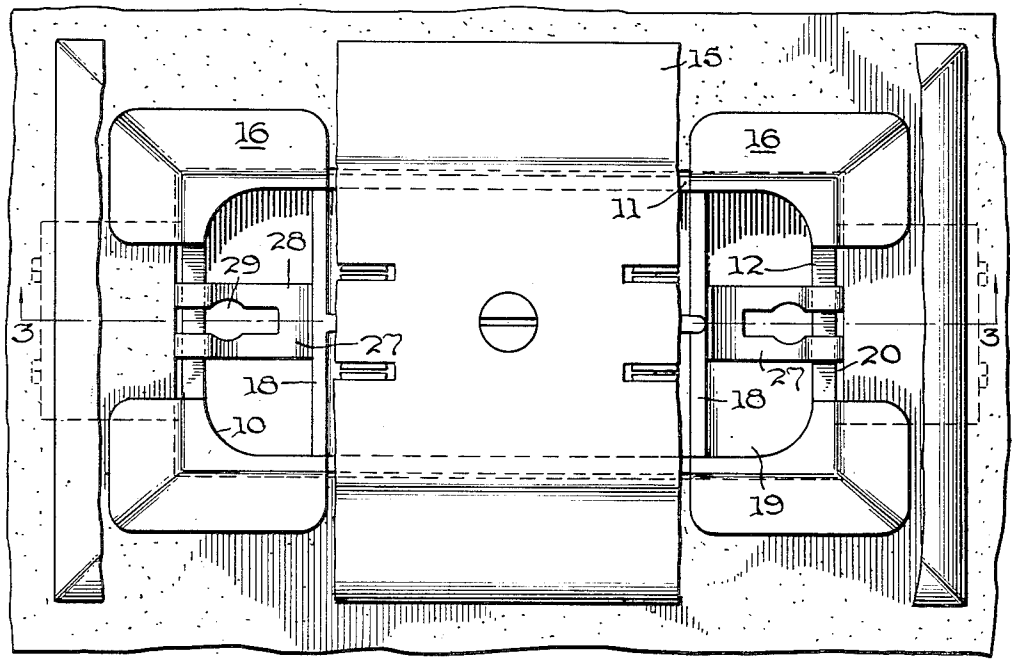
Dec. 4, 1956 V. R. DESPARD 2,773,115

MOUNTING FOR WALL AND SWITCH BOXES

Original Filed June 25, 1951 2 Sheets-Sheet 1

FIG. 1.



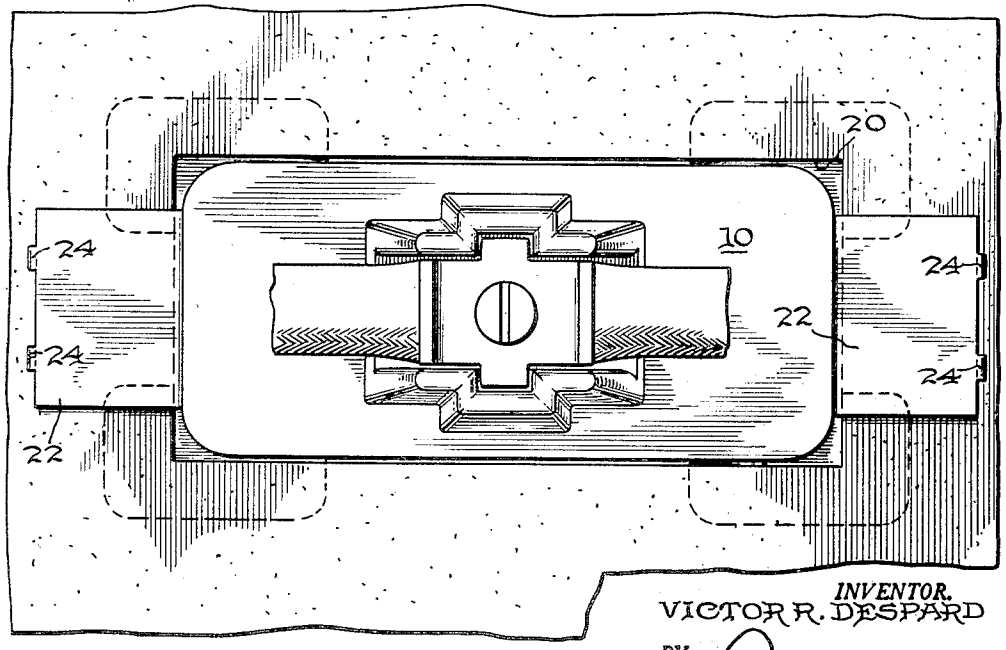


FIG. 2.

