these rivets 24 and slots 23 serve to limit the rotation of the ring 21 on the ring 20 to 90 degrees, and at the same time prevent longitudinal separation of the two rings 20 and 21. The counter-bore 17 of ring 20 is provided with two longitudinal edge slots 26 (which may be angular or bayonet joint type slots, if desired) which cooperate with stud screws 27 in securing the rim 18 on the fixture body 12.

The ultra-violet screen 28 consists of two identical units 30 molded and ground to the form shown. Each unit is made of suitable material capable of transmitting ultra-violet light there-through, one such suitable material on the market being commercially known as "Corex." Each unit 30 consists of a round disc of proper thickness, and each disc is provided with one or two notches 31 and also with two diametrically opposed sector-shaped openings 32. Each sector is of 90 degrees, but its right angle 33 is slightly displaced along a radius from the center, so that, when the two units or discs 30 are brought together in face to face relation, they may, by relative rotation, one to the other, be brought into a position with their openings in coincidence, capable of transmitting visible light therethrough, or be rotated 90 degrees, one to the other, to block off all visible light, but transmit ultra-violet light.

To properly mount these two discs 30 for such controllable relative rotation, the reduced neck 22 of ring 20 is provided with one or two extending fingers 34 coinciding in location with the notches 31 of one disc 30, so that, when one disc 30 is placed into the rim 18, the finger 34 holds the first disc 30 against rotation relative to the ring 22. Then the second disc is placed into rim 18 against the first disc, and studs or rivets 35, suitably located about the ring 21, extend into the notches 31 of the second disc 30. Next an annular spring 36 is inserted within an annular notch within a flange 37 on the edge of ring 21 to hold the second or outer disc flush against the first or inner disc.

In operation, with the discs 30 of the ultra-violet screen 28 mounted in the rim 18 and on the fixture body 12 with the fluorescent lamp 14 in action, the operator may have visible or ultra-

violet light at will by merely grasping the knurling 25 on ring 21 and rotating it a quarter turn in either direction. He may easily direct the light by turning the fixture about on its universal mounting 38.

Obviously, if desired, the sector-shaped openings 32 may be filled with any desired transparent visible and ultra-violet light transmitting material, either a suitable glass or a suitable plastic composition. In addition, if desired, a plain lens transparent to both visible and ultra-violet light may be placed between the spring 37 and the outer disc 30, so as to prevent the possibility of moisture getting into the fixture body to affect the reflecting surface 15.

While the device has been shown and the structure has been described in detail, it is obvious that this invention is not to be considered limited to the exact form disclosed and that changes may be made therein within the scope of what is claimed without departing from the spirit of the invention.

Having thus set forth and disclosed the nature of this invention, what is claimed is:

1. An ultra-violet light comprising a fixture body adapted to receive an ultra-violet and visible light producing lamp therein and a screen through which the beams from the lamp may pass, said screen being capable of optionally transmitting either visible light or ultra-violet light without any visible light, said screen comprising a pair of substantially identical circular solid disc unit, each of said units having visible light transmitting sector shaped openings therethrough, said openings occupying less than one-half of the area of each unit, and means for mounting said units in said fixture body face to face whereby one of said units may be peripherally rotated relative to the other of said units to bring the openings in each unit either into alignment to transmit visible light or out of alignment to block off visible light whereby only ultra-violet light may pass therethrough.

2. An ultra-violet light comprising a fixture body adapted to receive an ultra-violet and visible light producing lamp therein and a screen through which the beams from the lamp may pass, said screen being capable of optionally transmitting either visible light or ultra-violet light without any visible light, said screen comprising a pair of substantially identical circular solid disc units, each of said units having visible light transmitting sector shaped openings therethrough, said openings occupying less than one-half of the area of each unit, and means for mounting said units in said fixture body face to face whereby one of said units may be peripherally rotated relative to the other of said units to bring the openings in each unit either into alignment to transmit visible light or out of alignment to block off visible light whereby only ultra-violet light may pass therethrough, said mounting means comprising means for securing one of said units against peripheral rotation, and means for supporting the other of said units face to face with the first of said units for peripheral rotation, said supporting means having means on the periphery thereof for manual manipulation of said peripherally rotatable unit.

