Oct. 7, 1958 H. M. GERSTEL 2,855,503

RECESSED ADJUSTABLE ACCENT LIGHT

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FIG. 4.

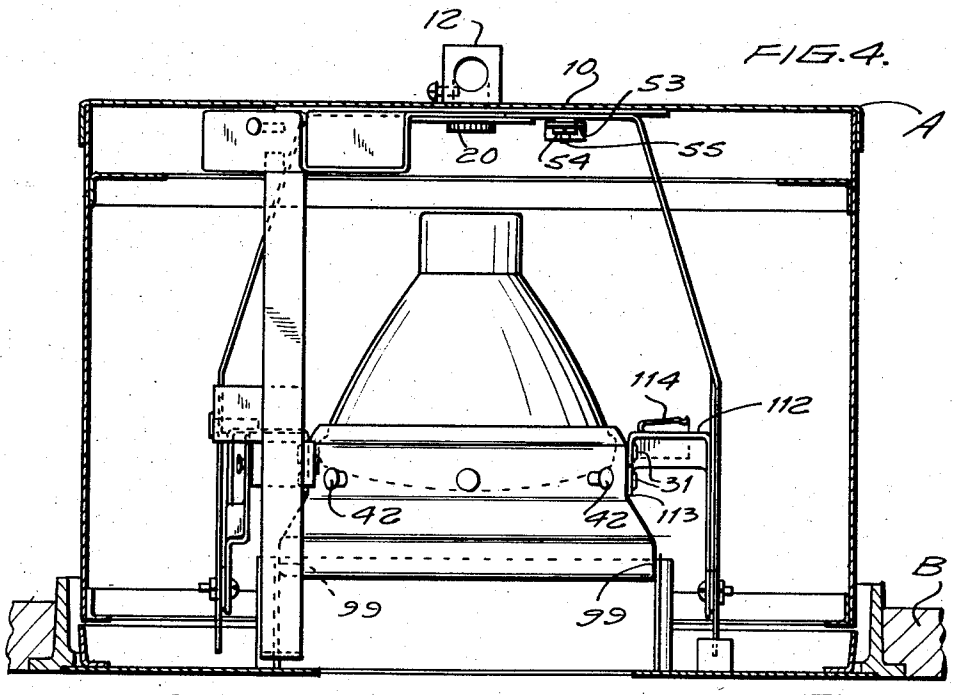
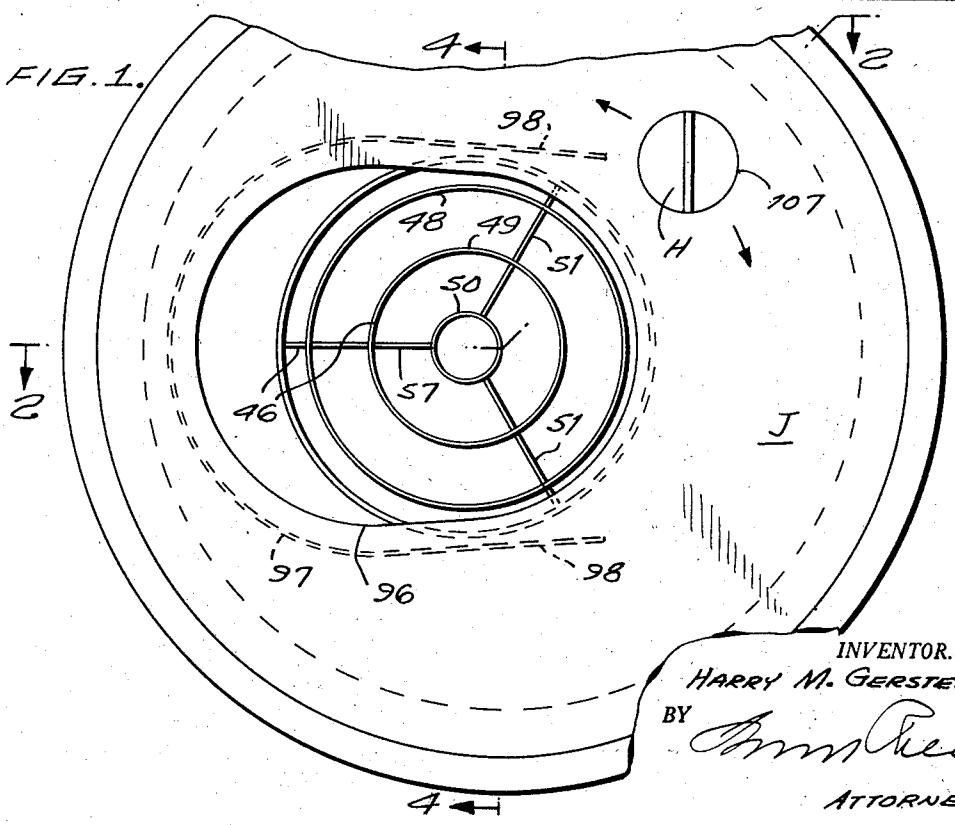


FIG. 1.



