Nov. 7, 1939. J. G. KNIGHT 2,179,262

DOOR BUCK SUPPORT

Filed April 23, 1937

Fig. 8.

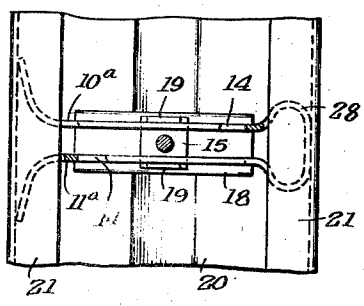


Fig. 1.

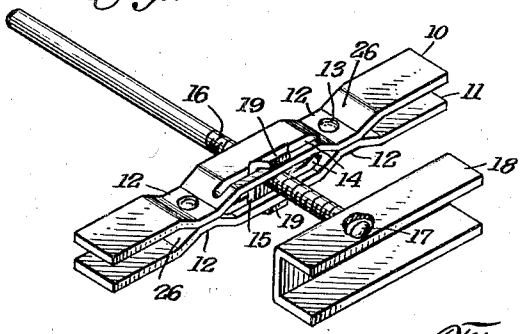


Fig. 2.

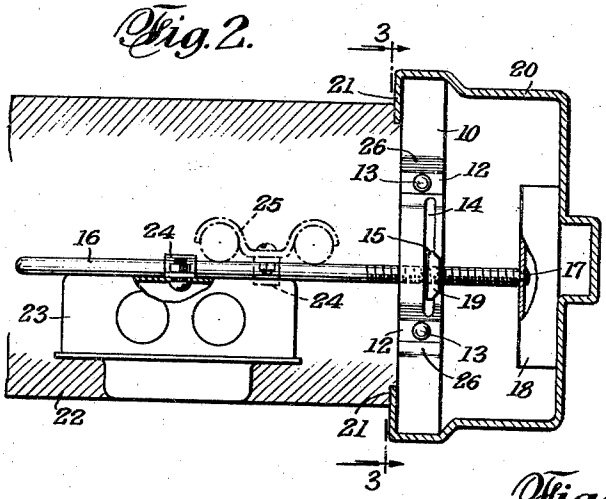


Fig. 3.

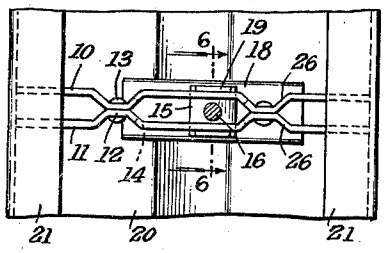


Fig. 4.

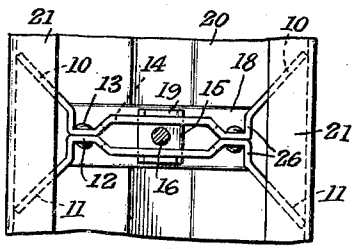


Fig. 6.

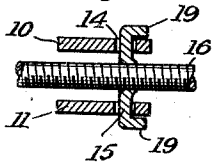


Fig. 7.

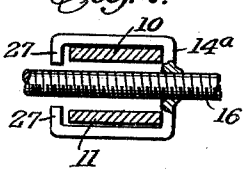
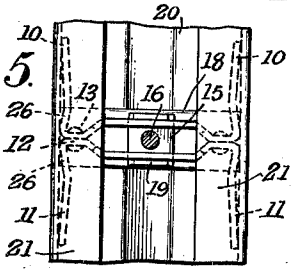


Fig. 5.



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Patented Nov. 7, 1939

2,179,262

UNITED STATES PATENT OFFICE

2,179,262

DOOR BUCK SUPPORT

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Application April 23, 1937, Serial No. 138,527

8 Claims. (Cl. 220—3.3)

The invention disclosed herein relates to the supporting of switch boxes, outlet boxes, junction boxes, electric conduit and the like, from steel door bucks or similar structures.

