June 5, 1934. H. L. ARNEST ET AL 1,961,728

ELECTRICAL OUTLET BOX

Filed March 22, 1932

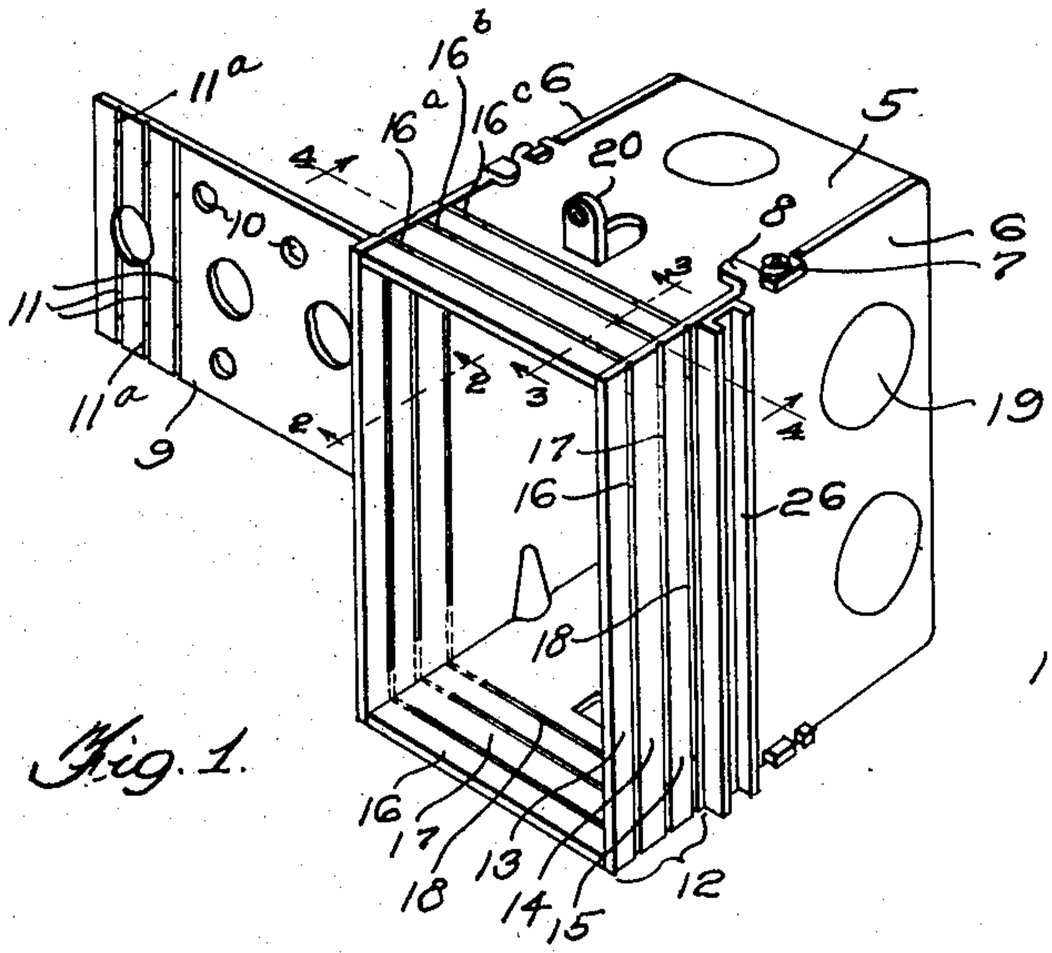

Fig. 1.