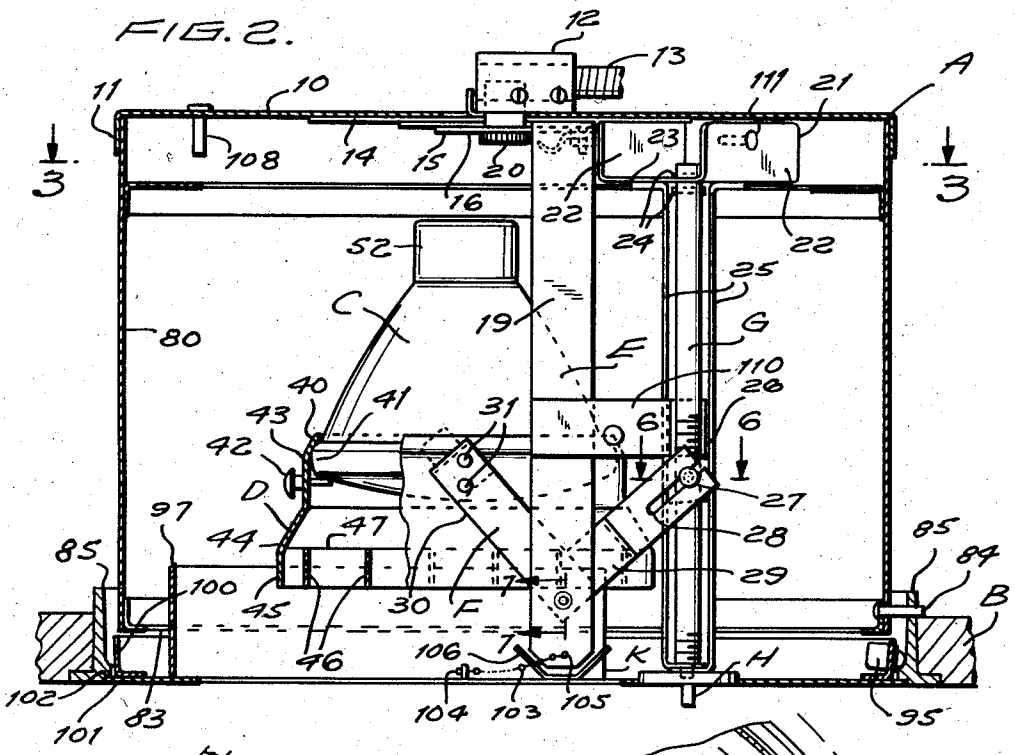
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RECESSED ADJUSTABLE ACCENT LIGHT

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FIG. 2.