The door bucks in general use are of different sizes to suit the thickness of different walls and it has been a practice to make the supports to be used with those bucks of different lengths to suit particular sizes of bucks.

Special objects of the present invention are to provide a universal form of support, which may be used equally well with door bucks of different sizes and adjusted to support the switch box or other element at the desired location in the wall.

Further objects are to provide a buck support, which will be of particularly simple and inexpensive construction, easily assembled, readily mounted, adjusted and secured and which will occupy small space in shipment and storage.

The foregoing and other desirable objects are attained by novel features of construction, combinations and relations of parts hereinafter defined and broadly claimed.

The drawing accompanying and forming part of the specification illustrates certain practical embodiments of the invention, but it will be appreciated that the structural form may be modified and changed all within the true intent and broad scope of the invention, as claimed.

Fig. 1 is a perspective view of one of the supports.

Fig. 2 is a broken part sectional horizontal view taken through a wall and door buck and showing the structure of Fig. 1, as in use therein for supporting a switch box, outlet box, conduit, or the like.

Fig. 3 is a broken part sectional view as taken on substantially the plane of line 3—3 of Fig. 2.

Figs. 4 and 5 are similar views illustrating the feature of shortening the support to adapt it to smaller size bucks.

Fig. 6 is an enlarged broken sectional detail as on substantially the plane of line 6—6 of Fig. 3.

Fig. 7 is a similar view of a modification.

Fig. 8 is a broken part sectional view similar to Fig. 3, showing a modified form of the support.

The form of the device shown in Fig. 1, consists of two lengths of strap metal 10, 11, secured together in relatively spaced relation by having approached portions 12, of the same fastened by through rivets 13, and slotted lengthwise at 14, in their intermediate portions to slidingly receive a bridging nut piece 15, carrying a screw rod 16. The end of this rod is shown as having a swivelled thrust connection at 17, with a thrust bar 18, of channel cross-section. It will be noted the spacing of the slotted intermediate portions of the bars 10, 11, is sufficient to freely pass the screw rod 16. One or both ends of the nut piece 15, may be turned at an angle as indicated at 19, to slide over the outer face of one or both these bars to prevent turning of this nut piece when the screw rod is relatively rotated.

Door bucks of typical cross-section are represented at 20, in the several views and Fig. 2 in particular shows how the support is mounted by locating the generally parallel bars 10, 11, in edgewise engagement back of the spaced buck flanges 21, with the free end of the screw rod projecting outwardly away from the buck and then turning this rod until the thrust piece 18 engages the back or inner wall of the buck. Ordinarily, sufficient pressure may be developed to firmly secure the support in position by simply turning the rod by hand, but if considered desirable, pliers, pipe wrench or other tools may be employed for relatively spreading the cross bars and thrust piece sufficiently to firmly lock the support in position in the buck. The thrust piece distributes the pressure so developed to prevent injury to the inner wall of the buck and similarly the spaced cross bars distribute pressure sufficiently to prevent injury to the buck flanges. The edgewise disposition of both the cross bars and the channel-shape thrust piece enables these parts to take all developed pressure without bending or giving way.

As will be clear from Fig. 2, the screw rod may be adjusted more or less toward either one or the other surface of the wall 22, through the sliding of the nut piece 15, in the slots 14, to locate the switch box or other supported structure 23, in proper relation to the plaster line. Screw clamps, such as illustrated at 24, may be employed for securing boxes such as 23, conduit clamps 25, or the like, in various positions lengthwise on the rods 16.

Figs. 2 and 3 illustrate what may be considered a large size buck and in which instance, the spaced cross bars extend substantially straight across the full width back of the buck flanges 21.

Fig. 4 may be considered as showing a medium size buck in which the distance back of the buck flanges is much less. In such a case, to fit the support back of the flanges, it is only necessary to spread or relatively separate the spaced end portions of the bars 10, 11 and thus to fore-

shorten the total, overall length of the bars sufficiently to go in that lesser space.