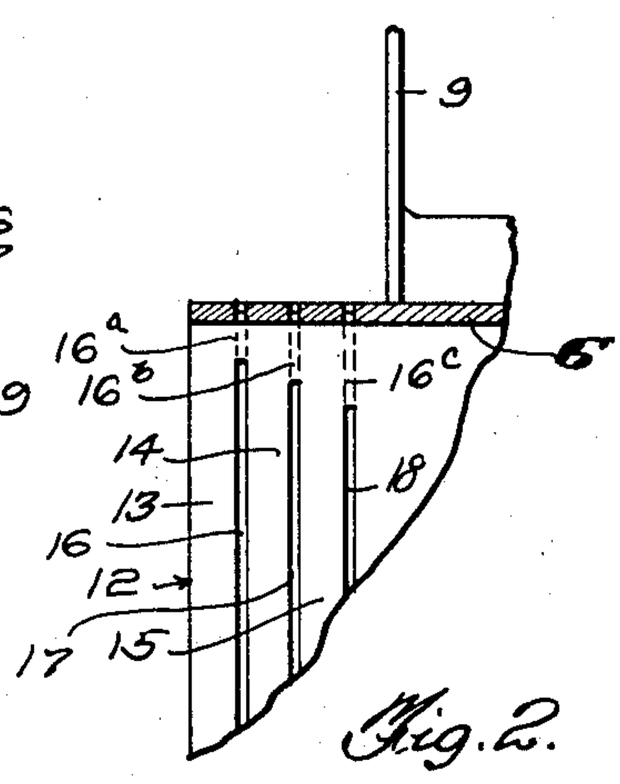

Fig. 2.

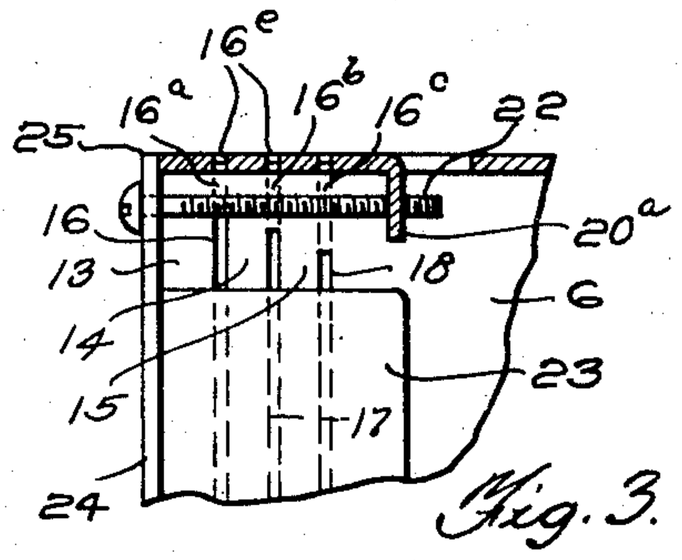

Fig. 3.

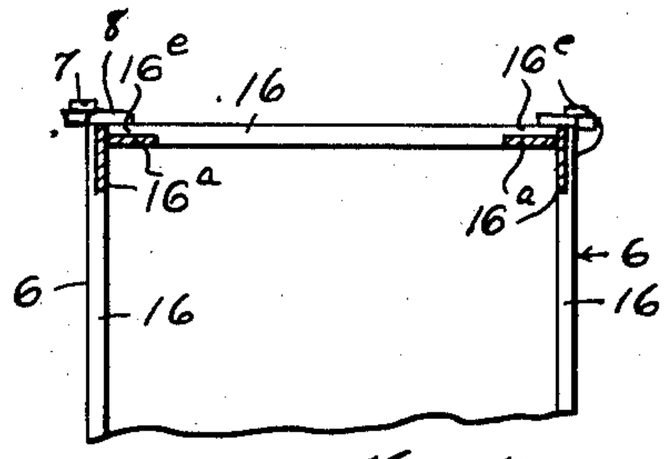

Fig. 4.