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Original Filed June 25, 1951 2 Sheets-Sheet 2

FIG. 3.

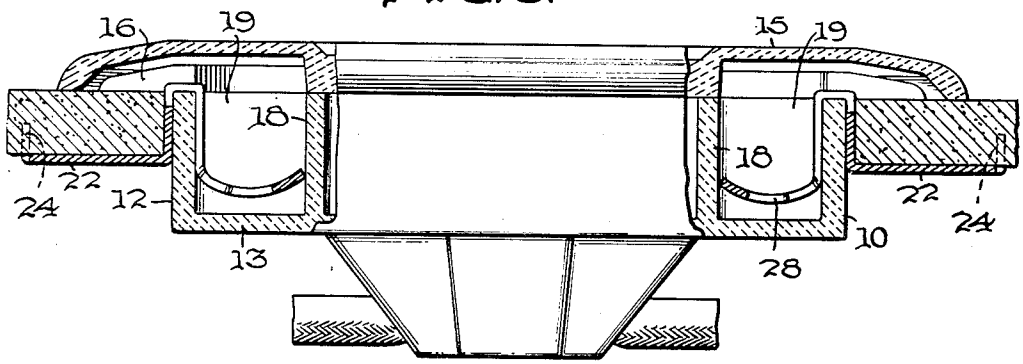
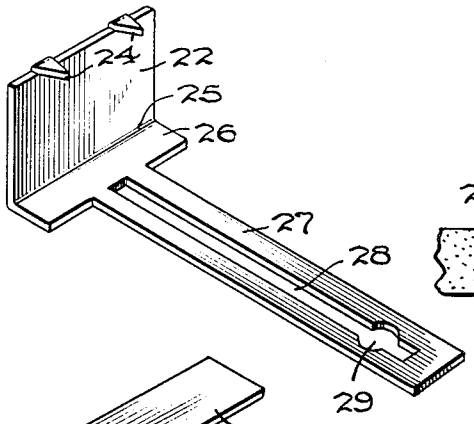


FIG. 4.



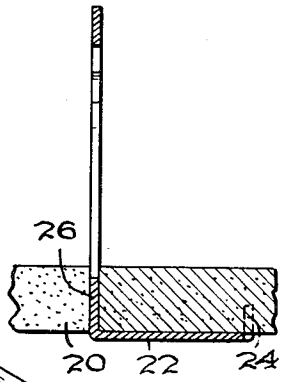


FIG. 5.

FIG. 6.

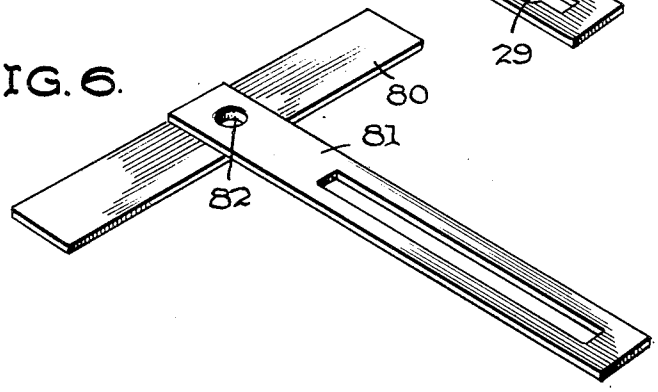




FIG. 7.

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MOUNTING FOR WALL AND SWITCH BOXES

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Original application June 25, 1951, Serial No. 233,313. Divided and this application May 19, 1952, Serial No. 288,725

3 Claims. (Cl. 174—58)

This invention relates to electric wiring equipment and more particularly to such equipment for installation in finished walls in what is referred to by electricians as "old work."

It is a general object of the present invention to produce novel and improved wiring equipment of the type described providing added ease of mounting, reduction in the amount of essential materials required, low cost, etc.

More particularly it is an object of the invention to provide an insulating wiring box for mounting from the front in a finished wall and having spaced corner tabs to bear on the front of the wall and separate end compartments to receive the ends of bent-in box holding straps.

