

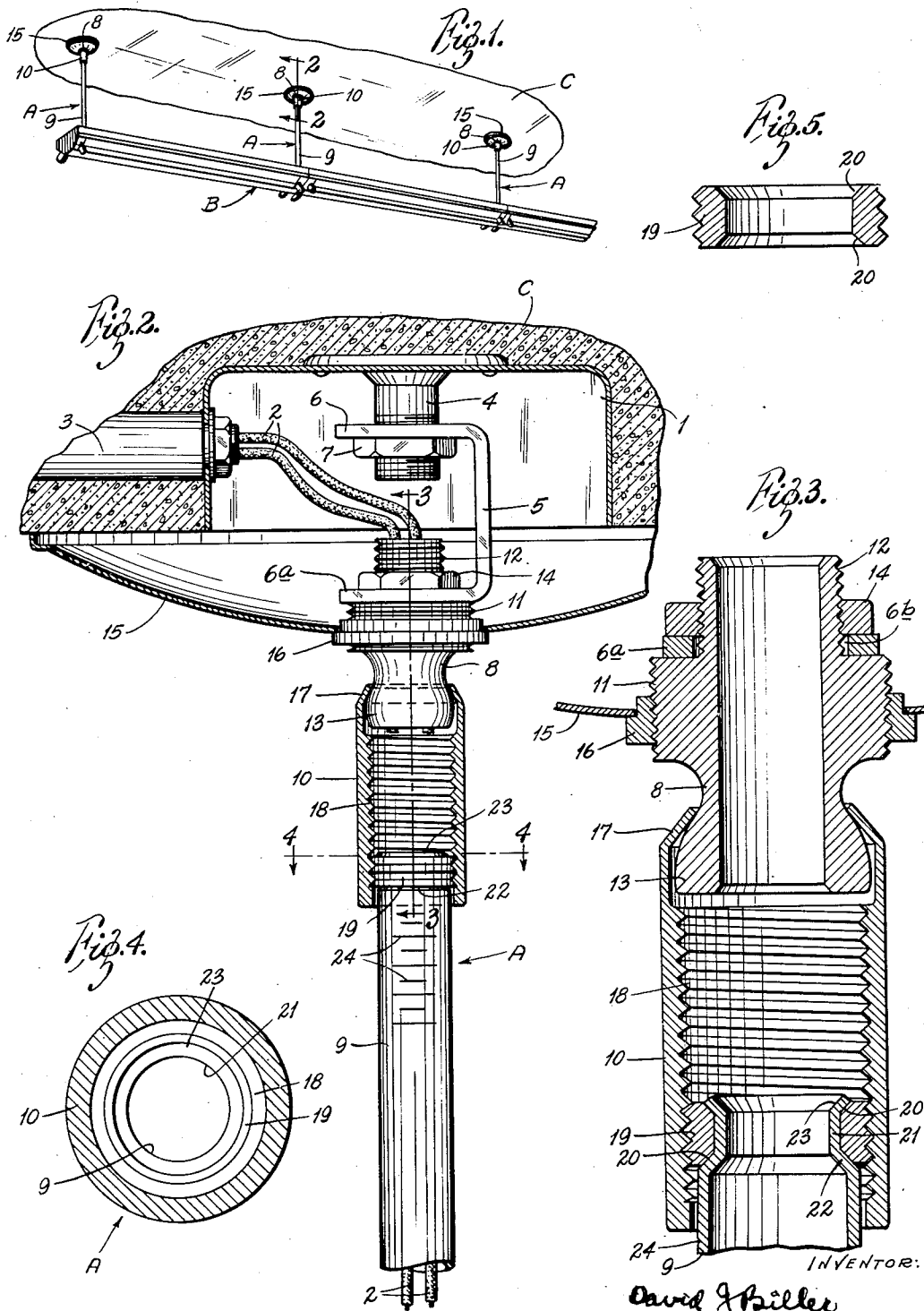
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SUSPENSION SUPPORT FOR ELECTRIC LIGHTING FIXTURES

