April 26, 1932. S. N. BUCHANAN 1,855,751

ADJUSTABLE SUPPORTING MEANS

Filed July 24, 1926

Fig. 3

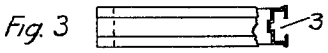


Fig 1

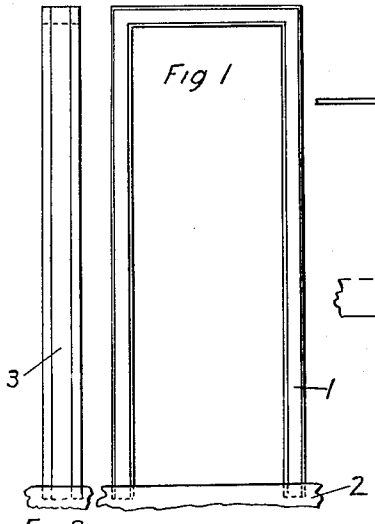


Fig. 2

Fig. 4

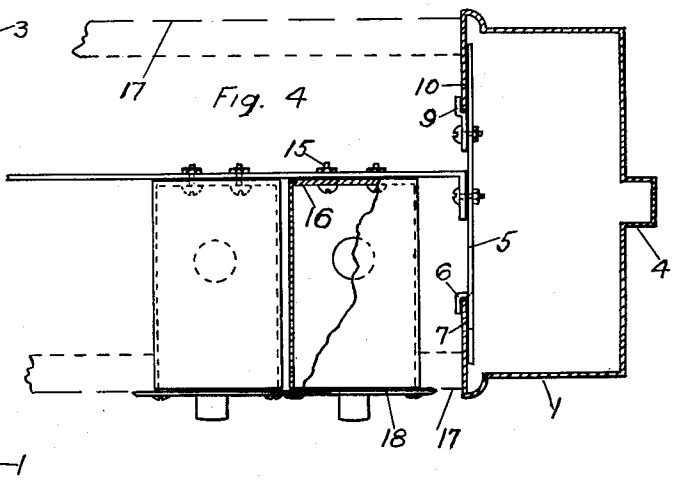


Fig 5

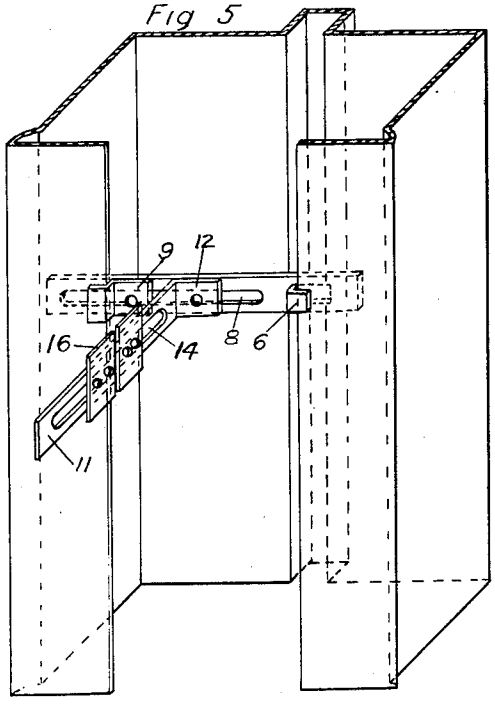
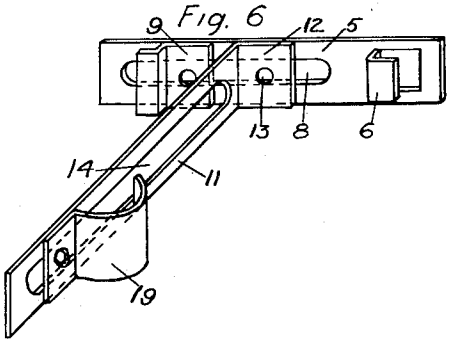


Fig. 6



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UNITED STATES PATENT OFFICE

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ADJUSTABLE SUPPORTING MEANS

Application filed July 24, 1926. Serial No. 124,567.