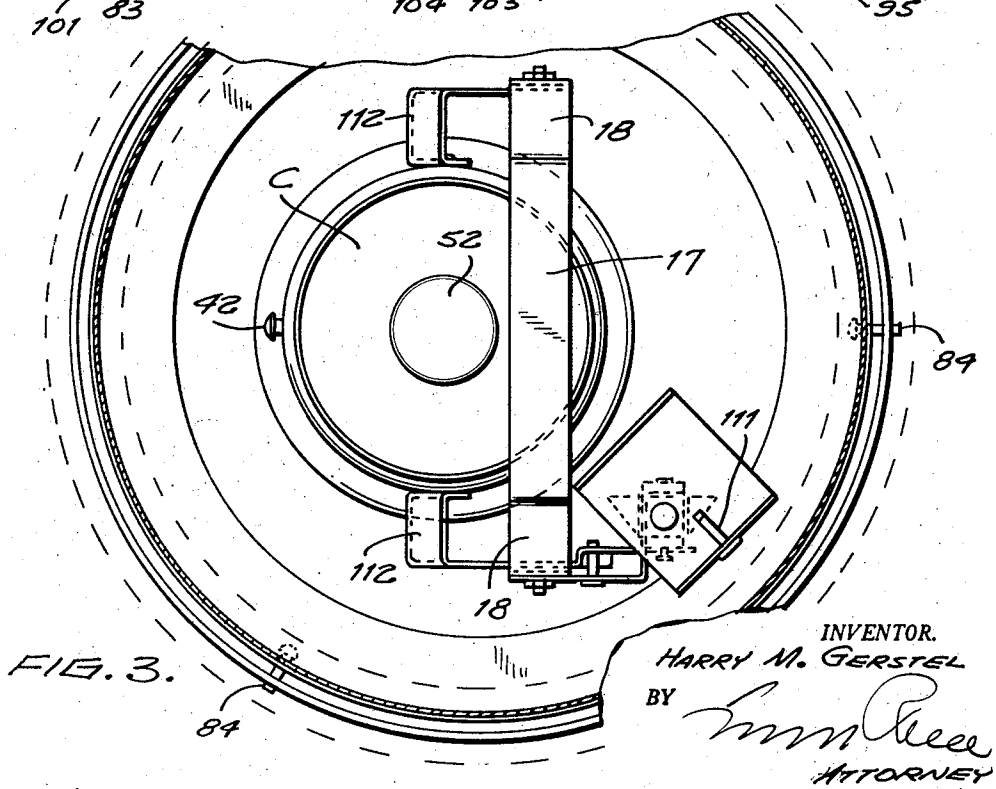


FIG. 3.

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FIG. 5.

