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LIGHT FIXTURE MOUNTING

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2 Sheets-Sheet 1

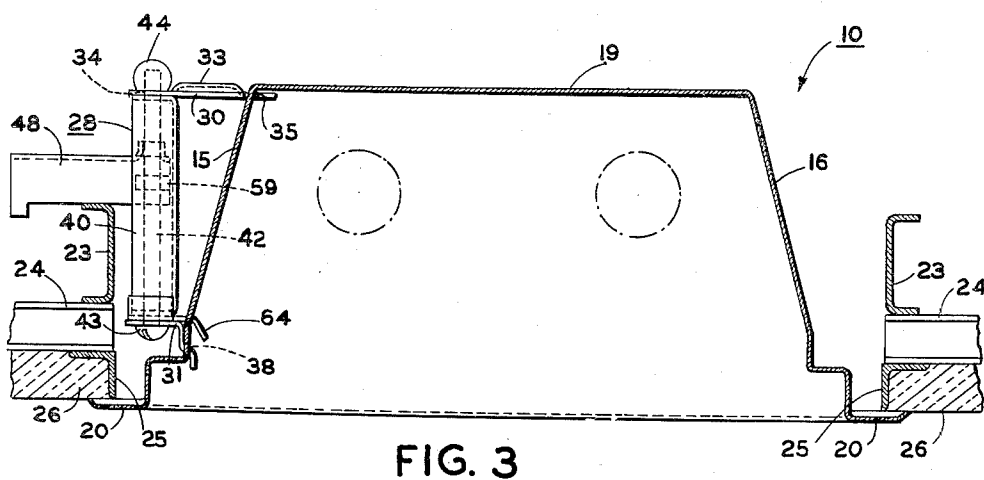
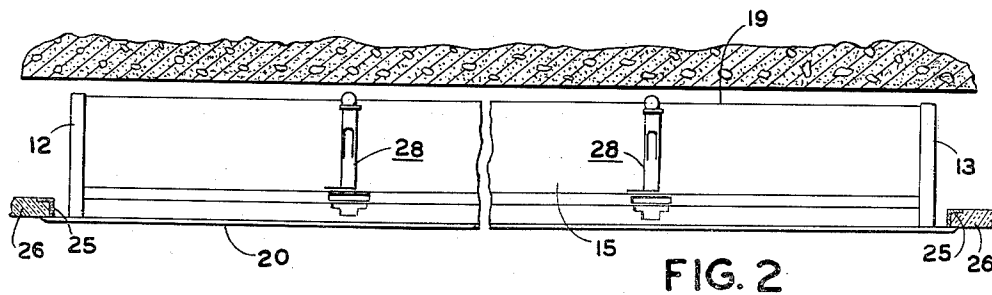
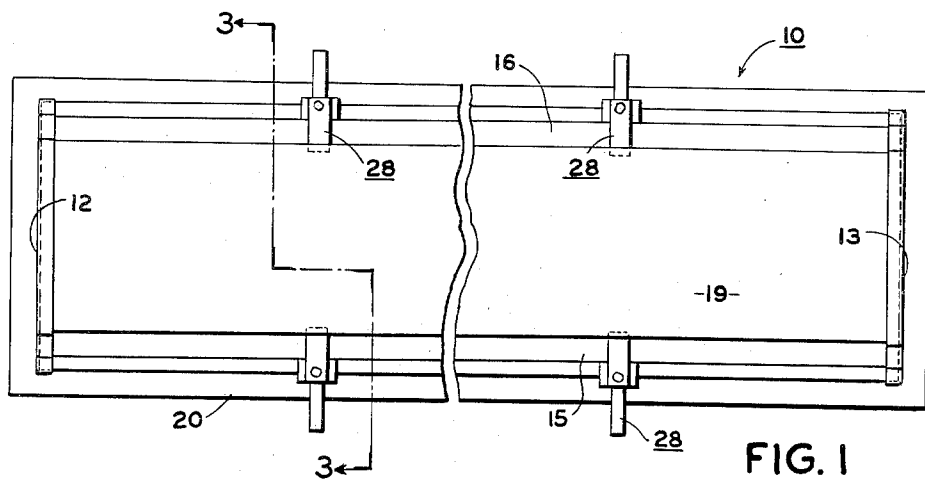


