SUPPORT ATTACHMENT FOR ELECTRIC SWITCH BOXES AND THE LIKE

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INVENTORS
EARL F. SMITH
GUY KENNETH WILSON

By Thomas J. Ryan
ATTORNEY.
UNITED STATES PATENT OFFICE

EARL F. SMITH AND GUY KENNETH WILSON, OF MUNCIE, INDIANA, ASSIGNORS TO MIDWEST METAL PRODUCTS COMPANY, OF MUNCIE, INDIANA, A CORPORATION OF INDIANA

SUPPORT ATTACHMENT FOR ELECTRIC-SWITCH BOXES AND THE LIKE

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This invention relates to support attachments for electric switch housings or like devices.

A switch housing of the type for which the present invention is especially suitable consists of a rectangular sheet metal box-like structure having open front, and there being a flange at opposite edges of the front of the box; the said flanges being adapted to rest against the frontal surfaces of the edges of the opening in the wall where installation of the box is intended. The practice hitherto has been to apply screws through the holes provided in said flanges, and into the wall structure. The material of such wall structure is composed, consisting usually of metal or wood lath and plaster, or of plaster or fiber board, the fastening of the box thereto by means of the above described is unsatisfactory and impracticable for the reason that the box is retained insecurely. Moreover, in case the edge portions of the opening in the wall may become mutilated in the effort to obtain connection thereto, there is then no way to fasten the box in position, but to either provide another location and opening, or to construct a support means of some sort in or at the rear of the wall structure.

The object of the present invention is to provide an attachment to the switch box, whereby the box may be easily disposed in its place, and then secured in true position, and without the necessity of the use of screws or nails applied to the wall. Further purposes of the invention are to provide such an attachment in form and construction so that it is economical of manufacture, easy to use, and is strong and durable.

The objects of our invention are accomplished by, and the invention is embodied in the new construction, combination and arrangement of parts described in the following specification and illustrated in the accompanying drawings. The several parts of the invention are identified by suitable characters of reference applied to them in the different views, in which—

Figure 1 is a central longitudinal sectional view of our improved attachment for electric switch boxes.

Figure 2 is a plan view of Figure 1.

Figure 3 is an end view as seen in the direction of arrow 3 in Figure 1.

Figure 4 is a cross section view taken on the line 4—4 in Figure 6.

Figure 5 is a side view showing the support device in operative position supporting a switch box of standard form, a portion of the wall board to which the box is fastened, being also shown.

Figure 6 is a top plan view of Figure 5, a portion of the switch box being broken away.

Figure 7 is a front view of Figure 5.

This invention contemplates the providing of a resilient or elastic bow to span the box and whose legs are divergent, and a connecting device between the head of the bow and the rear side of the box. A connecting device between the box and the bow, of simple form, is a cap screw.

The box equipped with this simple invention is simply passed through the opening provided therefor in the wall board, the legs of the bow 'yielding' as the box is passed through, and then springing to the normal expanded status. The box is easily stayed in position by one hand, while with the other hand the screw is turned clockwise. Thus the distance between the box and the head of the bow is decreased, the legs of the bow being pressed firmly against the rear side, and the flanges of the box being pressed firmly against the front side, respectively, of the wall board.

The construction, combination and arrangement of parts shown herein for carrying this invention into effect, are intended for use in connection with a switch box of
the common dimensions of three inches in length and two inches in width. The bow is of U shaped formation, having the head portion A, and the divergently inclined legs B and B, as shown in Figure 2. It is made preferably of number two galvanized sheet steel, and is about one and one quarter inches in width. The said head portion A has a longitudinal head or ridge A which affords suitable stock for the screw connection, and lends stiffness to the central portion of the head. A cap screw C may be of type to be operated by hand, or by a screw driver or wrench, and it may be one and one quarter inches in length as in the present instance. It may be adapted for retention loosely in a hole E of the box, or it may be threaded in said hole. This screw is threaded through the head A of the bow.

It will be understood that this bow may be made of plain strip metal of thickness, width, and resiliency suitable for the particular type of box or device for which the attachment is intended; and it may be provided with any suitable form of central section for accommodating the screw. In the same sense, the type of screw, and its size and length, may be modified, in accordance with the depth of the box, and in accordance with the nature and the thickness of the wall plate structure. Essential characteristics of the bow are that it should be of such span as to repose as closely adjacent to the sides of the box as may be practicable, and the material of which it is made should be of such width that the tendency of same to move rotatively, when the screw is operated, may be minimized. To facilitate the engagement by the legs B and B with the wall board, and to overcome possible tendency of the legs to move outwardly when pressure is exerted by the screw, they are provided with the serrations D, as plainly shown in Figure 1 and in Figure 5. The opening provided in the wall board is of the suitable width, and may have the slightly increased intermediate cross dimension, as shown in Figure 7, just sufficient to permit the head portion of the bow to easily pass there-through. To equip the box with our improved attachment, the screw C is disposed in the hole E that is provided in the rear wall of the box, and then is screwed a relatively short distance through the bow, the latter then occupying the position as shown by dotted lines in Figure 6. The degree of curvature of the bow intended for use in connection with a box of the size and type shown, is that shown in Figures 2 and 6. To install the box which is equipped as above described, it is passed into the opening provided therefor in the wall, and as it is pushed through and the flanges F and F come to rest against the face of the wall, the legs B and B will have yielded inwardly, and will have passed or cleared the edges of the opening and returned to their normal expanded status. The box is easily stayed by one hand, while with a screw driver in the other hand, the screw C is turned clockwise. With the consequent decreasing of the distance between the box and the head of the bow, the legs B and B are soon moved to engagement with the wall board, whence the serrations assume tenacious hold, with the tightening of the screw. The status of the several parts is then as shown in Figure 6, the legs B and B, and the flanges F and F, being in tightened engagement with the rear and front faces, respectively, of the wall plate. Obviously the invention is applicable in connection with boxes having flanges of any structure suitable for engagement with the frontal face of the wall plate. Also it will be understood that minor modifications and changes may be made in the details, forms and proportions of the several parts, without departing from the principle of our invention. Whereas it is unlikely that a box once installed, may be subject to be removed; if such occasion might arise, the screw C is unscrewed, permitting the bow to become detached. The box may then be taken from the opening, and if replacement is desired, a new bow is supplied.

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A device of the kind described, comprising a housing having open front and being provided with exteriorly extending flanges, a resilient bow to span the housing and whose end portions extend toward the front of the housing, and a connection device between the head of the bow and the back of the housing, to vary the distance between the head of the bow and the housing.

2. A housing having open front and being provided with exteriorly extending flanges, a resilient U shaped bow, and a screw loose in the back of the housing and threaded through the head of the bow, said screw being operable from the front of the housing.

3. A device of the kind described, comprising a housing having open front and being provided with exteriorly extending flanges, a U shaped resilient bow whose legs are divergent, said bow being adapted to span the housing, and a screw mounted in the back of the housing, and threaded through the head of the bow.

4. In building construction the combination with a wall structure sheeting provided with an opening therein, a box adapted to be inserted into said opening and being provided with exteriorly extending flanges, a U shaped resilient bow having its legs divergent and adapted to freely pass the edges of the wall opening and to expand beyond said edges. 
when the box will have been inserted in said opening and a screw carried by the box to retain the bow and which is operable to decrease the distance between the bow and the box, thereby causing the said legs and the said flanges to grip the rear and front respectively of the wall structure sheathing.

In testimony whereof we affix our signatures.

EARL F. SMITH
GUY KENNETH WILSON.