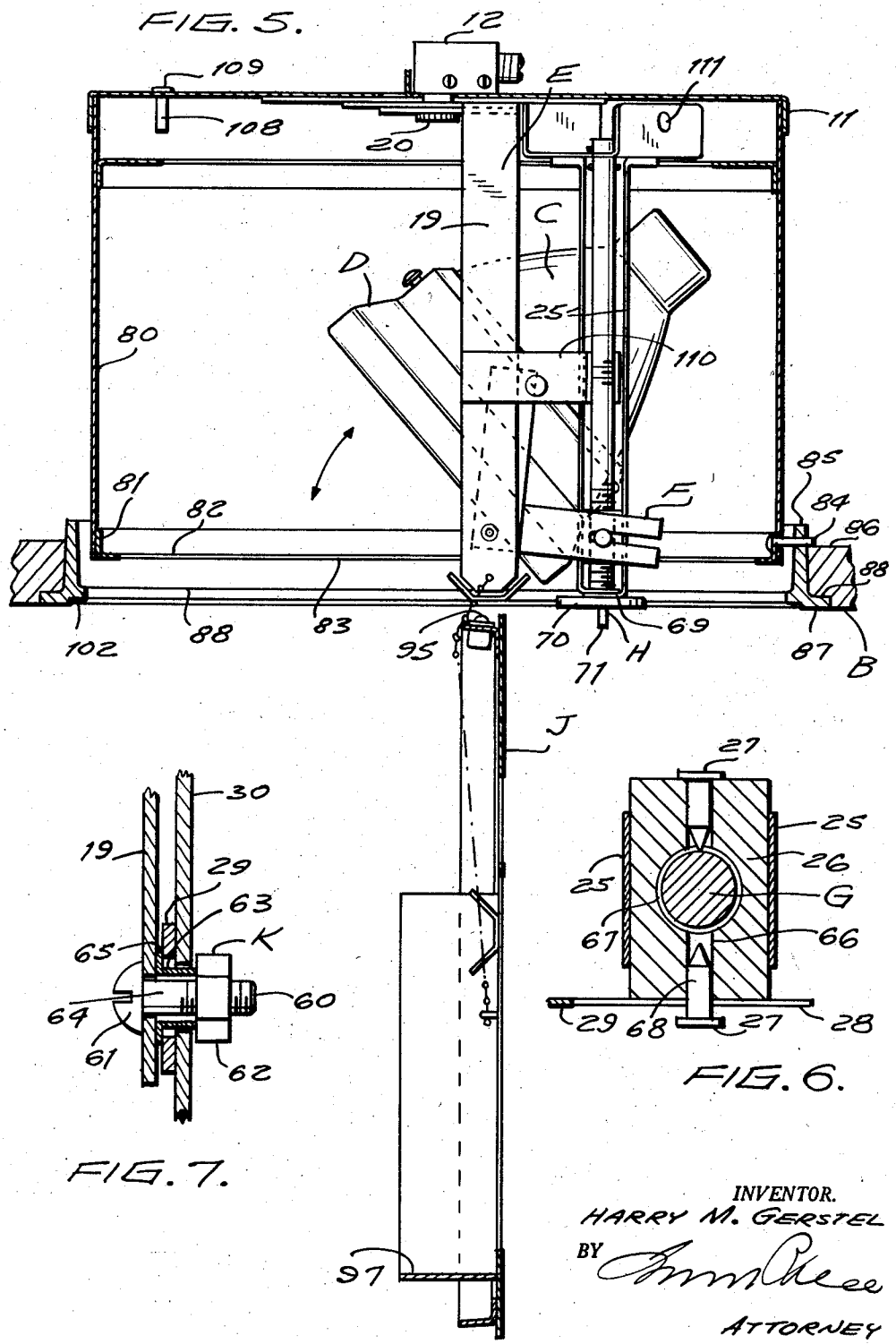


FIG. 7.

FIG. 6.

97

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RECESSED ADJUSTABLE ACCENT LIGHT

Harry M. Gerstel, Lawrence, N. Y.

Application October 28, 1954, Serial No. 465,366

2 Claims. (Cl. 240—78)

The present invention relates to an adjustable control light unit and it particularly relates to an adjustable recessed accent light.

It is among the objects of the present invention to provide an engineered light unit with a quick and accurate beam adjustment with minimum effort and which may be readily adjusted by either the fingertips or by a pole to give a varying adjustment of a beam of light from a vertical position to a 45° position and through substantially 360° or a complete circle.

Another object is to provide a novel recessed illuminating fixture which may be readily inserted in a ceiling or suspended from a ceiling and which has wide application to show windows and interior displays and stores; to stage lighting and lobby displays in threatres; to altar lighting or pulpit lighting in churches; to specific lighting of selected paintings, sculptures or exhibitions in museums and to chalk boards or bulletin boards in schools.

A further object is to provide a combined short and long throw lighting unit, which may be equally used for spot or flood lighting, with either low or high ceilings, and which may also be utilized to provide the extra light required to overcome high absorption of color filters when used.

Still another object is to provide a novel recessed flush lighting unit which may be readily and inconspicuously installed flush with finish plaster, and which will blend inconspicuously with walls, partitions or with the ceiling, and which may be readily installed without difficulty in acoustical ceilings.

Still further objects and advantages will appear in the more detailed description set forth below, it being understood, however, that this more detailed description is given by way of illustration and explanation only and not by way of limitation, since various changes therein may be made by those skilled in the art without departing from the scope and spirit of the present invention.

In accomplishing the above objects it has been found most satisfactory according to one embodiment of the present invention to provide a reflector or spot light bulb with a swinging mount, which in turn is provided with a rotatable mount.

Desirably the entire structure is mounted inside of a cylindrical housing and a control knob permits change of angle or tilt of the reflector or spot light bulb carrier through an angle from zero to 45°. This tilting of the light may be done by a fingertip control or by a pole, which will readily permit adjustment of the tilt of the spot light or reflector bulb.

The entire casing, including the tilting mount for the spot light or reflector bulb, may be readily rotated through substantially 360° by a slotted connection or other convenient means positioned on the flush cover of the casing receiving the tilting mount and the bulb.

Desirably an aperture plate, having a slotted opening, is provided at the bottom of the casing and flush with the ceiling, and this slotted plate is snapped into position or readily removed.

With the foregoing and other objects in view, the invention consists of the novel construction, combination and arrangement of parts as hereinafter more specifically described, and illustrated in the accompanying drawings, wherein is shown an embodiment of the invention, but it is to be understood that changes, variations and modifications can be resorted to which fall within the scope of the claims hereunto appended.

In the drawings wherein like reference characters denote corresponding parts throughout the several views:

Fig. 1 is a bottom plan view of the lighting fixture flush mounted in a ceiling.

Fig. 2 is a transverse side sectional view upon the line 2—2 of Fig. 1.

Fig. 3 is a horizontal sectional view upon the line 3—3 of Fig. 2.

Fig. 4 is a side sectional view upon the line 4—4 of Fig. 1.

Fig. 5 is a side sectional view similar to Fig. 2, but with the lamp at a different tilt angle, with the snap cover out of position and suspended from the lamp housing.

Fig. 6 is a fragmentary transverse horizontal sectional view upon the line 6—6 of Fig. 2 and upon an enlarged scale as compared to Fig. 2.

Fig. 7 is a fragmentary transverse sectional view upon the line 7—7 of Fig. 2 and upon an enlarged scale as compared to Fig. 2.