This invention relates to adjustable supporting means for various articles, such as conduit or outlet boxes, used in electric light wiring of buildings, conduits carrying electric light wires, signal wires, water, gas etc.

In the construction of fireproof buildings, the window and door frames are usually made of steel, the door frames being referred to, in the vernacular of the trade, as steel door "bucks". These door frames or "bucks" are at the present time, usually made of steel formed into a hollow channel shape, the lower end of the "buck" being fastened to some steel framework of the building, or set in concrete.

In order to provide a mounting for an outlet box or a conduit, it has been and is the practice so far as I am aware, to cut a wooden block of a length to fit tightly into the interior of the specific "buck" used. The block must be put in edgewise, and then turned over into position, and hammered into place. If the block is not the right length, another one must be cut, until the proper fit is secured. The openings in the door "bucks" vary in width, so that much time is lost in fitting the wood block in position. After the block has been hammered to a tight fit, in the "buck" then an iron strap is fitted to it and the strap drilled in the exact spot, so it will receive an outlet box at the desired distance from the door "buck". It will be seen that this procedure which is illustrative of the present practice is slow and more or less expensive.

It is therefore the principal object of my invention to provide improved supporting means, by which a workman can make all the necessary attachments and adjustments in a very small fraction of the time required by the old method above set forth.

My improvement will be best understood by reference to the annexed drawings, in which Figure 1, shows on a reduced scale an elevation of a door frame, or "buck".

Figure 2 is a side view of Figure 1, and

Figure 3 is a top view of Figure 1.

Figure 4 is a cross-sectional view on a reduced scale, through one side of the door "buck" showing somewhat diagrammatically a pair of outlet boxes mounted in position.

Figure 5 is a perspective view of a small portion of a door "buck" looking from the left of Figure 4.

Figure 6 is a perspective view of my adjustable supporting means having means for carrying or securing a conduit in position rather than an outlet box.

Referring now to the details, 1, is a door frame preferably of steel, which is set or carried by any suitable foundation, as by concrete 2. The door frame or "buck" is channel shaped having an opening 3, on its outside substantially all the way around its periphery, although it is to be understood that the channel may be closed the major part of the distance, leaving only openings on the sides and at the top; the frame is preferably made with a projection 4, to act as a stop for the door.

It will be appreciated that in order to get the outlet box mounted at the proper height, the attachment means must be provided with means for attaching it to the door "buck" so that it may be quickly adjusted in a vertical direction, likewise the member carrying the outlet boxes must have an adjustment substantially parallel to the axis of the member engaging the door "buck" so that when the tile and plaster is put on, they will be properly positioned with respect to the cover plate, likewise means must be provided on the supporting member so that the outlet boxes may be set at the desired distance from the edge of the door "buck". These adjustments are provided in the following instrumentalities: comprising a carrier 5, preferably in the form of a bar adapted to be quickly inserted through the opening in the door "buck". The bar 5, is provided with a lug 6, preferably punched outward from the material itself, to a position where it will properly engage the edge 7 of the "buck" 1. The bar 5, is slotted at 8, and adjustably positioned on the bar 5, is a lug 9, attached thereto by means of a screw (not shown) passing through the slot 8, which lug is adapted to engage the edge 10 of the "buck" 1.

It is thus seen that the bar 5, may be adjusted to any height desired, and quickly fastened in position. The bar 5, is adapted to carry a supporting member 11, which has one end 12, bent substantially at right angles to the main portion 11, and is attached to the bar 5, by means of a screw or bolt (not shown) which passes through the slot 8, thereby providing an adjustment with the member 11, on the bar in a direction substantially parallel with the axis of said bar.

The support member 11, is slotted at 14, to receive the screws or bolts 15, passing through the outlet boxes 16. In Figure 5, only one wall of the outlet box is shown in order that the parts may be more clearly shown in the drawings.

