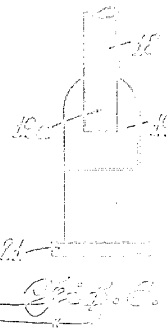
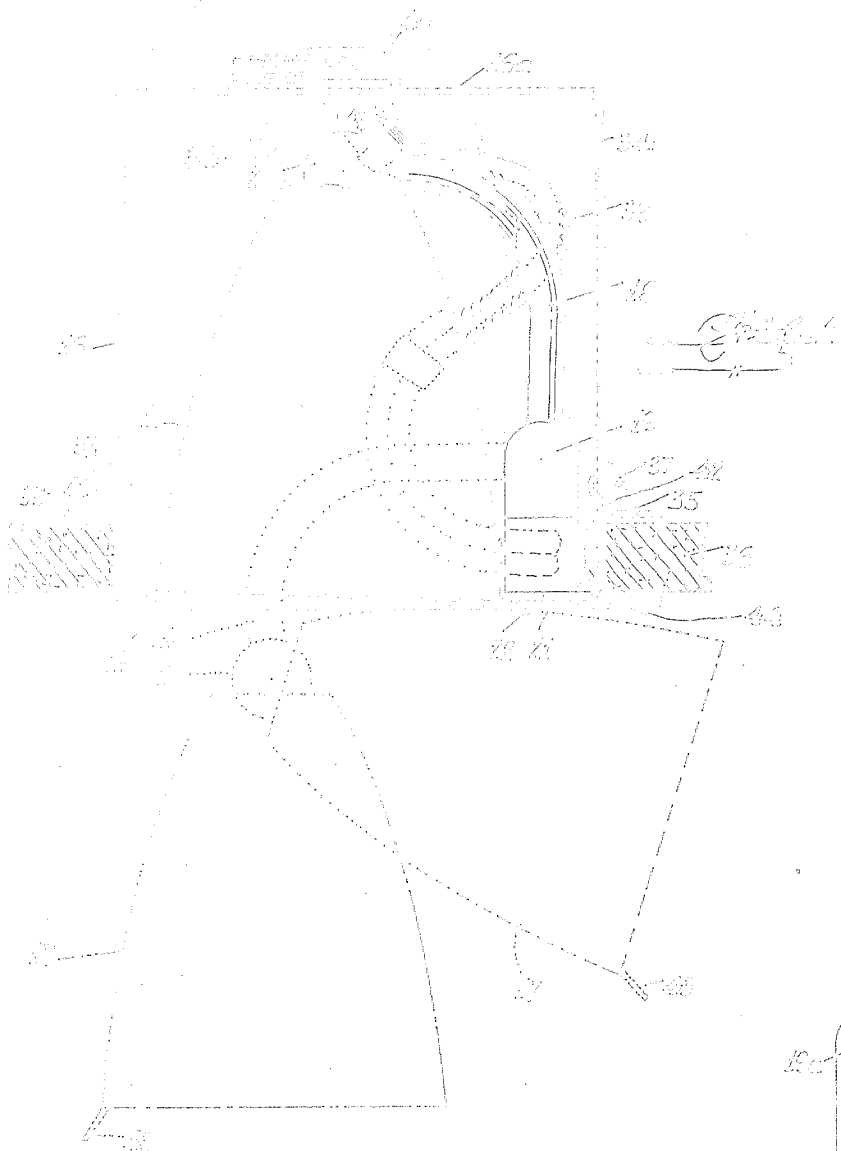


IMPROVED LOCKING MECHANISM HAVING A ROTARY LOCK LEAF AND REFLECTION ADJUSTABLE ABOUT HORIZONTAL AND VERTICAL AXES

Patented Jan. 17, 1934

2 Sheets Sheet 1



INVENTOR.
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BY
[Signature]

