

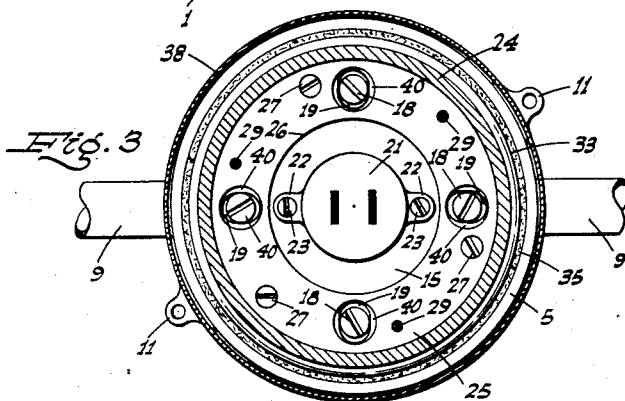
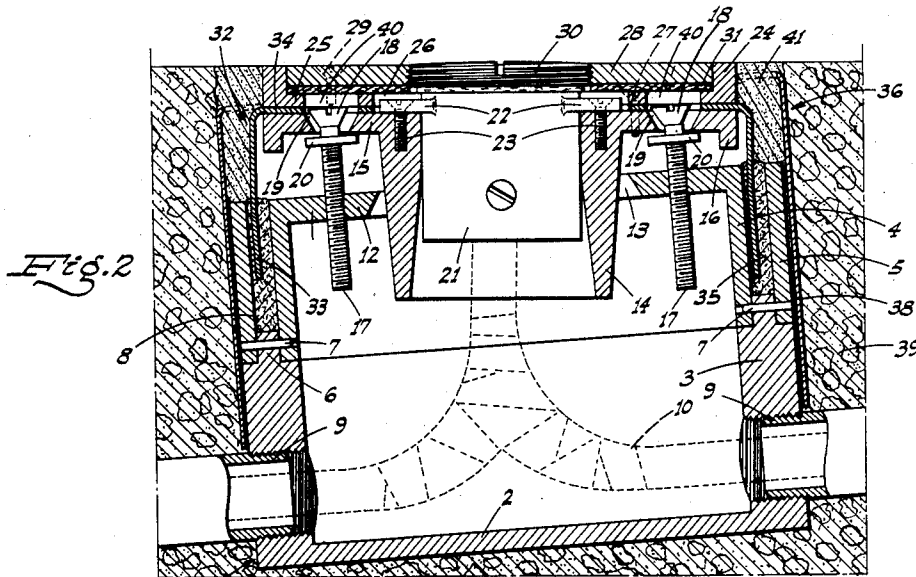
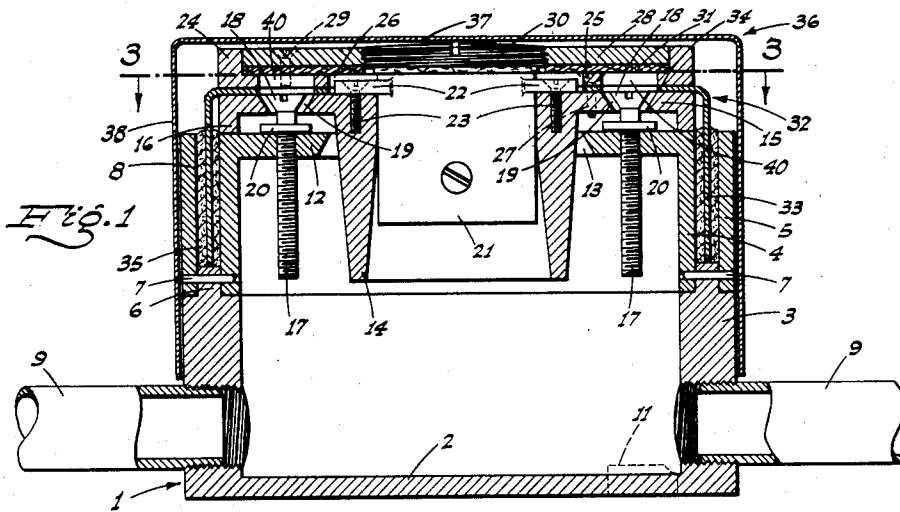
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ADJUSTABLE OUTLET BOX

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ADJUSTABLE OUTLET BOX

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1 Claim. (Cl. 174—57)

This invention relates in general to an improved electrical outlet box.

