

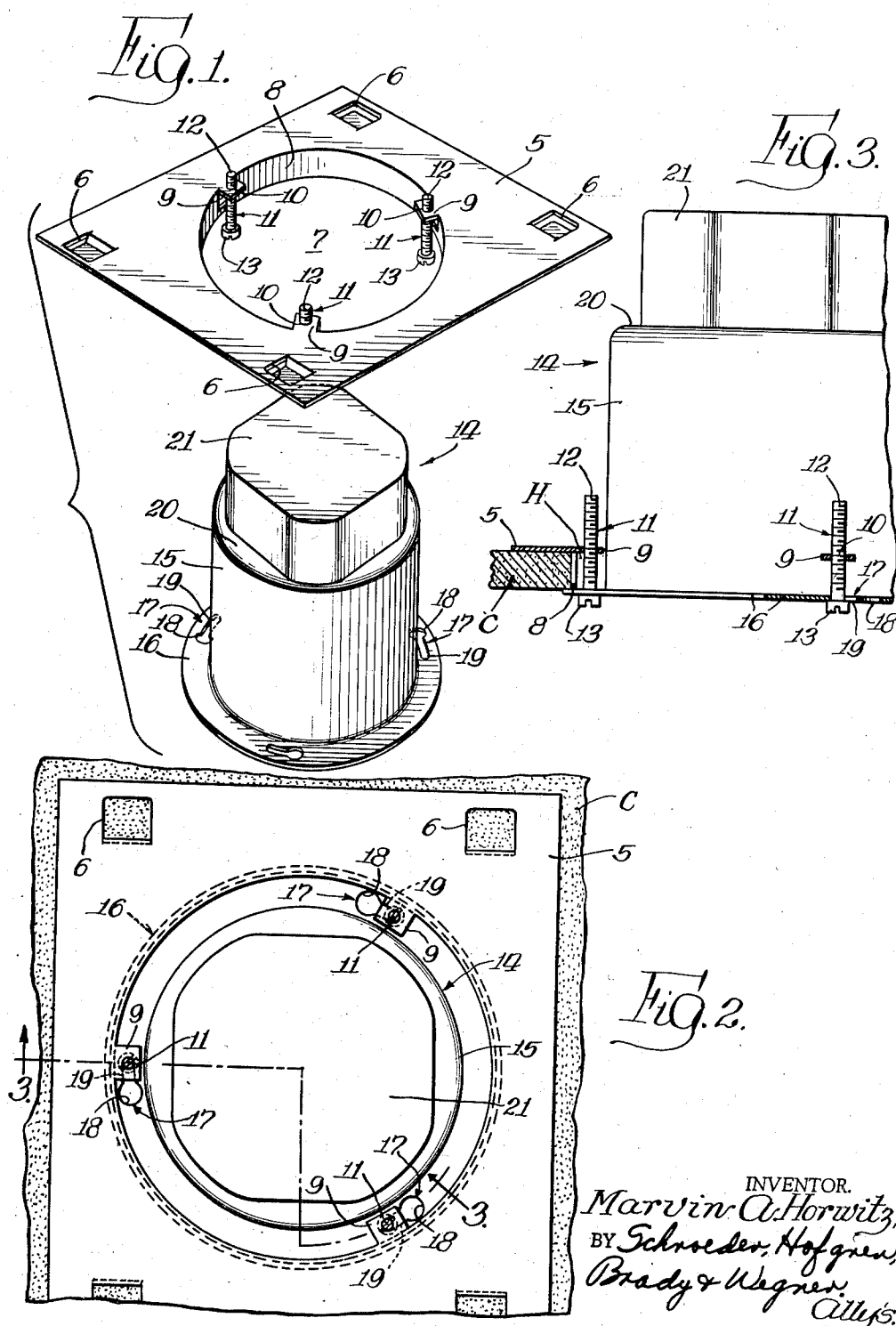
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RECESSED LIGHTING FIXTURE ASSEMBLY

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RECESSED LIGHTING FIXTURE ASSEMBLY

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This invention relates to a recessed lighting fixture assembly, and in particular it relates to a construction for very quickly and easily mounting a fixture housing within a plaster ring.

Recessed lighting fixtures of the type commonly known in the trade as a "high hat" normally have a supporting plate which overlies the plaster of a ceiling, and have a plaster ring which extends downwardly through an opening in the ceiling. The fixture housing has a side wall which may be cylindrical or rectangular in cross section, and which extends upwardly through the plaster ring. The fixture housing is secured within the plaster ring with a flange on the bottom of the housing abutting the ceiling, so as to conceal the hole in the ceiling and the ring. The flange then is commonly concealed by a bezel which holds the glass diffuser plate for the lighting fixture.

Those working in the lighting fixture art have developed various constructions for securing the fixture housing to the plaster ring, the commonest of which is probably that in which the plaster ring has an upstanding annulus or upstanding tabs which are threaded to receive screws, and the screws may be extended through vertically disposed slots in the upright side wall of the fixture housing. The fixture housing is moved upwardly until its bottom flange abuts the ceiling, and the screws are then driven home in the threaded openings of the upright tabs so that engagement of the screw heads with the margins of the slots in the housing wall will hold the housing in its adjusted position with the flange against the ceiling.

This is a very awkward operation for the person installing the light fixture, because he must first align the slots in the fixture housing with the holes in the ring while holding the housing bottom flange against or close to the ceiling, and must then get his hand inside the fixture housing with a screw and a screwdriver so as to insert the screw in the slot and in the hole and drive it home. Most such lighting fixtures are not large enough inside to give the installing workman room enough to work.