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SUSPENSION SUPPORT FOR ELECTRIC
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My invention relates to suspension supports for electric lighting fixtures or the like, particularly relatively long fluorescent lighting fixtures that are suspended from a ceiling or other overhead support by a plurality of hangers that are spaced apart longitudinally of the fixture. The invention has for its principal objects to provide for quickly and easily changing the length of the suspension support so as to vary the height of the fixture and to position the fixture horizontally despite variations in the elevation of the ceiling; to provide for bringing the supports into exactly upright or vertical position in the event that the ceiling slopes or the anchors for the supports are tilted, and to provide for strength and durability and simplicity and cheapness of construction. The invention consists in the suspension support and the construction, combinations and arrangements of parts hereinafter described and claimed.

In the accompanying drawing, which forms part of the specification and wherein like symbols refer to like parts wherever they occur,

Fig. 1 is a bottom perspective view, showing a fluorescent lighting fixture suspended from a ceiling by means of suspension supports embodying my invention,

Fig. 2 is an enlarged fragmentary vertical sectional view on the line 2—2 in Fig. 1,

Fig. 3 is an enlarged central vertical sectional view on the line 3—3 in Fig. 2,

Fig. 4 is an enlarged horizontal cross sectional view on the line 4—4 in Fig. 2; and

Fig. 5 is a central longitudinal sectional view of the threaded ring for supporting the stem of the suspension support.

My suspension supporter or hanger A is particularly adapted for use in suspending an electric light fixture B from the ceiling, beam or other overhead support C. The fixture B shown in the drawing is a fluorescent or other relatively long sectional lighting fixture, which is suspended from the ceiling C at points spaced apart along the length of the fixture by means of a plurality of the suspension supports A.

As shown in the drawing, some of the suspension supports A may be suspended from the ceiling C by means of standard downwardly opening outlet boxes 1 embedded therein. Electric feed wires 2 for the fixture B lead to the outlet box 1 through a conduit 3 opening through one side thereof. The outlet box 1 has a threaded central anchor stud 4 depending from the top thereof; and a channel-shaped supporter hanger 5 has its top flange 6 apertured to receive the said stud and is seated on a nut 7 threaded thereon.

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The horizontal bottom flange 6a of the channel-shaped support 5 is spaced below the ceiling C and the flush outlet box 1 therein and is adapted to sustain the suspension support A. The suspension support A comprises an upper tubular fitting 8, an elongated stem 9 and a sleeve 10 for coupling said fitting and stem together in end to end relation. The tubular fitting 8 has an enlarged externally threaded intermediate portion 11, an externally threaded upper end portion 12 and a ball or hemispherically shaped lower end portion 13. The threaded upper end 12 of the tubular fitting 8 extends upwardly through a vertical opening 6b provided therefor in the horizontal bottom flange 6a of the channel-shaped hanger 5; and a nut 14 is threaded on said upper end of said fitting and bears against the upper surface of said flange and serves to clamp the upper end of the enlarged intermediate portion 11 of said fitting tightly against the bottom surface of said flange. The outlet box 1 and the parts closely associated therewith are all concealed by a cup-shaped canopy 15 which is sleeved on the tubular fitting 8 and is held in abutting relation to the ceiling C by means of a round nut 16 which is threaded on the enlarged intermediate portion 11 of said fitting in abutting relation to the underside of said canopy.

The upper end of the cylindrical coupling sleeve 10 is bent inwardly, as at 17, over the ball-shaped lower end 13 of the tubular fitting 8, thereby providing a permanent ball-and-socket connection therebetween which permits rotary and limited swiveling movement of said sleeve relative to said fitting. The sleeve 10 is threaded internally, as at 18, from a point located just below the ball-shaped lower end 13 of the tubular fitting 8 to a point short of the lower end of said sleeve; the stem member 9 of the suspension support A is rigidly secured in any desired manner (not shown) to the fixture B and extends upwardly into the sleeve 10 and has an externally threaded supporting ring 19 fixed to its upper end that cooperates with the internal thread 18 of said sleeve, whereby said stem may be raised and lowered in said sleeve when the latter is rotated relative to said stem and the tubular fitting 8. Upward travel of the threaded stem supporting ring 19 in the sleeve 10 is limited by the ball-shaped lower end 13 of the fitting 8, while the internal thread 18 of said sleeve terminates short of the lower end thereof and thus limits the downward travel of said ring therein. As shown in the drawing, the bore of the stem supporting ring 19 has flared upper and lower end portions