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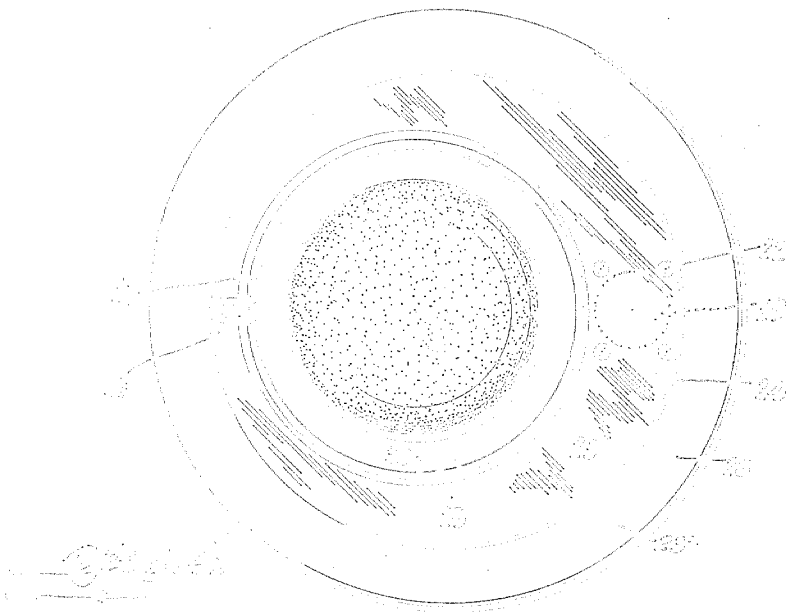
Patented May 14, 1946

IMPROVED LENSLESS PERISCOPE HAVING A RETRACTABLE
MIRROR AND REFLECTOR ADJUSTABLE ABOUT
HORIZONTALLY AND VERTICALLY

5,320,887

Filed May 14, 1943

5 Claims (Draw 2)



IN WITNESS
WHEREOF I have hereunto set my hand and seal
this 14th day of May, 1943.

