July 23, 1929. E. G. APPLETON 1,721,724

FIXTURE SUPPORT

Filed April 6, 1928

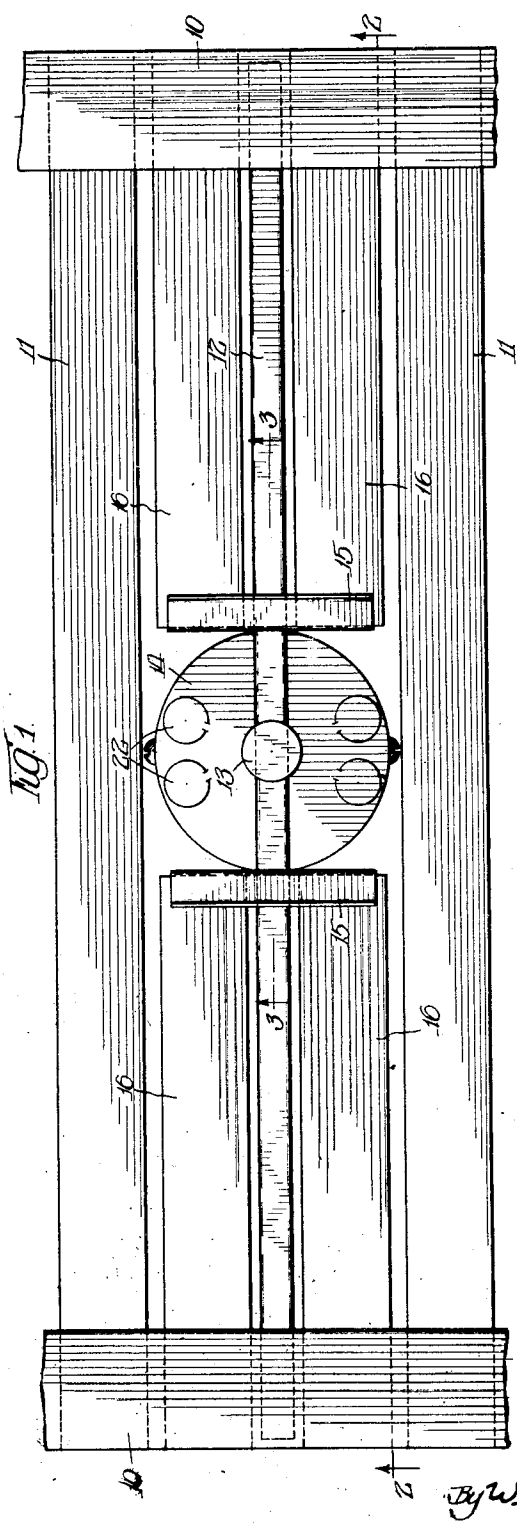


Fig. 1.

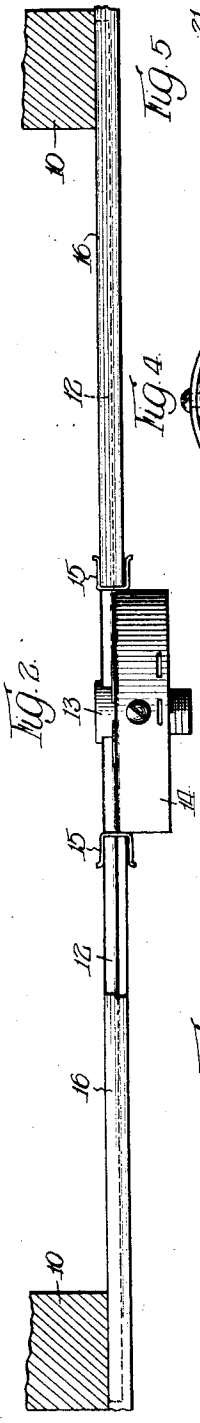


Fig. 2.

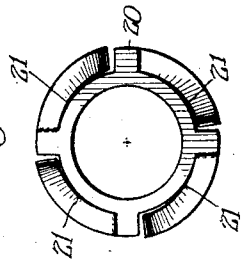


Fig. 5.

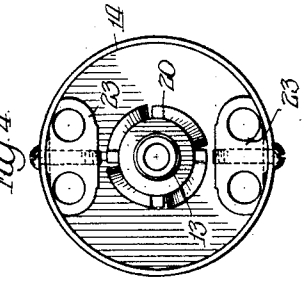


Fig. 4.