An important object of the invention resides in the provision of a fastening strap for use with finished walls for mounting wiring boxes and including a unitary sheet metal device having a flat head portion fitted at one edge with upturned prongs for penetrating the rear of the wall and at an opposite edge with an upturned bendable strap for engagement over a forward edge of a box.

Another important object of the invention resides in the provision of a fastening strap of two part T construction wherein the head and tail portions are overlapped and articulated and the tail portion is longitudinally slotted for ease in bending.

A still further important object of the invention resides in the combination of a one place insulated wiring box having integral wall engaging flanges at the front corners thereof, with a bendable metal mounting strap, provision being made in the box for separate compartments to receive the bent-in strap ends.

Other and further objects and features of the invention will become apparent to those skilled in the art as the description proceeds with the aid of the accompanying drawings, wherein is disclosed a single embodiment of the invention except for the mounting means, it being understood that such changes may be made therein as fall within the scope of the appended claims without departing from the spirit of the invention.

In said drawings:

Fig. 1 is a front elevation, with cover plate partially broken away, of a unitary duplex convenience outlet and insulating wall box shown mounted in a finished wall;

Fig. 2 is a rear elevation of the same, showing the mounting straps against the back of the wall;

Fig. 3 is a vertical central section taken on the plane of line 3—3 of Fig. 1 and showing the disposition of the strap ends;

Fig. 4 is a perspective view of the preferred form of box mounting strap;

Fig. 5 is a fragmentary section through a wall adjacent a box opening showing the initial positioning of a mounting strap before insertion of the box;

Fig. 6 is a perspective view of another form of mounting strap; and

Fig. 7 is a longitudinal central section through the strap of Fig. 6.

The wiring of, or additions to the existing wiring in, old houses or other buildings having finished walls has always been an annoying problem for the electrician. Aside from the requirement for assembling the necessary conductors, boxes, wiring devices, cable clamps, wall plates, and some form of makeshift mounting devices for the boxes, all from separate items of stock and loosely carried to the job, he had to consider ways and means for securing the boxes in walls, which of themselves often did not offer secure holding for fastening devices. Such walls if relatively old probably comprise metal or wood lath with several coats of plaster, while if more modern comprise some form of plasterboard and at least a finish plaster coat. Dry wall constructions may include any of the various fiber-boards, sheet plaster, hard boards, plywood and other panelling. These various walls are different in thickness and fastening holding ability, and some have almost none of the latter. The present invention contemplates the presentation of a single combination box and wiring unit packaged with necessary accessories for wiring in finished walls and provides satisfactory mounting means for use with any style of wall construction and finish.

The invention is developed about a one-piece wiring box molded of insulated material, such as shown at 10 in the drawings. This box is generally of shallow rectangular form, having thin side walls 11, slightly thicker end walls 12, an open front and a sturdy rear wall 13. The inner and outer corners and edges are suitably rounded and filleted for added strength, and the unit is molded from a suitable insulating plastic having necessary strength requirements. The box, although shown twice normal size, is somewhat less in length and width than the conventional single gang junction or switch box and thus fits in a smaller opening in the wall. Such an opening does not have to be accurately cut since there is adequate overlap of the face plate 15 shown in Figs. 1 and 3. This will hide quite wide errors in opening size.

To prevent the box from passing entirely through the wall opening when introduced through the front thereof, it is equipped with four relatively wide integral corner flanges or lugs 16 each so positioned as to overlap the wall to the side and to the end of the box, as seen clearly in Figs. 1, 2 and 3. These lugs have their wall engaging faces in the plane of the front edges of the box walls. Spaced a short distance from each end wall of the box, and shown but not necessarily parallel thereto, is a partition wall 18 extending crosswise of the box and integral with the side and bottom walls, thus providing pockets 19 reserved to isolate the ends of mounting straps about to be described, which are used for maintaining the box in position in the wall and require no fastening to the latter. These mounting straps are arranged one adjacent each end of the box and in order that they may pass close along the faces of the end walls and between them and the edges of the wall opening 20, the box corner lugs 16 are spaced apart across the wall end a distance suitable for this purpose.

Fig. 4 shows one of the preferred mounting devices in perspective. It comprises a unitary construction of sheet steel, having a head 22, preferably rectangular in form for convenience and economy in cutting, and projecting at right angles to its plane and from its long edge 23 the prongs 24. These are elongated points capable of being pressed into the material of the back face of the wall for a purpose later to be described. The opposite edge of head 22 is bent at right angles about line 25 to form flanges 26 parallel to the plane of the prongs and less in width than the thickness of any wall material with which it will be used. Extending from the center of the flange is the strap 27, an elongated strip of metal which is preferably longitudinally slotted as at 28 to facilitate bending

thereof. The slot may be widened, as shown at 29, by a circular hole to weaken the end portion still more.