Fig. 5 represents what may be considered as a much smaller or smallest size buck. To fit the support in this much lesser space, the ends of the two bars may be fully separated, in fact, be bent substantially at right angles to the general longitudinal axis of the support.

The bars 10, 11, may be of mild strip steel, which can be readily bent by pliers or like tools and such bending is facilitated by the previously bent condition of these strips at 26, where they are offset toward each other to bring them flat together at the points of riveting.

The nut pieces 15 may be made of similar strip steel, since they only require a few screw threads and have only a relatively short distance to bridge across the slotted intermediate portions of the two bars.

Instead of slotting the bars and sliding the nut in such slots, the nut piece may be made as a yoke embracing the bars substantially as indicated at 14*a* in Fig. 7, with one or both ends of such yoke angled inward as indicated at 27, to hold this yoke in sliding position on the bars.

The construction shown in Fig. 8 illustrates the fact that the spaced bars may be made of one continuous length. Here the bars are designated 10*a* and 11*a* and are shown integrally connected at one end by a loop 28, which may be spread as much as considered desirable to give the bars a wide bearing on the back of the flange. In such construction, the angled ends 19 of the nut piece 15, sliding in slots 14, serve to prevent separation of the intermediate substantially parallel parts of these integrally connected bars and in this construction, as in the preceding, the ends of the bars may be relatively spread to shorten the structure for smaller size door bucks.

The face-to-face relation of the generally parallel spaced bars and the relatively transverse disposition of the sliding nut piece bridging the same serve to locate the bars in the edgewise relation back of the buck flanges and the screw rod extending horizontally when the support is engaged in the buck. The malleable or bendable character of the bars and the relative separability of the ends of the bars, enable ready shortening to fit smaller sized bucks. Instead of being made up fully extended for maximum length, the bars may be partly bent, that is, separated to an intermediate extent as for medium sized bucks, Fig. 4, in which condition they may be squeezed or hammered together to extend them fully as in Fig. 3, for larger sized bucks or may be further spread as in Fig. 5, to fit a smaller sized buck. As another alternative, the supports may be made up fully spread as in Fig. 5, ready to be bent out more or less to fit larger sized bucks.

The adjustability to fit different sized bucks is particularly advantageous for adapting the support to bucks which have only very narrow marginal flanges 21, for in such cases, the ends of the support may be bent one way or the other, so as to engage fully behind such narrow flanges. The separation of the ends of the bars also is desirable in furnishing relatively wide bearings at the opposite ends of the support providing a desirable firmness in the mounting of the support in the buck. The two forms of the invention shown, illustrate the point that the cross bars may be separate pieces secured together as by rivets or the like, as in Fig. 1, or portions of one continuous strip, as in Fig. 8. In this latter form also, the bars may be separate pieces, riveted or otherwise suitably secured together. Various other modifications and changes may be made, as will be clear from the scope of the claims.

What is claimed is:

1. A buck support comprising relatively spaced bars of a length to engage back of the marginal flanges of a steel door buck, said bars being bendable for varying the effective length of the same to fit door bucks of different sizes, a member having a screw connection with said bendable bars for exerting a holding thrust against the back of a buck in which the support may be engaged, said screw connection being provided by a nut piece disposed across spaced portions of said bars, the thrust member being a screw rod extending through said nut piece between the bars, said screw rod projecting from the nut piece to form a support for a switch box, outlet box, or other element and said nut piece having a sliding engagement lengthwise of the bars to enable adjustment of said support transversely of a buck to which the support may be applied and said nut piece further having an angled end projecting over and slidingly engaging the outer face of one of the bars to hold said nut piece against rotation while slidably adjustable along the bars.

2. A buck support comprising relatively spaced bars of a length to engage back of the marginal flanges of a steel door buck, said bars being bendable for varying the effective length of the same to fit door bucks of different sizes, a member having a screw connection with said bendable bars for exerting a holding thrust against the back of a buck in which the support may be engaged, said screw connection being provided by a nut piece disposed across spaced portions of said bars, the thrust member being a screw rod extending through said nut piece between the bars, said bars being slotted and said nut piece having a sliding engagement in the slotted portions of said bars and one or both ends of said nut piece being extended and bent over the outside of one or both bars to slidingly retain the nut piece in a non-rotative relation.