In particular the invention is directed to, and it is a major object to provide, an electrical outlet box wherein the top assembly—including a supported electrical fitting or receptacle—is mounted for adjustment so that the top of said assembly may be leveled as well as set flush relative to the floor or other surface of a structure in which the box was initially enclosed at a cant or at improper depth relative to such surface.

It is another object of the invention to provide an adjustable outlet box which is especially designed—but not limited—for use when cast in place in concrete floors, walls or the like.

An additional object of the invention is to provide an adjustable outlet box which can be readily, positively, and accurately manually adjusted and merely with the aid of a conventional screw driver.

A further object of the invention is to provide an adjustable outlet box which includes novel protective means to prevent the concrete—as poured about the box—from gaining access therinto, and other means to shield the box against the entry of foreign substances after the top assembly is adjusted to compensate for canting or other improper positioning of said box.

It is also an object of the invention to provide an adjustable outlet box which is designed for ease and economy of manufacture.

Still another object of the invention is to provide a practical, reliable, and durable adjustable outlet box, and one which will be exceedingly effective for the purpose for which it is designed.

These objects are accomplished by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawings:

Fig. 1 is a sectional elevation of the adjustable outlet box showing the parts in their initial position.

Fig. 2 is a similar view of the adjustable outlet box as cast in place in a concrete floor at a cant; the parts being shown as adjusted for the purpose of leveling the top of the box and flushing it with the floor.

Fig. 3 is a sectional plan—on reduced scale—taken on line 3—3 of Fig. 1.

Referring now more particularly to the drawings, and to the characters of reference marked thereon, the novel, adjustable outlet box is in the main of cylindrical construction, and includes a cup, indicated generally at 1, having a bottom 2. The side wall of the cup 1 is comprised of a lower half 3 which is integral with the bottom 2, but the upper half is an initially separate structure comprising the following:

An inner cylindrical wall 4 and an outer cylindrical wall 5 are seated at their lower edges—in radially spaced relation—on the upper edge of the lower half 3 of the cup side wall; there being an upstanding annular rib 6

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on said lower half 3 which engages between, and spaces, the walls 4 and 5. Said walls 4 and 5 are secured to the rib 6 by a plurality of circumferentially spaced, radially extending cross pins 7.

In addition to forming the upper half of the side wall of the cup 1, the walls 4 and 5 define a relatively deep, upwardly opening, annular well 8 whose purpose will hereinafter appear.

One or more conduits 9 are threaded through the lower half 3 of the cup side wall for the purpose of leading wires 10 to or from the interior of the outlet box; said box—at the bottom of the cup 1—being formed on opposite sides with projecting perforate ears 11 by means of which the outlet box may be nailed to a supporting form or the like.

At the upper edge thereof the inner cylindrical wall 4 is formed—in integral relation—with a radially inwardly projecting flange 12 whose inner edge defines a relatively large central bore 13.

A downwardly tapering socket 14 extends—in clearance relation—through the bore 13 from a point thereabove, and at its upper end such socket is formed with an integral, radially outwardly projecting flange 15 having a depending annular foot 16 at its periphery.

The flange 15—which is annular—is of substantially the same outside diameter as the inner wall 4, whereby the annular foot 16 initially rests in engagement on the upper edge of said wall (see Fig. 1). In this position of the parts the socket 14 is centered in the bore 13 and the flange 15 is disposed in adjacent but spaced parallel relation above the flange 12.

At equally circumferentially spaced points a plurality of adjustment screws 17—parallel to the axis of the outlet box—are threaded through the flange 12, and such screws, at their upper ends, are formed with heads 18 which engage from above in radially elongated slots 19 in the flange 15.

Between the flange 12 and flange 15 each screw is fitted with an integral, radially enlarged shoulder 20; the screws 17 initially being run down until such shoulders 20 bear on top of the flange 12. An outlet fitting or receptacle 21 is disposed in the socket 14, being secured thereto by opposed attachment ears 22 held in place by screws 23.

A top ring 24, of the same outside diameter as the flange 15, rests concentrically thereabove, and said top ring includes a radially inwardly projecting flange 25 which defines a central opening 26 of greater diameter than that of the receptacle 21; the top ring 24 and flange 25 being secured to the flange 15 by circumferentially spaced screws 27.

The top ring 24 provides a retainer for a circular top plate 28 attached to the flange 25 by circumferentially spaced screws 29; such circular top plate 28 having a central opening in which a screw plug 30 is threaded, and which plug is of sufficient diameter to provide the necessary access to the top of the receptacle 21 when such plug is removed. A flat gasket 31 is engaged between the circular top plate 28 and the flange 25.