3. An ultra-violet light and visible light transmitting screen comprising a pair of substantially identical solid screen discs, each made of ultra-violet transmitting and visible light blocking material, each of said discs having visible light

transmitting sector shaped openings there-through, said openings excluding the centers of said discs, said openings comprising less than one-half the area of said discs, and means for mounting said discs in face to face juxtaposition for relative rotation of one of said discs to the other of said discs, whereby the openings in said discs may be brought into alignment to transmit visible light or may be moved completely out of alignment to block off visible light and transmit only ultra-violet light.

4. An ultra-violet light and visible light transmitting screen comprising a pair of substantially identical screen discs, each made of ultra-violet transmitting and visible light blocking material, each of said discs having visible light transmitting openings therethrough, said openings excluding the centers of said discs, said openings comprising less than one-half the area of said discs, and means for mounting said discs in juxtaposition for relative rotation of one of said discs to the other of said discs, whereby the openings in said discs may be brought into alignment to transmit visible light or may be moved completely out of alignment to block off visible light and transmit only ultra-violet light, said mounting means including means for holding one disc against rotation and manually manipulatable means for facilitating the rotation of the other disc.

5. An ultra-violet light and visible light transmitting screen comprising a pair of substantially identical screen discs, each made of ultra-violet transmitting and visible light blocking material, each of said discs having visible light transmitting openings therethrough, said openings excluding the centers of said discs, said openings comprising less than one-half the area of said discs, means for mounting said discs in juxtaposition for relative rotation of one of said discs to the other of said discs, whereby the openings in said discs may be brought into alignment to transmit visible light or may be moved completely out of alignment to block off visible light and transmit only ultra-violet light, said mounting means including peripheral irregularities on said discs, and means on said mounting means cooperating with said peripheral irregularities.

6. A lamp fixture including an ultra-violet light and visible light transmitting screen comprising a pair of substantially identical screen discs, each made of ultra-violet transmitting and visible light blocking material, each of said discs having visible light transmitting openings therethrough, said openings excluding the centers of said discs, said openings comprising less than one-half the area of said discs, means for mounting said discs in juxtaposition for relative rotation of one of said discs to the other of said discs, whereby the openings in said discs may be brought into alignment to transmit visible light or may be moved completely out of alignment to block off visible light and transmit only ultra-violet light, said mounting means including peripheral irregularities on said discs, a detachable lamp fixture rim, said rim comprising a pair of relatively rotatable rings, cooperating means on said rings permitting limited relative rotation thereof one to the other, and means on said rings cooperating with said disc peripheral irregularities causing each disc to be fixed relative to its ring.

7. A lamp fixture including an ultra-violet light and visible light transmitting screen comprising a pair of substantially identical screen discs, each made of ultra-violet transmitting and visible

light blocking material, each of said discs having visible light transmitting openings therethrough, said openings excluding the centers of said discs, said openings comprising less than one-half the area of said discs, means for mounting said discs in juxtaposition for relative rotation of one of said discs to the other of said discs, whereby the openings in said discs may be brought into alignment to transmit visible light or may be moved completely out of alignment to block off visible light and transmit only ultra-violet light, said mounting means including peripheral irregulari-

ties on said discs, a detachable lamp fixture rim, said rim comprising a pair of relatively rotatable rings, cooperating means on said rings permitting limited relative rotation thereof one to the other, 5 and means on said rings cooperating with said disc peripheral irregularities causing each disc to be fixed relative to its ring, said disc cooperating means comprising protruding finger means on one ring and protruding stud means on the 10 other ring.

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