3. A buck support comprising bars secured together in relatively spaced relation and of a length to engage back of the marginal flanges of a steel door buck, said bars being bendable for varying the effective length of the same to fit door bucks of different sizes, a member having a screw connection with said bendable bars for exerting a holding thrust against the back of a buck in which the support may be engaged, said screw connection being provided by a nut piece disposed across spaced portions of said bars, the thrust member being a screw rod extending through said nut piece between the bars and said nut piece being in the form of a yoke having arms slidingly embracing the bars and thereby held against relative rotation.

4. A buck support, comprising flat straight strips having reversely angled portions intermediate the ends of the same secured together in face-to-face relation with intermediate portions between said reversely angled secured together portions spaced in substantial parallelism and the ends spaced apart in substantial parallelism and free to be spread or bent toward each other, a supporting element extending through the space between the spaced intermediate portions of said strip and screw connecting means between said supporting element and said strips, said oppositely angled portions forming bending angles for the separation of the free ends of the strips and said screw connecting means includ-

ing a nut element bridging said spaced intermediate portions of the strips and slidably confined in non-rotatable relationship to said spaced intermediate portions.

5. A buck support, comprising a flat strip of bendable material doubled upon itself to provide substantially parallel spaced portions, a nut piece connecting said spaced portions and a screw threaded supporting rod engaged with said nut piece and extending between said spaced portions of the strip, said nut piece having angularly extending end portions slidingly engaged over the outer faces of said spaced portions of the strip for holding said nut piece against rotation and said nut piece further having portions engaging said spaced portions of the strip to prevent separation of the nut piece from said spaced portions.

6. A buck support comprising relatively spaced bars of a length to engage back of the marginal flanges of a steel door buck, said bars being bendable for varying the effective length of the same to fit door bucks of different sizes and a member having a screw connection with said bendable bars for exerting a holding thrust against the back of a buck in which the support may be engaged, said screw connection being provided by a nut piece extending across the spaced portions of said bars and the thrust member being a screw rod engaged with said nut piece and a thrust piece of channel cross-section swivelled on the end of said screw rod with the flanges of the same disposed away from the screw rod and the swivel of said screw rod located within the channel between said flanges.

7. A buck support, comprising two bars of flat originally straight stock arranged face-to-face and having at spaced positions in the length of the same inwardly offset portions which abut and are permanently secured together, thereby providing between said abutting portions relatively spaced parallel lengths and at the ends beyond the abutting portions spaced parallel extending end portions which can be bent to foreshorten the overall length of the two bars, the spaced parallel lengths of the bars between the abutting portions being longitudinally slotted, a nut piece slidingly engaged in said slots, said nut piece having an angled end extension engaging over the outer face of one of said bars to thereby confine the nut piece in the slots against rotation and a thrust rod having a screw engagement in said nut piece and projecting therefrom beyond the bars to provide a support for a switch box or other structure.

8. A buck support, comprising two bars of flat originally straight stock arranged face-to-face and having at spaced positions in the length of the same inwardly offset portions which abut and are permanently secured together, thereby providing between said abutting portions relatively spaced parallel lengths and at the ends beyond the abutting portions spaced parallel extending end portions which can be bent to foreshorten the overall length of the two bars, the spaced parallel lengths of the bars between the abutting portions being longitudinally slotted, a nut piece slidingly engaged in said slots having a screw-threaded aperture in that portion of the nut piece between the bars and having opposite end portions extended through the slots to the outer sides of the bars and angled over to engage the outer faces of the bars to hold the nut piece against rotation and to prevent separation of the nut piece from the bars and a thrust rod having a screw-threaded portion engaged in the screw aperture of the nut piece and an extending part for support of a switch box or other structure.

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