FIG. 3

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FIG. 4

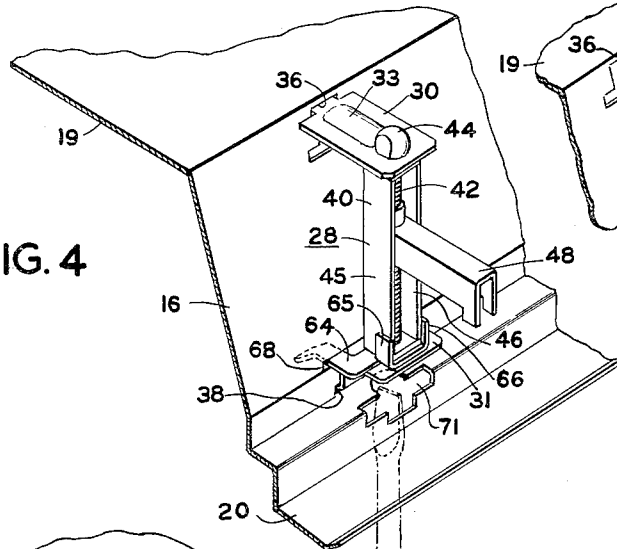


FIG. 5

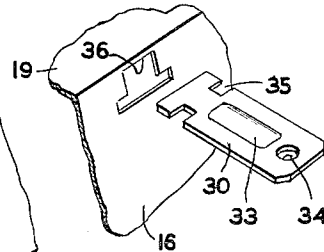


FIG. 6

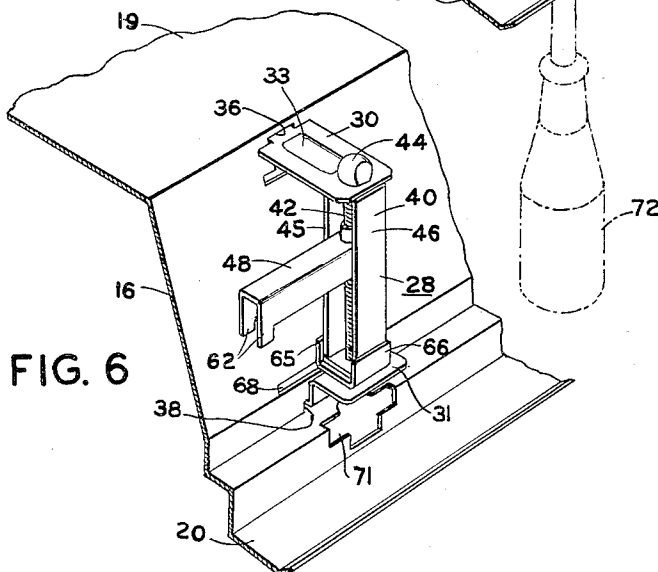
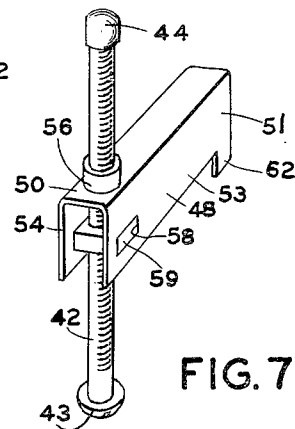


FIG. 7



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## LIGHT FIXTURE MOUNTING

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7 Claims. (Cl. 248—343)

The invention relates in general to light fixtures and more specifically relates to a new mounting assembly which cooperates with a side wall of the light fixture and more readily enables workmen to install light fixtures in ceiling and other constructions.

An object of the invention is to provide a mounting assembly which is connected to an outside side wall of a light fixture and which has a supporting arm which is capable of being swung to a position alongside of the side wall and laterally outwardly with respect thereto and can also be moved in a generally straight line direction which is transverse to the aforementioned movement to secure the light fixture in place in a ceiling recess.

Another object of the invention is to provide a mounting assembly which includes a supporting arm which can be moved from a position generally parallel to a side wall into a position generally transverse to the side wall by the manipulation of a member which extends into the interior of the light fixture. This enables a workman, installing a fixture, to keep the supporting arm close to the side wall while inserting the fixture into a recess and then he may easily swing the arm out into the transverse position so that it engages a construction member and is thereby held in position.

Another object, along with the aforementioned object, is the provision of means for moving the supporting arm in a generally vertical direction in the normal position of a recess lighting fixture to secure the lighting fixture in its final position.

