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ELECTRICAL FIXTURE AND FAN SUPPORT

Filed April 4, 1930

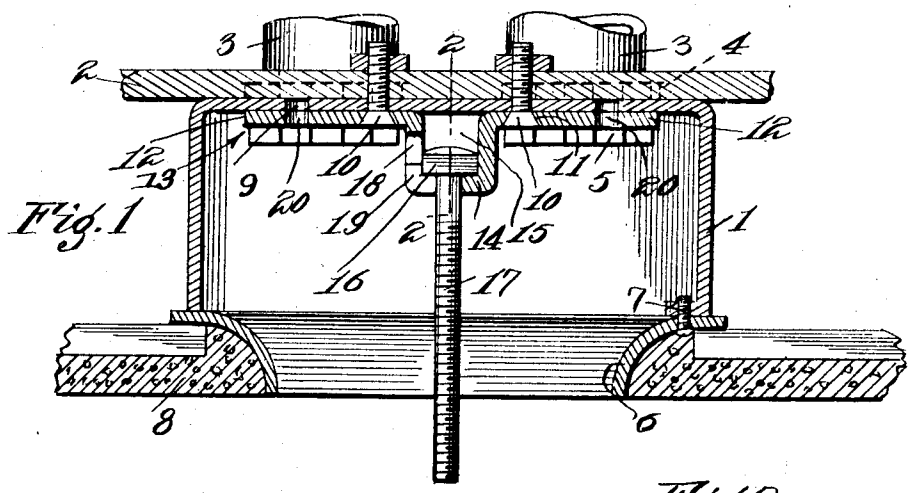


Fig. 1

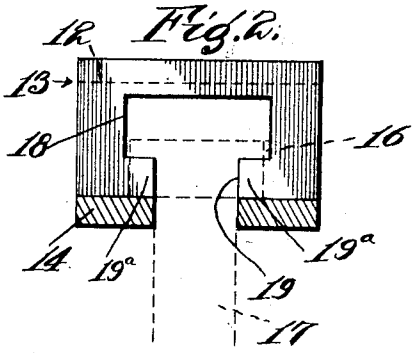


Fig. 2.

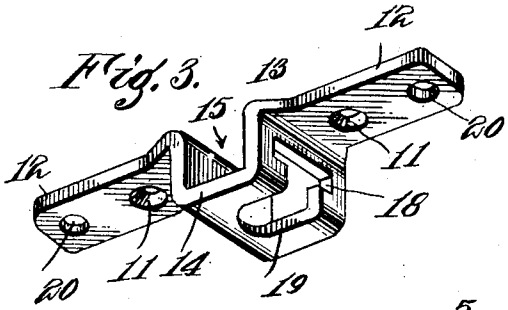


Fig. 3.

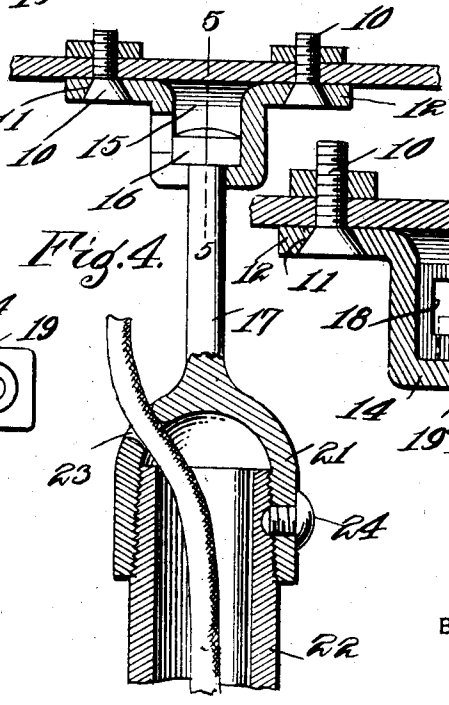


Fig. 4.

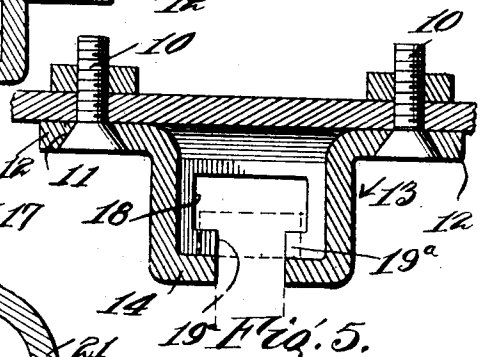


Fig. 5.

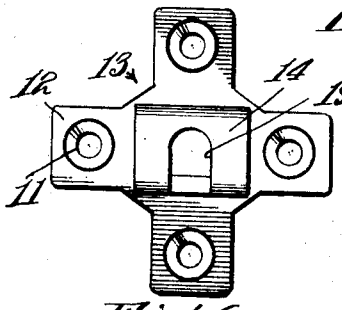


Fig. 6.

WITNESSES

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UNITED STATES PATENT OFFICE

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ELECTRICAL FIXTURE AND FAN SUPPORT

Application filed April 4, 1930. Serial No. 441,577.

Our invention relates to improvements in electrical accessories such as used in wiring residences and the like for electric current distribution and it consists of the constructions, combinations and arrangements herein described and claimed.

An object of the invention is to provide a support by which either a lighting fixture or a ceiling fan can be hung from an outlet box with a minimum effort and this without having to revolve the fixture or fan in order to screw or otherwise secure it in place.

Another object of the invention is to provide a support which will automatically assume a perpendicular hanging position.

A further object of the invention is to provide a support by means of which electrical fixtures and ceiling fans can be hung without the use of the customarily employed so-called extension.

Other objects and advantages will appear in the following specification, reference being had to the accompanying drawings in which

Figure 1 is a cross section of a complete outlet box assemblage embodying the invention, parts being shown in elevation.