Referring to Figs. 1 to 7, there is shown a ventilated casing or housing A recessed into and mounted flush with the ceiling B. The lamp C has a combination concentric louvre and color filter holder D.

The holder D is adjustably mounted upon the frame E by means of the bell crank lever F. The bell crank lever F is provided with an adjustment G, which is controlled by means of the external control element H.

The bottom of the housing is closed by the snap out access door J, which is shown in closed position in Figs. 1 to 4 and in open suspended position in Fig. 5.

Referring to the housing A, the housing A has a top plate **10**, with the downwardly extended side flange **11**. The top plate carries the connector box **12** and the cable connection **13**. The interior of the plate **10** is provided with the bearing disks **14** and **16**, between which is received the flange **15** of the lamp carrying bracket E. The lamp carrying bracket E, as best shown in Fig. 3, has the top cross plate **17**, with the end portions **18** having the vertical depending side legs **19**.

The flange **15** is pivotally mounted on the cover **10** by means of the screw **20** or pivot pin **20**. The flange **15** also extends to carry the U-shaped extension member **21**, which has the side flanges **22** and the base flange **23**.

The base flange **23** receives the vertical threaded adjustment rod G at its upper end, which rod is held in position by means of the pins **24** above and below the base **23**.

The threaded rod G extends between the vertical side strip elements **25**, which guide the nut **26** which rides up and down on the threaded rod G. The nut **26** has an outwardly extended pin **27**, which rides in the slot **28** of the bell crank lever F. The bell crank lever F has the arm **29** which receives the slot **28** and also has the arm **30**, which is fixed at **31** to the holder D.

The holder D is of cylindrical shape and has an inturned lip **40**, which engages the enlarged lower bead **41** of the lamp C.

The side cylindrical portion **43** of the holder D is provided with the adjustment screws **42**, which hold the holder D in position in respect to the bead **41** of the lamp C.

The holder D has a lower flaring portion **44**, which

terminates at the cylindrical portion 45. The cylindrical portion 45 carries the concentric louvre 46.

Interiorly of the louvre 46 there may be positioned a color filter at the position 47. The louvre, as shown best in Fig. 1, consists of the rings 48, 49 and 50 and the radial members 51 extending across said rings to the cylindrical position 45 of the holder D.

The top portion 52 of the lamp C has a suitable flexible electrical wiring connection (not shown) to the connector box 12 through the mount or pivot connection 20. This flexible connection may be provided with a clip 53, which is mounted by the nut 54 and the screw 55 on the top plate 10 of the housing A. The pivotal connection of the bell crank lever F on the side frame member 19 is best shown at K in Fig. 7.

As shown best in Fig. 7, the threaded pivot member 60 has a filister head 61 and a nut 62. The head abuts the frame member 19. The sleeve 63 encircles the shaft 64 and it carries the flange 65 which abuts the structural member 19.

The arms 29 and 30 of the bell crank lever are each provided with openings in which the sleeve 63 is received and the pivot member 60 is firmly held in position against the end of the sleeve by the nut 62.

The connection 27 to the adjusting nut 26 by the guide straps 25 is best shown in Fig. 6. The straps 25 closely embrace the sliding nut 26, which is threaded onto the rod G as shown in Fig. 6. The pin elements 27 project into the openings 66 in the nut 26, and they engage the thread 67 on the adjustment member G.

The slotted portion 28 of the lever 29 will engage the shank 68 of one of the pins 27, as shown best in Fig. 6.

The lower ends of the straps 25 fit over one another, as indicated at 69 in Fig. 5. The lower end of the shaft is fixed to the button or external control knob H, which has a flat disk 70 and a fin-like projection 71. This adjustment knob may be turned by hand or by a pole.

The cylindrical side wall 80 of the housing or casing A is soldered or otherwise mounted at its upper end to the flange 11 and at its lower end it carries the upturned flange 81 of the internal base member 82. The internal base member 82 has a central opening 83.

The flange 81 and the lower end of the cylindrical casing 80 have outstanding pins or studs 84, which project through the cylindrical vertical member 85. The pins 84 rest on the top interior face 86 of the ceiling B.

The lower portion of the ring 85 has the outstanding flange 87, which fits in the recess in the ceiling, and it also has the internal peripheral rib or ridge 88. This ridge 88 is designed to engage the snap connections 95 of the detachable or snap out access door J. The detachable snap out access door J has a slotted opening 96 which will uncover the concentric louvre or grill 46.