FIGURE 1 is a plan view of a light fixture showing two of the mounting assemblies of the present invention attached to each of the two side walls;

FIGURE 2 is a side elevational view of the fixture shown in FIGURE 1 and showing it as residing in a suspended ceiling construction;

FIGURE 3 is an enlarged view taken generally along the line 3—3 of FIGURE 1;

FIGURE 4 is a fragmentary isometric view of one of the mounting assemblies of the present invention showing how an installer of the fixture may raise and lower a supporting arm by means of a screw driver;

FIGURE 5 is a fragmentary isometric view showing in further detail how the mounting assembly is secured to a side wall of the light fixture;

FIGURE 6 is a fragmentary isometric view similar to FIGURE 4; and

FIGURE 7 is a fragmentary isometric view showing the details of construction of the mounting assembly from another angle.

FIGURES 1, 2 and 3 show a light fixture 10 mounted in a ceiling construction in such a manner as to provide what is commonly referred to as a recessed light fixture. The light fixture includes generally first and second end walls 12 and 13 and first and second side walls 15 and 16, respectively. The first and second side walls are secured to a top wall 19 and as they extend therefrom, they taper outwardly and terminate in a flange 20 which extends around the lower periphery of the fixture. It will be readily appreciated by those skilled in the art that the instant invention will have wide application as to the type of ceiling construction within which it is mounted. However, for the sake of specific example in illustrating the invention, a ceiling construction has been shown which includes channel members 23 which may for the sake of example be referred to as construction members and these extend generally parallel to the side walls of the

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light fixture. It may also be said that they extend generally along the side walls of the construction. The ceiling construction also includes members 24 and angle members 25. Mounted adjacent the angle members 25 has been shown a ceiling member 26. The lowermost face of the member 26, as seen in FIGURES 2 and 3, would be the ceiling surface as observed by a person standing in a room.

As seen in FIGURE 1, two mounting assemblies 28 constructed in accordance with the teachings of the present invention have been provided on each of the two side walls 15 and 16, respectively. Each of the mounting assemblies, as best seen in FIGURES 3—7, includes first and second spaced bearing plates 30 and 31, respectively secured to a side wall of the light fixture and extending outwardly therefrom. As seen in FIGURE 5, the first bearing plate 30 is generally flat in configuration and has a raised supporting rib 33 thereon. One end of the bearing plate 30 is provided with a circular opening 34 and the other end of the bearing plate 30 is provided with a T-shaped construction 35. The T-shaped construction 35 is adapted to be inserted through its respective wall through a slot 36. The second or lowermost bearing plate 31 is generally L-shaped and is supported in another slot 38 in the same side wall. The lowermost bearing plate 31 is also provided with a circular opening. A screw housing 40, which may also be referred to as a supporting or operating member, extends between the first and second spaced bearing plates and is maintained in position by means of a screw 42 which extends through the openings in the bearing plates and also through openings in vertically spaced end walls of the housing. The screw is held in position by means of a head 43 on one end and a nut member 44 on the other end. The nut member 44 is of a construction whereby it may not be unscrewed from the screw 42 but rather turns with it. This construction is merely to keep the screw in place. As noted in the drawings, the screw housing, in addition to the end walls referred to above, also includes first and second side walls 45 and 46. A lateral supporting arm which forms a part of the mounting assembly construction 48 is provided with first and second end portions 50 and 51, respectively. The supporting arm is made in a generally U-shaped configuration which forms first and second side walls 53 and 54, respectively. The first end portion 50 of the supporting arm has a bearing 56 which is adapted to receive the screw 42 which extends therethrough. Each of the side walls 53 and 54 respectively, are slotted as at 58 for the reception of a nut 59. The screw 42, as will be noted specifically in FIGURE 7, extends through the nut member 59. The first end portion of the supporting arm 48 resides in the screw housing 40 with the first and second side walls 53 and 54 respectively, of the arm residing adjacent the first and second side walls 45 and 46 respectively, of the housing 40. This maintains the nut 59 from moving from the position shown in FIGURE 7 and also prevents the same from turning. The second end portion 51 of the supporting arm 48 extends generally laterally of the screw housing and this second end portion is provided with a shoulder 62 for a purpose which will be described hereinafter. A turning plate 64 is connected at one portion to the screw housing 40 by means of first and second upstanding flanges 65 and 66. The other end portion extends through a slot 68 in the respective side wall upon which the mounting assembly is attached and this extends into the interior of the light fixture. Movement of the end portion of the turning plate which extends into the interior of the light fixture causes the screw housing and the supporting arm 48, which is carried thereby, to pivot about the screw member 42. For example the supporting arm 48 may move from the full line position shown in FIGURE 6 to the position shown