20 and the stem 9 is reduced, as at 21, to fit said bore and to provide a beveled annular shoulder 22 that is firmly seated in the flared lower end of said bore by bending the upper end of the reduced portion 21 of said stem outwardly and downwardly, as at 23, against the flared upper end of said bore. By this arrangement the ring 19 is firmly secured to the stem 9 against rotary and axial movement relative thereto.

By the arrangement described, the tubular fitting 8 may be quickly and easily clamped to the lower flange of the hanger 5 suspended from the stud 4 of the outlet box 1, while the round nut 15 on said fitting serves to rigidly clamp the canopy 15 to the ceiling and thus conceal the entire outlet box 1 and the hanger and the connection between the latter and said fitting. The swivel or ball-and-socket connection between the upper end of the cylindrical sleeve 10 and the lower end of the tubular fitting 8 permits the hanger pipe to be located in an upright or vertical position in the event that the outlet box 1 and/or hanger 5 are mounted in the ceiling in a tilted position; and the fixture may be raised or lowered to position it horizontally and at the desired distance from the ceiling by rotating the sleeve 10 relative to the tubular fitting 8 and stem 9 so as to cause the threaded supporting ring 13 fixed to the upper end of said stem to travel vertically along the internal thread 13 of said sleeve and thus change the effective length of said stem. The upper end of the sleeve 10 is bent or swaged over the ball-shaped lower end 13 of the tubular fitting 8, thus providing a permanent swivel connection between said sleeve and fitting; and the stem supporting ring is permanently retained within said sleeve by the portion of the fitting in the upper end thereof and by the plain unthreaded lower end thereof. If desired, the stem 9 may have a series of vertically spaced graduations 24 thereon just below the lower end of the sleeve 10 so as to indicate the amount of vertical adjustment of the said stem. As shown in the drawing, the stem 9 may be in the form of a pipe so as to provide a conduit for the feed wires for the fixture.

Obviously, the hereinbefore described suspension support admits of considerable modification without departing from the invention and I do not wish to be limited to the precise arrangement shown and described.

What I claim is:

1. A suspension support for an electric lighting fixture or the like comprising a conventional downwardly opening overhead outlet box having an anchor stud depending therefrom, a hanger fixed to said stud, a lower stem member adapted

to be non-rotatably secured at its lower end to said fixture and having a threaded upper end portion, an upper member adapted to be non-rotatably secured to said hanger and an intermediate coupling member having a ball-and-socket connection at its upper end with the lower end of said upper member and a threaded connection with the threaded upper end of said stem member, whereby said stem and coupling members are angularly adjustable relative to said hanger supported upper member and said coupling member is rotatable relative to said upper member and stem member to raise and lower the latter and the fixture secured thereto relative to said ball-and-socket joint.

2. A suspension support for an electric lighting fixture or the like comprising a conventional downwardly opening overhead outlet box having a stud depending therefrom and an opening for electric feed wires for said fixture, a hanger fixed to said stud, a lower tubular stem member adapted to be non-rotatably secured at its lower end to said fixture, an externally threaded supporting ring fixed to said stem member adjacent to the upper end thereof, a tubular upper member adapted to be non-rotatably secured at its upper end to said hanger, a canopy supported by said upper member and concealing said box and said hanger, and a tubular intermediate coupling sleeve having a permanent ball-and-socket connection at its upper end with the lower end of said upper member and an internal thread adapted to receive and support the externally threaded ring fixed to the upper end of said stem member, whereby said stem and coupling members are angularly adjustable relative to said hanger supported upper member and said coupling member is rotatable relative to said upper member and said supporting ring to raise and lower said stem member and the fixture secured thereto relative to said ball-and-socket joint, said hanger supported tubular upper member having a permanently open upper end adapted to receive said electric feed wires which extend downwardly through said tubular upper member, said sleeve and said tubular stem to said fixture.

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