Another approach to the problem of installing this type fixture has lever members extended through slots in the fixture housing wall so as to overlie the ceiling, and screws passed through clearance openings on the inner ends of the levers are threaded into brackets on the inside wall of the fixture housing. It is doubtful whether this construction is any easier to install than the one heretofore described. The workman must hold the fixture housing in place within the mounting ring, must take a screw with a lever member hanging on the screw head and project the free end of the lever member through the slot in the fixture wall, after which the screw may be driven home in the threaded bracket. Until at least two of the lever and screw arrangements are in place the workman operates with only one hand, or must have an assistant to hold the fixture in position.

In another type of mounting the plaster ring is provided with a bridge frame which extends over the top of the space occupied by the fixture housing, so that the housing may be secured to the bridge frame rather than directly to the plaster ring. Construction of a ring with an integral bridge frame obviously is considerably more expensive than the simple ring construction which is more commonly used. Likewise, the screws for holding the housing are relatively difficult to reach.

The principal object of the present invention, therefore, is to provide an improved mechanism for mounting a fixture housing of a "high hat" type in a plaster ring.

A further object of the invention is to provide a mounting structure which greatly simplifies the installation of the fixture housing in the plaster ring.

The invention is illustrated in a preferred embodiment in the accompanying drawings in which:

Fig. 1 is a perspective view of the supporting plate and plaster ring with the fixture housing below the ring in the position that it occupies immediately prior to installation;

Fig. 2 is a top plan view of the assembly of the present invention installed in a ceiling; and

Fig. 3 is a fragmentary section taken as indicated along the line 3—3 of Fig. 2.

Referring to the drawings in greater detail, a metal supporting plate 5 is provided with offset ears 6 which may set in the plaster of a ceiling C. The supporting plate 5 has a center opening 7 surrounded by a plaster ring 8 which is perpendicular to the supporting plate 5 and which is adapted to extend downwardly into a hole H in the ceiling C as seen in Fig. 3. Struck from the plaster ring 8, and lying in the plane of the supporting plate 5 are three radially extending tabs 9 which have threaded holes 10. The opening 7 in the supporting plate is illustrated in the drawings as circular, so that the plaster ring 8 is annular; but it is obvious that the invention is equally adapted to use with recessed fixtures which are rectangular in cross section and thus would require a rectangular opening in the supporting plate and a rectangular "ring," or fixtures of other shapes.

A fixture housing mounting screw, indicated generally at 11, has a threaded shank 12 engaged in the threaded hole 10 in the tab 9, with an enlarged head 13 extending below the level of the ceiling C, there being a screw 11 in each of the three tabs.

A fixture housing indicated generally at 14 has an upright cylindrical sidewall 15 at the lower margin of which is an outwardly extending annular mounting flange 16 having a key hole slot 17 to engage each of the mounting screws 11. Each of the key hole slots 17 has the usual generally round portion 18, and a narrower portion 19, so that the round portions 18 may be passed around the screwheads 13 and the narrow portions 19 engaged with the screwheads to hang the fixture housing 14 loosely in the plaster ring. The screws 13 may then be tightened to draw the fixture housing flange 16 firmly against the ceiling C.

It is clear from the foregoing detailed description that the present mounting construction permits the mounting screws 11 to be inserted in the holes in the mounting tabs 9 wholly independently of the fixture housing 14, and that the housing may thereafter be loosely engaged with the screwheads so that it is supported thereby before it is necessary to complete the tightening of the screws. Since the screwheads are below ceiling level at all times, they are readily accessible; and the entire installation is free of any awkward manipulations or any need for an extra hand at any time during the installation.

Fixture housing 14 is completed by a top plate 20 on which is secured the conventional junction box 21 through

which the electric connections to a lamp holder in the fixture housing may be made.

The foregoing detailed description is given for clearness of understanding only and no unnecessary limitations should be understood therefrom, as modifications will be obvious to those skilled in the art.

I claim:

1. A recessed lighting fixture assembly comprising: a supporting plate to overlie a ceiling, said plate having a perpendicular plaster flange adapted to extend into a ceiling opening; a plurality of tabs extending inwardly from the flange and perpendicular thereto, said tabs having threaded holes; screws with their shanks threaded into the holes in said tabs and their heads down, the heads of said screws being positioned in a plane below the bottom of the plaster flange; a fixture housing having a sidewall which occupies the space bounded by the inner ends of the tabs; a top plate surmounting the sidewall; a junction box supported on the top plate and a mounting flange on the bottom of said housing which has a keyhole slot engaged with the head of each screw, each of said keyhole slots having a portion adapted to clear the screw head and a portion adapted to clear the screw shank and engage the screwhead, whereby the supporting plate may be mounted in a ceiling with the screws threaded into the holes, and the keyhole slots in the fixture housing may thereafter be engaged with said screw heads and the screws tightened to clamp the mounting flange against the ceiling.

2. A recessed lighting fixture assembly comprising: a supporting plate to overlie a ceiling, said plate having a perpendicular plaster flange adapted to extend into a ceiling opening; a plurality of integral tabs struck inwardly from the flange in the plane of the mounting plate, said tabs having threaded holes; screws with their shanks threaded into the holes in said tabs and their heads down; the heads of said screws being positioned in a plane below the bottom of the plaster flange; a fixture housing having a sidewall which occupies the space bounded by the inner ends of the tabs; a top plate surmounting the sidewall; a junction box supported on the top plate and a mounting flange on the bottom of said housing which has a keyhole slot engaged with the head of each screw, each of said keyhole slots having a portion adapted to clear the screwhead and a portion adapted to clear the screw shank and engage the screw head, whereby the supporting plate may be mounted in a ceiling with the screws threaded into the holes, and the keyhole slots in the fixture housing may thereafter be engaged with said screwheads and the screws tightened to clamp the mounting flange against the ceiling.

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