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in FIGURE 4. The slot 68 in the side wall and the end of the turning plate effectively determines the degree of pivotal movement which is permitted the supporting arm and the screw housing 40. The flange 20 which extends as the continuation of the side walls, is provided with wall means 71 which define an opening in the flange. FIGURE 4 illustrates how this opening may receive a tool such as a screw driver 72 which may engage the head of the screw to rotate the same. Since the nut 59 and the supporting arm are maintained from rotation, the supporting arm is caused to travel in a vertical direction, either upwardly or downwardly depending upon the way the screw is rotated. The flange 20 of the side wall is adapted to engage the ceiling tile or ceiling face immediately around the opening of the ceiling construction. This is shown in FIGURE 3.

In operation prior to the light fixture 10 being positioned in the ceiling construction, the mounting assemblies are attached to the side walls as shown in the accompanying drawings. Prior to inserting the light fixture in the recess, the supporting arm 48 of each of the assemblies is moved to the position shown in FIGURE 6; namely, into a position which is generally parallel to the side wall to which the mounting assembly is attached. The supporting arm also occupies a predetermined vertical position on the screw member which can be readily approximated by a workman installing the device. The light fixture is then pushed into the recess in the ceiling construction (FIGURE 3) and when this has been done, the supporting arms are swung into the position shown in FIGURES 3 and 4; namely, in a position generally transverse to the extent of the side walls and into a position over the construction members 23. This can be done from the inside of the light fixture, which is readily accessible to the workmen, by means of that portion of the turning plate 64 which extends through the slot 68 in the side wall. The light fixture may then be released by the workmen and it will not fall from the recess. After this has been accomplished the fixture is tightened into place by a process which is shown very well in FIGURE 4. In other words, a screw driver is inserted through the wall means 71 and the screw 42 is rotated in a direction to cause the supporting arm 48 to engage the construction members 23 and the flange 20 to engage the ceiling face. This effectively secures the light fixture in position. The shoulder 62 on the arm serves the purpose of preventing the arm from slipping off the construction members.

Although this invention has been described in its preferred form with a certain degree of particularity, it is understood that the present disclosure of the preferred form has been made only by way of example and that numerous changes in the details of construction and the combination and arrangement of parts may be resorted to without departing from the spirit and the scope of the invention as hereinafter claimed.

What is claimed is:

1. In a light fixture which includes first and second end walls and first and second side walls which taper outwardly and downwardly from a top wall and terminate in a flange and which is adapted to be mounted in a ceiling construction recess having a construction member extending generally parallel to each said first and second side wall and having a ceiling face; the provision of first and second mounting assemblies for each said first and second side walls for mounting said light fixture in said recess, each said mounting assembly including first and second spaced bearing plates secured to a respective side wall of said light fixture and extending outwardly therefrom, a screw housing extending between said first and second spaced bearing plates, a screw extending lengthwise through said housing and journaled at either end portion in said first and second bearing plates respectively, a lateral supporting arm having first and second end portions, said first end portion residing in said screw housing and having a nut

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member secured thereto, said screw member extending through said nut member, said second end portion of said arm extending generally laterally of said screw housing and having a shoulder thereon, a turning plate connected at one end portion to said screw housing and having another end portion extending through a slot in said respective side wall into the interior of said light fixture, movement of said end portion of said turning plate from the interior of said light fixture causing said screw housing to pivot and said lateral supporting arm to move laterally with respect to said respective side wall, and wall means defining an opening in said flange for the reception of a tool to turn said screw to cause vertical movement of said lateral supporting arm to cause same to engage said construction member and said flange to engage said ceiling face whereby said light fixture is held in position.

2. In a light fixture which includes first and second end walls and first and second side walls which terminate in a flange and which is adapted to be mounted in a ceiling construction recess having a construction member extending along said first and second side wall and having a ceiling face; the provision of mounting assemblies for said first and second side walls for mounting said light fixture in said recess, each said mounting assembly including first and second spaced bearing plates secured to a respective side wall of said light fixture and extending outwardly therefrom, a screw housing extending between said first and second spaced bearing plates, a screw extending lengthwise through said housing and journaled at either end portion in said first and second bearing plates respectively, a lateral supporting arm having first and second end portions, said first end portion residing in said screw housing and having a nut portion connected thereto, said screw member extending through said nut portion, said second end portion of said arm extending generally laterally of said screw housing, a turning plate connected at one end portion to said screw housing and having another end portion extending through a slot in said respective side wall into the interior of said light fixture, movement of said end portion of said turning plate causing said screw housing to pivot and said lateral supporting arm to move laterally with respect to said respective side wall, and wall means defining an opening in said flange to enable one to turn said screw to cause movement of said lateral supporting arm to cause same to engage said construction member and said flange to engage said ceiling face whereby said light fixture is held in position.