The opening 96 has the peripheral horseshoe shaped upstanding flange 97, which extends around and will closely fit each side of the combination concentric louvre and color filter holder D when in vertical position or in zero tilt position, as shown best in Fig. 4, the side walls 98 closely conforming at 99 to the cylindrical portion 45 of the holder D.

The cover J has an upstanding interior flange 100 which carries the snap connections 95. The cover J has the flat lower annular plate 101, the edges of which fit in the recess 102 in the ring 85.

The snap out recess door is suspended by means of a chain 103, which extends from the connection 104 on the plate 101 to the opening 105 in the lower end of the side members 19 of the frame structure E. The channel members 106 are mounted interiorly of the cover J and are positioned below the lower ends of the side members 19.

The cover plate J also has an opening at 107 to receive the adjustment knob H. The top plate 10 will also carry the stop pin 108, which is held in position by the enlarged head 109 to limit the movement of the bracket E upon the pivot 20 and the rotation of the lamp C.

The cross brace members 110 extend between the vertical straps 19 and the guide straps 25 to brace the rotating structure.

The pin 111 which projects through the flange 21 will act as a stop against the stud 108 to limit the movement of the rotatable frame or structure E.

It will be noted that the ends of the arms 30 and the U-shaped brackets 112, as best shown in Figs. 3 and 4, have the inner flanges 113 carrying the rivets 31. There is also provided the flange 114.

To obtain access to the interior of the structure, the cover or snap out access door J may be readily removed and suspended in the position shown in Fig. 5. In this position the holder D may be removed and the bulb C replaced. Adjustment of the tilt of the bulb is readily made through the knob H, with the cover or door J in closed position, as shown for example in Figs. 1 and 2.

By turning the knob H, the bulb angle C may be swung through 45° by means of the lever F which will be moved up or down as the screw element G acts upon the sliding nut 26 between the guides 25.

By pressing on the slot 96 in the door J, the entire frame E may be rotated upon the pivot or mount 20.

The entire structure may be readily recessed into the ceiling B by the ring 85 and the pins 84, which are inserted to fit against the inside face of the ceiling 86.

The structure as shown is of light weight and readily made of sheet steel or aluminum and either spot or flood lamps C may be utilized.

The baffle 97 will direct the light downwardly, and the door J may be readily removed without tools.

The fixture as shown will permit quick and accurate beam adjustment for both flood or spot lights with minimum effort, with the knob H being readily adjusted from the exterior of the fixture with or without the door J closed.

The concentric louvre 46 will cooperate with the baffle 97 to trap useless spill light, and this louvre 46 may receive variously colored heat resistant filters.

Both long and short throw lighting is possible and the bulbs may conveniently vary from 150 watt capacity to 200 watt capacity.

While there has been herein described a preferred form of the invention, it should be understood that the same may be altered in details and in relative arrangement of parts within the scope of the appended claims.

Having now particularly described and ascertained the nature of the invention, and in what manner the same is to be performed, what is claimed is:

1. An adjustable accent light fixture to be mounted on a ceiling of the type including a rotatably mounted reflector spot light bulb adjustable to vertical and angular positions which bulb is downwardly divergent to a large diameter portion, said fixture having a vertical enclosure of inverted cup shaped form with a side structure supported by the ceiling and a top structure, and a rotatable carrier for said bulb mounted to turn on said top structure, said carrier having depending elements inside of said side structure, a screw element carried by said depending elements, a collar encircling and carrying the large diameter portion of said bulb, a tilting lever connected at its ends to said collar and to said screw element and intermediately pivotally mounted on said depending elements, the screw element raising and lowering one end of the lever and the other end of the lever being connected to said collar to tilt it away from or toward the position in which the bulb axis is vertical.

2. The light fixture of claim 1, said depending elements including an inverted U shaped bracket, the depending legs of which carry the intermediate pivot mount of said lever and said lever being of right angular shape

with the corner being lowermost and being provided at said corner with the intermediate pivot mount, the lever at the collar end being fixedly connected to the collar and the screw consisting of a vertical threaded rod, a vertically sliding nut threaded on said rod, said nut having a laterally projecting pin and the lever at the screw end having a slotted engagement with said projecting pin and said depending elements including two closely spaced vertical side strip elements on each side of said threaded rod having lower end portions carrying the lower end of and forming a lower rotatable mount for said rod and said strip elements guiding said nut in its vertical movement and the upper end of said rod having a upper rotatable mount in said top structure.

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