John H. Thompson
Inventor

3,212,100

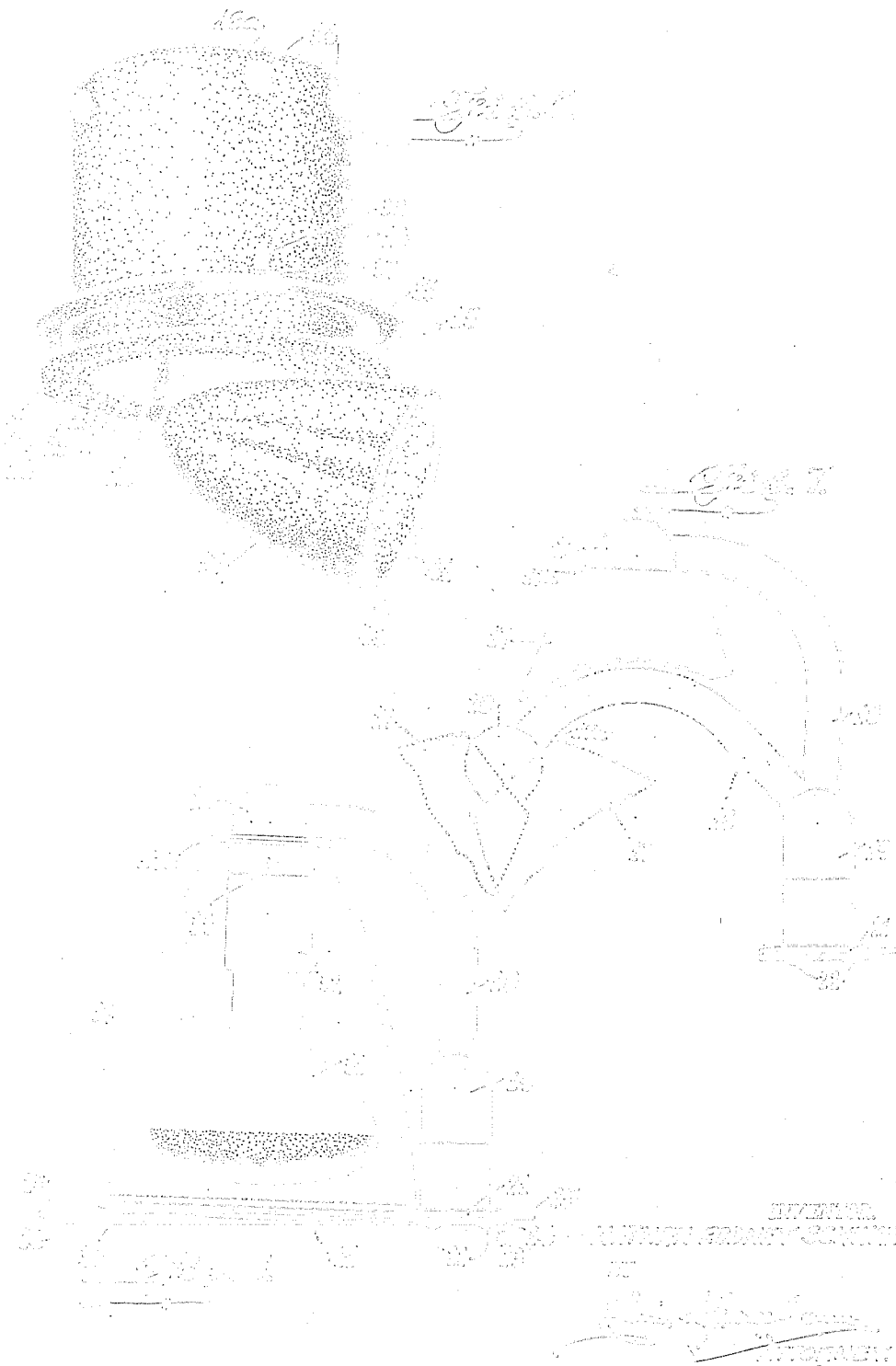
W. H. SCHMIDT

3,212,100

IMPROVED LIGHTING FIXTURE HAVING A REFLECTOR
LAMP AND REFLECTOR ADJUSTABLE ABOUT
HORIZONTAL AND VERTICAL LINES

MAY 14, 1967

U. S. Pat. & Tm. Off.



UNITED STATES PATENT OFFICE

2,836,979

RECESSED LIGHTING MIXTURE HAVING A
DETACHABLE LAMP AND REFLECTOR
ADJUSTABLE ABOUT HORIZONTAL AND
VERTICAL AXES

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Application October 25, 1948, Serial No. 128,850

3 Claims. (Cl. 240-79)

This invention relates to lighting units of the type in which the housing of a lighting unit is imbedded in the ceiling, floor or one of the walls of an establishment, such lighting units being commonly referred to as recessed lighting units.

Recessed lights now commonly in use in store windows, floors, walls or in other locations comprise a reflector housing having a socket into which a bulb is screwed. These units are rigid in the sense that light rays are cast directly downward, or directly outward or directly upward, depending upon the location of the unit. However, these units cannot be used effectively when it is desired to cast light rays angularly with respect to the housing. With this in view, it is the principal object of the present invention to provide a recessed lighting unit comprising a housing which may be imbedded in a support, the housing containing an arm to which a lamp is secured, the lamp being adapted to be propelled either partly or completely from the housing.

A still further feature of the present invention resides in the provision of a lighting unit of this character, in which the lamp may be propelled from the housing and turned angularly up to 90° with respect to its normal axis.

A further feature of the present invention resides in the provision of a recessed lighting unit of this character, in which the lamp may be partly or entirely propelled from the housing and rotated substantially one complete revolution about its normal axis.

And a still further aim of the present invention resides in the provision of a recessed lighting unit of this character which has means to prevent the twisting of electric wires within the housing by preventing the continuous rotation of the lamp in one direction.

And yet another purpose of the present invention resides in the provision of means for retaining the lamp in any of its adjusted positions.

And still another advantage of the present invention resides in the provision of means to cool the interior of the housing so as to extend the life of a bulb used in connection with it.

Yet an additional feature of the present invention resides in the provision of a lighting unit of this character, the lamp of which may be adjusted at and retained in any angular position without requiring the use of screws or other adjusting or retaining means.

These and other meritorious aims and advantages, which will become more fully apparent as the description hereof proceeds, are attained by the novel construction, combination and arrange-

ment of parts, hereinafter described, and illustrated in the accompanying drawing, forming a material component of this disclosure, and in which:

Figure 1 is a cross-sectional view of a recessed lighting unit of the present invention, its housing being illustrated as having been imbedded in a support, the solid lines showing the lamp in the housing and the dotted lines showing the lamp propelled from its housing and positioned at two of its many possible angles.