3. In a light fixture which includes first and second side walls and which is adapted to be mounted in a ceiling construction recess having a construction member adjacent each said first and second side wall; the provision of a mounting assembly for at least one of said first and second side walls for mounting said light fixture in said recess, said mounting assembly including first and second spaced plates secured to a side wall of said light fixture and extending outwardly therefrom, a screw housing extending between said first and second spaced plates, a screw extending lengthwise through said housing and journaled at either end portion in said first and second plates respectively, a lateral supporting arm having first and second end portions, said first end portion residing in said screw housing and having a nut portion secured thereto, said screw member extending through said nut portion, said second end portion of said arm extending generally laterally of said screw housing, a turning member connected at one end portion to said screw housing and having another end portion extending through an opening in the side wall into the interior of said light fixture, movement of said end portion of said turning member causing said screw housing to pivot and said lateral supporting arm to move laterally with respect to said side wall, and means for turning said screw to cause movement of said lateral supporting arm in a direction generally transverse to

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the movement caused by pivoting of said screw housing to cause same to engage said construction member and support said light fixture.

4. In a light fixture which includes first and second side walls and which is adapted to be mounted in a ceiling construction recess having a construction member adjacent each said first and second side wall; the provision of a mounting assembly for said first and second side walls for mounting said light fixture in said recess, each said mounting assembly including first and second members secured to a side wall of said light fixture and extending outwardly therefrom, a screw housing extending between said first and second members, a screw extending lengthwise through said housing and journaled at either end portion in said first and second members respectively, a lateral supporting arm having first and second end portions, said first end portion residing in said screw housing and being threadably engaged by said screw, said housing including means preventing rotation of said supporting arm relative to housing, said second end portion of said arm extending generally laterally of said screw housing, a turning member connected at one end portion to said screw housing and having another end portion extending through an opening in the side wall into the interior of said light fixture, movement of said end portion of said turning member causing said screw housing to pivot and said lateral supporting arm to move laterally with respect to said side wall, and means for turning said screw to cause movement of said lateral supporting arm in a direction generally transverse to the movement caused by pivoting of said screw housing to cause same to engage said construction member and support said light fixture.

5. In a lighting fixture having sidewalls, the provision of a supporting assembly connected to at least one of the sidewalls and comprising in combination pivot means including a screw member, means for mounting said pivot means to the outside of one of the sidewalls to locate the axis of the pivot means in a substantially fixed position which also substantially coincides with the axis of said screw member, a supporting arm threadably connected to said screw member for axial movement relative thereto upon rotation of said screw member, means acting between said pivot means and said supporting arm for insuring lateral movement of said supporting arm away from the sidewall about said pivot means axis as well as insuring lateral movement of said

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supporting arm back toward the sidewall about said pivot means axis when it is desired to remove the fixture from its place of use, and means connected to said means acting between said pivot means and said supporting arm and extending inside the fixture through the sidewall for imparting the lateral movement to said supporting arm.

6. In a fixture having sidewalls, the provision of a supporting assembly connected to at least one of the sidewalls and comprising in combination pivot means including a screw member, means for mounting said pivot means to the outside of one of the sidewalls to locate the axis of the pivot means in a substantially fixed position which also substantially coincides with the axis of said screw member, a supporting arm threadably connected to said screw member for axial movement relative thereto upon rotation of said screw member, and means acting between said pivot means and said supporting arm for insuring lateral movement of said supporting arm away from the sidewall about said pivot means axis as well as insuring lateral movement of said supporting arm back toward the sidewall about said pivot means axis.

7. In a fixture having sidewalls, the provision of a supporting assembly connected to at least one of the sidewalls and comprising in combination pivot means including a screw member, means for mounting said pivot means to one of the sidewalls to locate the axis of the pivot means in a substantially fixed position which is substantially vertical in the normal mounting of the fixture in a ceiling, a supporting arm threadably connected to said screw member for axial movement relative thereto upon rotation of said screw member, and means acting between said pivot means and said supporting arm for insuring lateral movement of said supporting arm away from the sidewall about said pivot means axis as well as insuring lateral movement of said supporting arm back toward the sidewall about said pivot means axis.

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