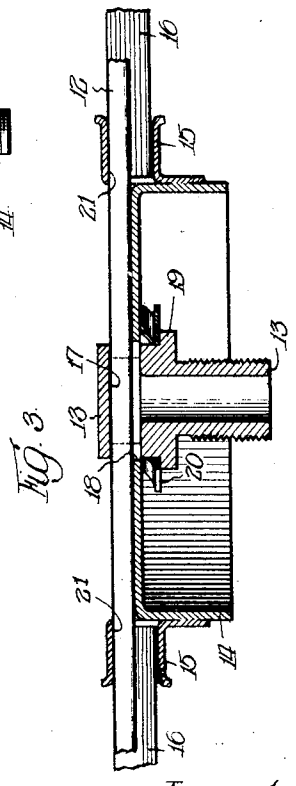


Fig. 3.

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UNITED STATES PATENT OFFICE.

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FIXTURE SUPPORT.

Application filed April 6, 1928. Serial No. 267,950.

The present invention relates to fixture supports.

More particularly the present invention relates to improvements in supports which are commonly known as bar hangers. Such devices are secured to the under sides of the joists of a building or to studs, and provide adjustable supporting means for outlet boxes, carrier heads, or the like, for supporting electric fixtures. Such devices commonly include an elongated metal bar which adjustably carries an outlet box provided with knock-outs for receiving a conduit or loom carrying electrical conductors. Cooperatively associated with said outlet box and movable with said outlet box is the carrier head referred to, which is provided with convenient means for attaching the electric fixture. The outlet box referred to is of such width that it necessitates the interruption of one or more of the laths carried by said joists or studding. In certain aspects, the present invention provides means for supporting the free ends of such interrupted laths.

An object of the present invention is to provide a fixture support of novel construction in which adjustment is very readily accomplished.

A further object is to provide a bar hanger having a fixture stud or carrier head adjustably carried thereby, which fixture stud or carrier head may be readily adjusted.

A further object is to provide an improved fixture support including a bar hanger, an outlet box and a carrier head, which fixture support is well adapted to meet the needs of commercial operation.

A further object is to provide an improved fixture support which is cheap to manufacture, sturdy, convenient to use, and which in certain of its aspects provides efficient means for supporting the free ends of interrupted laths.

Further objects will appear as the description proceeds.

Referring to the drawings—

Figure 1 is a plan view looking down upon certain building construction including adjacent joists, laths extending between said joists, a fixture support and interrupted laths, which interrupted laths have their free ends supported by said fixture support;

Figure 2 is a view taken along the plane indicated by the arrows 2—2 of Figure 1;

Figure 3 is a sectional view, on an enlarged scale, taken along the plane indicated by the arrows 3—3 of Figure 1;

Figure 4 is a bottom plan view of a portion of the structure shown in Figures 1, 2 and 3; and

Figure 5 is a bottom plan view of a spring member forming part of the construction shown in the preceding figures.

Referring to the drawings, the numerals 10—10 indicate joists, which joists have secured to the under sides thereof the laths 11—11, which laths 11—11 are uninterrupted between said joists 10—10. Also secured to the joists 10—10 on the under sides thereof is the bar or bar hanger 12, which comprises an elongated metal member. Said bar 12 adjustably carries the carrier head or fixture stud 13 and the outlet box 14. In the illustrated embodiment of the present invention the outlet box 14 has secured thereto at diametrically opposed regions a pair of U-shaped lath supporting means 15—15, which lath supporting means are adapted to engage and support the free ends of interrupted laths 16—16, said laths 16—16 being interrupted by the outlet box 14.

The particular fixture stud or carrier head chosen for illustration comprises a perforate member having a slot 17 extending therethrough adapted to receive more or less closely the bar 12. Said bar 12 will preferably be of uniform cross section throughout a material length thereof, whereby to permit adjustment of said carrier head 13 upon said bar. The upper wall of the outlet box 14 is provided with an aperture 18 of sufficient size to permit the passage of the upper portion of the fixture stud 13. The numeral 19 indicates an annular shoulder upon the fixture stud 13, which shoulder is adapted to support the annular spring member 20. Said spring member 20 has circumferential slits 21—21 and radial slits 21^a—21^a, which provide circumferential fingers 22—22 struck upwardly from the remainder of said spring member 20. The free extremities of the fingers 22—22 of the spring member 20 are adapted to engage the under side of the top wall of the outlet box 14. As clearly indicated in Figures 1, 2 and 3 of the drawings, the upper face of the top wall of the outlet box 14 is adapted to engage the under side of the bar 12. The spring member 20, by reason of its reaction between the shoulder 19 and the top wall of the outlet box 14, will re-

siliently urge the top wall of the outlet box 14 against the under side of the bar 12, and will also urge the bar 12 into tight frictional engagement with the upper wall defining the slot 17 in the fixture stud 13.