Figure 2 is an enlarged detail view of a ring to which a lamp-retaining arm is secured, and with which the lamp may be rotated.

Figure 3 is a top plan view of the lighting unit illustrated in Figure 1.

Figure 4 is a bottom plan view of the lighting unit illustrated in Figure 1.

Figure 5 is a perspective view of a recessed lighting unit, the lamp being illustrated as having been propelled from the housing and positioned at an angle of substantially 90° with respect to its normal position.

Figure 6 is a detail view of the lamp, showing the retaining arm and swivel unit and a bulb within a reflector housing and showing the eccentric ring with which the lamp may be rotated about its axis.

Figure 7 is a detail view of the double swivel arrangement, the solid lines showing the arm and lamp in one position and the dotted lines showing the arm and lamp in another position, in all instances part of the lamp shade being broken away.

Figure 8 is a detail view of the lower end of a lamp retaining arm and a swivel unit in which it is secured.

Referring in greater detail to the drawing, the numeral 10 designates in general a recessed lighting unit of the present invention, comprising in part a hollow cylindrical housing 12 having a roof 13 and an open bottom.

Within the hollow interior of housing 10 there is provided a lighting unit comprising a reflector 14 here illustrated as having a substantially conical contour, but any other suitable and desirable reflector may be used in its stead.

Within the reflector 14 there is provided a socket 16 (see Figure 3) which will hereinafter be more fully described, and extending partly into said reflector through an opening in the relatively narrow end 17a of the reflector there is one end of a swivel unit 18 in which the socket 16 is engaged, the other end of swivel unit 18 having secured therein one end of a substantially goose-neck

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shaped arm 18, the other end of goose-neck shaped arm 18 being secured to swivel unit 19, the base 21 of swivel unit 19 being fixed by a plurality of rivets 22 or in any other desirable and suitable manner to the upper surface of an eccentric ring 23.

Housing 16 is illustrated at its lower end in an out-stretched flange 24 (see Figure 4) which may be provided with an offset 27. A substantially U-shaped edge plate 28 is adapted to cover flange 24. The upper leg of edge plate 28 is shorter than the lower leg so that, when the edge plate is in its adjusted position, the shorter, upper leg will cover about half of the upper surface of the flange 24, and the lower, longer leg of edge plate 28 will extend along the lower surface of flange 24 to a point beyond offset 27. Thus a track is formed between the lower leg of edge plate 28 and the part of flange 24 between housing 16 and offset 27. There is further provided an eccentric ring 29, hereabout referred to, having a circular opening 30. Ring 29 is provided with an offset 31 and terminates in a flange 32 which is rotatably engaged in the track formed by edge plate 28 and flange 24.

The purpose of the opening 30 in eccentric ring 29 and the corresponding opening 33 (see Figure 3) which constitutes the bottom of housing 16 is to permit the withdrawal of reflector 17 from housing 16 or its reinsertion into the housing. Reflector 17 may be provided with an incandescent light bulb 34 and for that purpose there is provided in reflector 17 a screw socket 35 or any other type of socket the base of screw socket 35 being secured to the lower end of swivel member 20, the said lower end entering into reflector 17 in a manner hereabout referred to.

Near its base, socket 35 may be provided with a plurality of openings 36 to cool the interior of reflector 17 and housing 16 may be provided with a plurality of said openings 36 to cool the interior of the housing 16 (see Figure 5).

To secure the lighting unit to a support, there is provided near the lower end of housing 16 and about its exterior a ring 38, adapted to slide vertically upon the housing, the ring 38 being provided with a plurality of screw openings 37 at spaced intervals about its periphery, and housing 16 is provided with a plurality of vertically arranged, spaced apart slots 39, one for each of said screws 37, the purpose of which will presently become more fully apparent.

Roof 40 of housing 16 may be provided centrally thereof, or at any other desirable and suitable position with an opening 41b through which conventional electric wire 42 may be entered into the housing as illustrated in Figure 1, and a wire clamp 43 may be provided to cover opening 41b. Ring 38 may be provided with a plurality of brackets 44, one for each of said screws 37 are secured to ring 38.

In order to facilitate the manipulation of reflector 17, a finger gripping element 45 may be provided at the edge thereof, or at any other suitable and convenient location (see Figure 5).