An inverted cup-like shield 32 of readily bendable material is disposed with its skirt 33 depending into the upwardly opening annular well 8, while the top 34 of such shield is engaged—gasket-like—between the flanges 15 and 25; such top 34 of the shield having a central opening corresponding to that in said latter flange. The annular well 8 is filled with a permanently soft mastic 35, and into which mastic the depending skirt 33 is embedded.

With the foregoing arrangement the shield 32 effectively prevents access of any foreign substance into the outlet box from between the foot 16 and the inner wall 4.

A protective cap, indicated generally at 36, and of heavy-duty moisture-proof paper or the like, encompasses

the outlet box above the conduits 9; such cap including a top 37 and a depending skirt 38.

In use of the above described adjustable outlet box it is first set in place in association with the forms (not shown) for a concrete floor or the like, and the conduits 9 (or conduit) are connected; the box being attached to the forms by nails driven through the ears 11.

At the outset the parts are as shown in Fig. 1, and the protective cap 36 is disposed in place. Thereafter the concrete is poured over the outlet box, and such cap 36 prevents any of the concrete from gaining access to the box; the concrete being finished off at, or relatively close to, the top 37 of cap 36.

However, in many instances, for one cause or another the outlet box—as cast into a concrete floor or the like—ultimately is found to be in a slightly canted position, as shown in Fig. 2, and wherein the cant is over emphasized for the purpose of illustration. The concrete floor or the like in which the outlet box is cast is indicated at 39.

After the concrete floor 39 has set, the portion thereof which may overlies the top 37 of the cap 36, is chipped away to expose said top, and the latter is then cut out with a knife.

After the top 37 of the cap 36 is cut out—which exposes the circular top plate 28—the latter is removed, which in turn exposes access openings 40 in the flange 25 above the heads 18 of the adjustment screws 17.

Such screws 17 are then adjusted, by a screw driver, to the extent necessary to level and flush the upper edge of the top ring 24 with the top surface of the concrete floor 39 (see Fig. 2). Such adjustment is accomplished by reason of the fact that as the screws 17 are individually run upwardly, the related shoulders 20 bear against the bottom of flange 15, whereas when said screws are run downwardly the heads 18 bear or engage in the slots 19. As a consequence, a nicety of up or down adjustment of the flange 15 can be selectively and independently accomplished at circumferentially spaced points so as to level and flush the top ring 24, as above described.

With such adjustment the depending skirt 33 of the inverted cup-like shield 32 is correspondingly raised or lowered in the well 8 without disturbing the seal provided by the mastic 35, and in addition in cases of extreme adjustment such depending skirt can take a bend, as shown in Fig. 2.

After adjustment of the top assembly, including the top ring 24 and flange 15, a mortar or cement mix 41 is filled into the then open space which surrounds the top ring 24 and the upper portion of the depending skirt 33. Also, the circular top plate 28 is replaced and re-attached by the screws 29.

With the top assembly of the outlet box thus set level and flush with the surface of the floor, no unsightly and possibly dangerous depression or obstruction is presented, and thereafter access to the receptacle 21 for use thereof

is attained by the simple expedient of removing the screw plug 30.

From the foregoing description it will be readily seen that there has been produced such a device as will substantially fulfill the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations therefrom may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described the invention, the following is claimed as new and useful, and upon which Letters Patent are desired:

15 An adjustable electrical outlet box comprising a cup adapted to communicate with a conduit, said cup including an upstanding side wall, a first radial flange projecting inwardly from the upper edge of the side wall, said flange defining a central opening, a socket depending in clearance relation through the central opening from above the same, the socket being adapted to mount an electrical fitting therein, a second radial flange projecting outwardly from the socket and overlapping said first flange, adjustable elements connecting said overlapping flanges at circumferentially spaced points and arranged to adjust the second flange relative to the first flange, a top ring having a radially inwardly projecting flange above said second flange, means securing the ring flange to said second flange, a circular top plate in the ring above the ring flange, means removably securing the top plate to said ring flange, a central plug removable from the top plate to expose the socket mounted electrical fitting, the side wall having a continuous upwardly opening well therein, a shield of flexible material having an annular top flange and a depending continuous skirt, the top flange of the shield being clamped between the ring flange and said second flange and the skirt depending from the periphery of the latter into the well, and mastic in the well embedding said skirt.

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