Figure 2 is a detail cross section taken substantially on the line 2—2 of Figure 1, the hanger bolt being shown in dotted lines.

Figure 3 is a perspective view of the improved bracket.

Figure 4 is a sectional view illustrating a modified form of the hanger bolt which in this instance is adapted to support a ceiling fan, parts being shown in elevation.

Figure 5 is a detail section taken on the line 5—5 of Figure 4, a portion of the hanger bolt being shown in dotted lines.

Figure 6 is a plan view of the hanger bracket of Figures 4 and 5, which in this instance is provided with four arms instead of two as in Figure 3.

As already indicated in the foregoing brief statements it is one of the purposes of the invention to simplify the operation of installing electrical fixtures, fans and the like upon the ceilings of rooms. This is customarily done by using what is known as extensions, and usually it is necessary to revolve the fixture or fan in respect to these extensions in order to screw the device in place. Both the extensions and the screwing operation are dispensed with according to the improvement, it being only necessary to hang the device in place in the outlet box with a single motion after having prepared the device on the floor.

Figure 1 illustrates in part a common outlet box assemblage in which 1 is the outlet box that is secured to a metal header or hanging bar 2 and has attached thereto a pair of pipe conduits 3 each of which is secured by a bushing 4 and lock nut 5. A plaster ring 6 is attached at 7 to the rim of the box 1, and the installation assemblage is such that the lower edge of the plaster ring will come flush with the nether surface of the plaster 8. The opening is later covered by a cupola which is slid up the shank of the fixture or fan and secured in the well known manner.

Customarily the bottom of the outlet box 1 is provided with holes 9 variously distributed so that nails or screws can be driven through into a joist, lath or any other convenient support. These holes are employed as places through which stove bolts 10 are inserted to secure the box to the metal header 2. The heads of the bolts are seated in bevelled holes 11 in arms 12 of a bracket 13 which is one of the parts of the invention.

This bracket has a depression 14 which may be central or otherwise. Its purpose is to define a recess 15 to receive the head 16 of a hanger bolt 17. In order that the bolt may be suspended by merely presenting the head to the bracket the depression 14 is cut out at 18 to provide a head entrance which merges with a narrower passage 19 to be occupied by the adjoining part of the shank of the bolt. The head entrance is so disposed in respect to the passage 19 that end walls 19^a are formed preventing the sliding out of the head after it is once set in place. The bolt must be lifted before removal will be possible.

In practice the hanger bolt 17 will be secured to the electrical fixture prior to its installation. The necessary work will be

done with the fixture reclining on the floor or on some other support. Having gotten the hanger bolt in place the workman has only to hoist it into position and find the head entrance 18 whereupon the head 16 is slipped in and dropped until it rests in the recess 15.

It will be seen at once that the fixture will assume a perfectly perpendicular hanging position. The head 16 will be capable of adapting itself slightly so that this position can be assumed. Although the connection of the fixture with the bracket 13 at the head 16 is loose yet it is adequately firm. An advantage of the loose connection is that vibrations will be stopped to some degree at the suspension point of the head 16 so that the life of the lamp filaments will not be prematurely ended.

In addition to the bevelled holes 11 the arms 12 are provided with straight-sided holes 20 (Fig. 3). These are useful at times when stove bolts can not be had. In such a case it is better to fit the bolt in a straight-sided hole.

Figures 4, 5 and 6 disclose a support which is especially adapted to the installation of ceiling fans. In order to compensate for the additional weight the bracket 13 is provided with an extra pair of arms (Fig. 6). These make it possible to secure the bracket at four points rather than two as in the instance of the bracket in Figure 3. Otherwise the bracket is identical with the simpler form as indicated by corresponding reference numerals.

The hanger bolt 17 terminates in a cup-like sleeve 21 which is internally threaded to receive the stem 22 of a ceiling fan (not shown). The sleeve is perforated at 23 to admit the current cable. After affixing the sleeve 21 to the stem 22 and setting it by means of a screw 24 the entire device is hoisted to position in the outlet box 1 whereupon the head 16 is seated in the recess 15 in the manner already described.

It is thus obvious that the invention comprises an improved combination for the support of electrical fixtures and the like. The bolts 10 establish the combination of the bracket 13 with the outlet box 1. In addition to attaching the bracket 13 to the outlet box these bolts secure the outlet box to the header plate 2. The bolts are thus depended upon for the double purpose and it is through them that the combination of the bracket 13 with the outlet box is effected.

While the construction and arrangement of the improved electrical fixture and fan support is that of a generally preferred form, obviously modifications and changes may be made without departing from the spirit of the invention or the scope of the claims.

We claim:—

1. In combination with an outlet box, its supporting header and plaster ring, a bracket situated in the box having a cut-out depression facing the opening in the ring, a hanger bolt having a head fitted in the cut-out and resting upon the depression, and means for commonly securing the bracket and outlet box together and to the supporting header thus to suspend the hanger bolt in the ring opening.

2. A support for electrical fixtures and the like comprising an outlet box, a bracket having arms with means for attaching them to the bottom of the box, a depression offset from the arms facing the open side of the box, said depression having a cut-out in one side with a communicating passage extending toward the center of the depression and defining end walls, and a hanger bolt having a head and a portion of its shank introduced at the cut-out and passage for suspension from the depression.

3. A support comprising a bracket having arms attachable to a mounting, and a depression between the arms to define a recess, one side and a portion of the bottom of said depression having a cut-out and a communicating passage for the reception of the head and shank of a hanger bolt.

4. A support comprising arms, and a depression between the arms having a cut-out in one side, and a passage extending from the bottom of the depression to communicate with the cut-out but being narrower than the cut-out to define end walls.

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