In order to prevent the continuous rotation of the reflector 17 in the same direction, housing 16, near the bottom thereof, may be provided at one point with an indentation 44, which is adapted to lie in the path of swivel unit 19.

The operation of the device is as follows: After the lighting unit has been electrically wired in the conventional manner, and after an opening has been provided in the ceiling, floor or wall into which the lighting unit is to be placed, hous-

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ing 16 is completely imbedded in the opening provided for it. When the lighting unit is to be placed into a ceiling or wall, it is generally desirable to provide the rim of the opening 23' with several wooden strips, which will be positioned between edge plate 28 and ring 35, as shown in Figure 1. Ring 35, after being adjusted to accommodate the member 38, is secured firmly screwed into place in an obvious manner. If it is desired to cause the lamp to cast light rays directly downward, outward or upward, depending upon the position of the lighting unit, reflector 17 is permitted to remain in housing 16 as illustrated in Figure 1. When it is desired to achieve angularity, reflector 17 is withdrawn from housing 16, for which purpose finger grip 43 has been provided. The reflector may be withdrawn directly downwardly, as illustrated in dotted lines in Figure 1, or turned angularly up to substantially 45° as is shown in dotted lines in Figure 1 of the drawing. At any of its adjusted angular positions, the reflector may be rotated about its axis by merely turning it, together with eccentric ring 29 with which it is joined. The reflector will remain in any of its adjusted positions. In order to avoid twisting and the eventual breaking of the electrical wires in housing 16, which would occur if the reflector were continually turned in the same direction, a stop has been provided. When the stop has been reached, the deflector cannot be turned in the same direction, but must be turned in the other direction until the stop has again been reached. It will be noted that ring 23 has been illustrated as being eccentric. This has been done to allow room at the wider section for swivel unit 19 and its base 24. Obviously, if in the device illustrated the ring were made uniform in width, the diameter of reflector 17 would have to be reduced. Whenever a smaller reflector is desired, this can, of course, be done.

Thus there has been shown and described a recessed lighting unit in the preferred form of its embodiment, which makes it possible to have light rays cast either in a straight line or angularly in many directions, by adjusting the angularity of the reflector with respect to the housing, all of the adjustments being achieved without the use of screws, bolts or other retaining means.

Having thus described the invention, what is claimed as new and desired to secure by Letters Patent, is:

1. A recessed lighting unit comprising a hollow cylindrical housing, a roof upon one end thereof, the lower edge of said housing turned outwardly to form a circumferential flange, a circular edge plate, said edge plate bent edgewise upon itself circumferentially to form two legs, said flange engageable between said legs, an eccentric ring, said eccentric ring rotatably movable between said flange and said edge plate, a reflector in said housing having a screw socket in one of its ends, an arm, a swivel unit at one end thereof, said swivel unit secured to said socket so that the screw socket may be manually rotated axially or adjusted angularly after the socket passes through the opening at the lower end of said housing, a second swivel unit, said second swivel unit mounted upon said eccentric ring, the other end of said arm engaging said second swivel unit whereby said socket may pass through the opening at the lower end of said housing, and means cooperating between said second swivel member and said housing to limit the rotative movement of said eccentric ring.

2. A recessed lighting unit comprising a hol-

low cylindrical housing, one edge of said housing turned outwardly to form a circumferential flange member, a reflector in said housing, having a socket in one of its ends, an arm having a swivel unit at one of its ends, said swivel unit secured to said socket to permit manually rotating said socket axially and adjusting said socket angularly after it passes through the opening at the flange end of said housing, a circular edge plate, said edge plate bent upon itself 10 edgewise circumferentially to form two legs, one of said legs being longer than the other of said legs, said edge plate receiving said flange between its legs, an eccentric ring, said eccentric ring rotatably mounted between said housing 15 and the other of said legs, a second swivel unit, said second swivel unit mounted upon said eccentric ring, the other end of said arm secured to said second swivel unit so that the socket may

be manually moved to pass through the flange end of said housing, and an inwardly extending projection in the wall of said housing cooperating with said second swivel unit to limit the rotative movement of said eccentric ring.

MATHEAN RODNEY SCHWARTZ.

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