It will be clear that the box 14 and fixture stud 13 may be easily mounted upon the bar 12 and may be readily adjusted longitudinally of said bar 12 by overcoming the friction between the box 14 and the fixture stud 13 relative to said bar 12. In practice the spring 20 will ordinarily be so designed that in service the workman may adjust the fixture stud 13 by tapping same lightly with a hammer or the like.

The U-shaped lath-supporting means may be secured to the box 14 by welding or by any other preferred means. The width of the slots provided by the U-shaped members 15—15 will, of course, be chosen of a size to receive the laths 16—16. Said U-shaped members 15—15 are provided with the slots 21—21 for receiving the bar 12. Inasmuch as the upper side of the bar 12 will be in approximately the same plane as the upper sides of the laths 16—16, the parts will ordinarily be so proportioned that the upper side of the bar 12 will substantially engage with the inner wall of the upper flange of each of the U-shaped lath-supporting members 15—15.

The outlet box 14 will ordinarily be provided with the usual knockouts 22—22, and may be provided with clamps such as those indicated by the numerals 23—23 for securing the usual conductor-enclosing conduit or loom.

Though a preferred embodiment of the present invention has been described in detail, many modifications will occur to those skilled in the art. It is intended to cover all such modifications that fall within the scope of the appended claims.

What is claimed is—

1. In combination, in a fixture support, an elongated bar, a fixture stud having an abutment portion, an outlet box having frictional engagement with said bar, and a spring between said abutment portion and said box for holding said box and stud in adjusted position relative to said bar.

2. In a fixture stud, in combination, an elongated bar, a fixture stud having an aperture for receiving said bar, an outlet box having an aperture for receiving said stud, said stud being provided with an annular shoulder, and an annular spring reacting against said shoulder and said box for urging said box and stud into frictional engagement with said bar.

3. In a fixture support, in combination, an elongated bar, a fixture stud interfitting with said bar to permit longitudinal movement of said stud along said bar without permitting lateral removal of said stud from said bar, an outlet box having an aperture for receiving said stud, said stud including an abutment portion and a spring encircling said stud and reacting between said abutment portion of said stud and said box for holding said stud and box in frictional engagement with said bar.

4. In a fixture support, in combination, an elongated bar, a fixture stud interfitting with said bar to permit longitudinal movement of said stud along said bar without permitting lateral removal of said stud from said bar, an outlet box having an aperture for receiving said stud, said stud including an abutment portion and a spring encircling said stud and reacting between said abutment portion of said stud and said box for holding said stud and box in frictional engagement with said bar, said spring having arcuate portions struck from the periphery thereof engaging said box.

5. A fixture support comprising a supporting bar, a fixture stud, an outlet box carried by said bar, lath supporting means carried by said box, said stud extending through said box, said bar extending through said lath supporting means and said stud, and resilient means for holding said stud and box in frictional engagement with said bar.

6. In combination, in a fixture support, an elongated bar, a fixture stud, an outlet box carried by said bar, a U-shaped lath supporting means secured to said box at diametrically opposite regions, said stud and lath supporting means being apertured for the reception of said bar, and resilient means reacting between said stud and said box for holding said stud and box in adjusted position upon said bar.

7. In combination, in a fixture support, an elongated bar, a fixture stud having an abutment portion, an outlet box having frictional engagement with said bar, lath supporting means secured to said box at diametrically opposed regions, said bar extending through said stud and said lath supporting means, and a spring between said abutment portion and said box for holding said box and stud in adjusted position relative to said bar.

8. In combination, in a fixture support, an elongated bar, a fixture stud having an aperture for receiving said bar, an outlet box having an aperture for receiving said stud, lath supporting means secured to said box and having apertures for receiving said bar, and a spring for pressing said stud and box into frictional engagement with said bar.

9. In a fixture support, in combination, an elongated bar, a fixture stud having an aperture for receiving said bar, an outlet box having an aperture for receiving said stud, said stud being provided with an annular shoulder, lath supporting means secured to said box, said lath supporting means having apertures for the reception of said bar, and an annular spring reacting against said shoul-

der and said box for urging said box and stud into frictional engagement with said bar.

10. In a fixture support, in combination, an elongated bar, a fixture stud interfitting with said bar to permit longitudinal movement of said stud along said bar without permitting lateral movement of said stud from said bar, an outlet box having an aperture for receiving said stud, lath supporting means carried by said box, and a spring reacting between said stud and said box for holding said stud and box in frictional engagement with said bar.

Signed at Chicago, Illinois, this 31st day of March, 1928.

ERNST G. APPLETON.