Likewise certain of the fastening screws or bolts are not shown for the purpose of clarity. This arrangement provides an adjustment in a direction parallel to the axis of the support member 11.

From what has been said it will be seen that the outlet boxes may be quickly brought into proper vertical and horizontal positions so that the cover plate 18, will always come in exact position with respect to the box and the plaster finish line 17.

In Figure 6, I have shown a clamp 19, adjustably carried on the member 11, so that a conduit for any purpose may be supported in any desired position.

While I have shown certain supporting means, it will be apparent that the details may be varied considerably without departing from the spirit of my invention and the scope of the appended claims.

Having thus described my invention, what I claim is:

1. Adjustable supporting means for attaching an electrical fitting to a channel shaped metal frame, comprising; a carrier in the form of a bar, for spanning the opening in the frame and longer than the width of said opening and having an integral lug at one end for engaging the side of the opening, a clamp slidably attached to the opposite end of the bar for engaging another side of the opening, a supporting member slidably mounted on the bar substantially at right angles thereto, said supporting member being provided with means for slidably carrying an article thereon.

2. Adjustable supporting means for attaching an electrical fitting to a channel shaped metal frame, comprising; a carrier in the form of a bar, for spanning the opening in said frame, means at opposite ends of the bar for engaging said frame, said means including a clamp carried by the bar and adjustable thereon in a direction parallel with the axis of the bar, whereby the bar may be mounted in openings of varying dimensions, a supporting member carried by the bar and adjustable thereon in a direction parallel with the axis of the bar, means for supporting an article on said supporting member and said means permitting the article to be adjusted in a direction parallel with the axis of the supporting member.

3. Means for mounting an article on a hollow steel frame having flanges extending toward each other from the side walls of the frame but leaving an opening between said flanges comprising; a carrier adapted to be placed within the hollow part of the frame and to stretch across the opening between said flanges, clamping means associated with the carrier for engaging said flanges, at least a part of the clamping means being adjustable on the carrier to accommodate the same to openings of varying width, a supporting member secured to and extending from the carrier substantially at right angles thereto and longitudinally adjustable thereon, said supporting member being provided with means for securing an article thereto, in a plurality of positions longitudinally of said supporting member for the purpose described.

4. In combination with a frame consisting of a hollow metal structure having a longitudinal opening on one side of the frame and extending in the direction of its length, means for attaching an outlet box thereto comprising; a bar positioned in operative relation to the hollow frame and extending across the opening and longer than the width of the opening and provided with means for quickly engaging the frame in any desired position, a supporting member mounted on the bar substantially at right angles thereto, and for longitudinal adjustment thereon, an outlet box carried on said supporting member and means for longitudinally adjusting the outlet box thereon, all for the purposes described.

5. In combination with a hollow metal frame structure having a longitudinal opening in the outer peripheral portion of the frame, means for mounting an electrical fitting thereto comprising; a carrier located within the frame and extending transversely across said opening and provided with means for fastening the same to the frame structure, at least a part of said fastening means being adjustable along the carrier and an arm adjustably carried on the carrier, said arm having means for longitudinally adjustably mounting an electrical fitting thereon.

6. Means for attaching an electrical fitting to a hollow open metal frame for an opening in a building, whereby the fitting may be quickly positioned so as to be at; the proper height from the floor line, a suitable distance from said frame, and in the right position with respect to the plaster finish line comprising; a carrier extending across the opening in the frame, said carrier provided with a pair of clamps for engaging the frame; at

least one of said clamps being slidable on the carrier for quickly adjusting the vertical position of the carrier in the frame, with respect to the floor line, a supporting member mounted on and at right angles to the carrier, means for longitudinally adjusting the supporting member on the carrier for the purpose described and means provided on the supporting member for slidably securing said fitting thereon so the same may be quickly brought to the desired position with respect to the frame as described.

In testimony whereof, I affix my signature.

STEPHEN N. BUCHANAN.