For the purpose of mounting a box of the type described, which may be used for any form of wiring apparatus desired, the opening 20 in the wall is first cut to receive it loosely, and one of the straps of Fig. 4 positioned with its head beneath the material of the wall adjacent each end of the opening. With the flange 26 engaging the end wall of the hole the prongs are pressed into the wall material and the strap bent back over the front face of the wall, thus holding the strap in position against falling within the wall while the box is inserted from the front until its lugs closely engage the wall. The straps of the fastening devices are then in turn bent down over the box end walls, as best seen in Fig. 3. The bending is continued until a portion of the strap engages against the inner face of the end wall, using a screw driver or tool if necessary to press on the surface of the strap to insure all of the end of it being received in the pocket 19 reserved for that purpose and which insures it being isolated from any of the electrical parts of the apparatus. The extra bendability introduced by the wider slot 29 permits the bending up of the end where it engages the partition wall 18 in the event that the mounting wall is thin and considerable strap end is available.

The box just described may receive any of the more or less conventional wiring devices or it may have combined as a unitary part of it the necessary terminal and contact elements to convert it into a complete wiring device. It preferably also has means for clamping cables thereto so that they may be attached before the box is inserted in the wall, passing through the opening 20 therein during the assembly.

Some electricians may prefer, and some types of roughly plastered metal-lath walls may require, a longer mounting strap because of the greater wall thickness. To provide for this and to eliminate the need for the prongs shown on the preferred form of mounting strap, an assemblage of two straps 30 and 31 may be made, as shown in Figs. 6 and 7. The cross or head strap 30 is of considerably greater length than the width of the opening cut in the wall to receive the box and its edges rather than its face are intended to engage the back surface of the wall. It is articulated to the bendable strap 31 as shown in Figs. 6 and 7 by forming a rivet out of the material of one of the parts, which is pressed through an opening in the other, as seen at 32, so that the head 30 may be moved in alignment with the other part to permit insertion between the edge of the hole in the wall and the end wall of the box after the latter is in position. Then by careful manipulation and inching the loosely hinged head is caused to turn and assume the position shown in Fig. 6 when the strap 31 may be bent back into the compartments 19 in the manner shown in connection with the other form of mounting strap.

This application is a division of my pending application Serial No. 233,313, filed June 25, 1951.

I claim:

1. The combination of an electric wiring box for mounting from the exposed or room side of and through an opening in a finished wall and box holding supports for engaging the concealed or back face of the wall and the free edges surrounding the open side of the box, said box being formed of moulded plastic material having end and side walls forming a rectangular configuration open at the front or face adapted to be flush with the exposed side of the wall and closed at the opposite face, electric contacts and terminals permanently mounted and exposed in said box intermediate its ends, an integral flange near each front corner of the box projecting to engage the exposed wall face adjacent the corners of the opening therein, each box holding support having a sheet metal head to engage the concealed face of the wall and a strap extending therefrom to pass between an end wall of the box and an end of the wall opening for bending over the free edge of said end wall, said box having an integral wall spaced from each end wall to define therewith an inside compartment to receive and isolate the bent-over end of the adjacent support strap from the said electrical contacts and terminals.

2. The combination as defined in claim 1 in which the flange ears extend from the end walls of the box and are spaced apart sufficiently for the passage therebetween of the corresponding support strap.

3. The combination of an electric wiring box of moulded plastic material for mounting from the room side of and through an opening in a finished wall and box holding supports for engaging the concealed face of the wall and the edges of the open, room-side of the box, said box having end and side walls having free edges adapted to be substantially flush with the room-side of the wall, a closed bottom for the box supporting contacts and wire terminals, intermediate walls spaced from the end walls to provide compartments insulated from said contacts and terminals, means extending from the walls at the free edges thereof to engage the room-side of a wall to limit the entrance of the box into said opening, each box holding support having a sheet metal head to bear against the concealed face of the wall, a strap portion extending from one edge of said head intermediate its ends to pass between an end wall of the box and the end of the opening, said strap being sufficiently narrow and thin to be readily bent over the edge of an end wall with the excess material folded into the adjacent compartment.

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