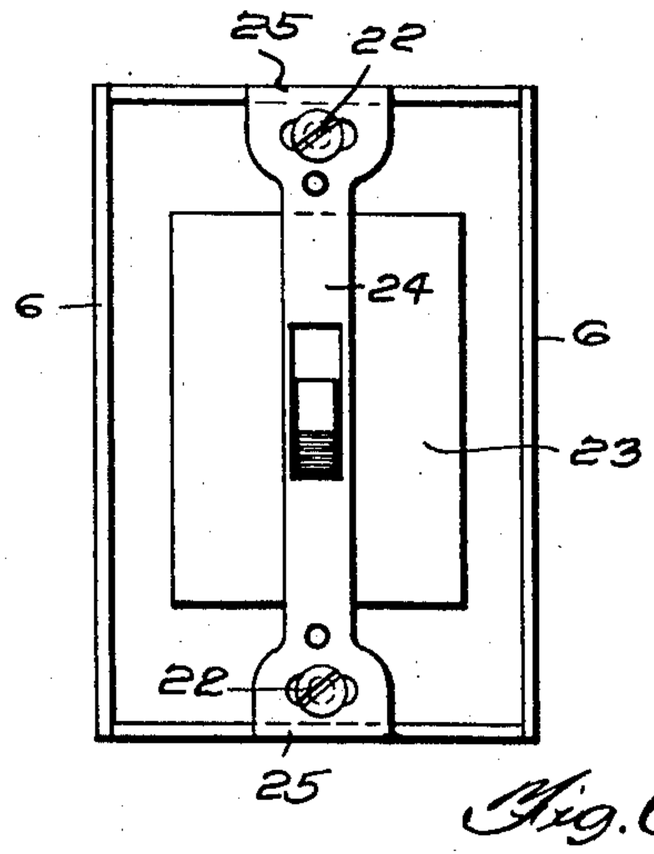

Fig. 6.

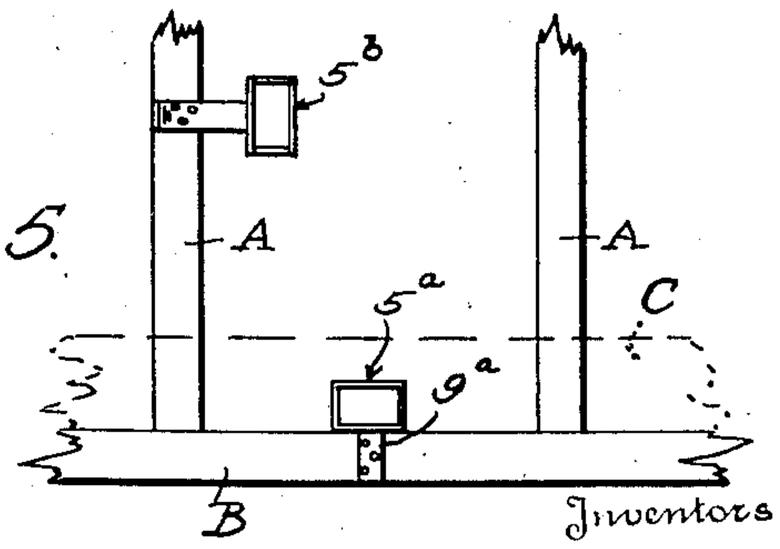

Fig. 5.

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ELECTRICAL OUTLET BOX

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Application March 22, 1932, Serial No. 600,524

6 Claims. (Cl. 247—19)

This invention relates to outlet boxes for electrical work, and it has for its object to provide a box of the character of that shown in our copending application Serial No. 595,406, filed February 26, 1932.

The outlet box shown in the application aforesaid has for its object to provide a structure, the over all depth of which can be varied at will, and particularly the distance to which the front edge of the box projects beyond its supporting member can be varied.

Our application aforesaid recites the following facts:

The requirements of the building code of certain cities are such that the forward edge of the box must lie substantially flush with the base board, or plaster, as the case may be.

It is the practice of the electrician to go on a job, rough in their work, including the nailing of the outlet boxes to the studs and then leave the work for a considerable period of time during which the plasterer finishes the plastering and the carpenters install the trim, including base board, and the like. The result is that when the electrician returns to complete the work, he frequently finds that the plasterer has made his plaster so thick in places, or that the carpenter has so installed the base board that the front edge of the box is not flush with the plaster or the base board, and this is a condition that can not be corrected without tearing out some of the work.

Therefore, it is a primary object of the present invention to provide an outlet box, the outer edges of which are formed of a plurality of relatively narrow weakened sections adapted to be easily and quickly broken off with a pair of pliers.

It is the primary purpose of the present improvement application to insure that the particular weakened section which it is desired to remove will break off, and not another of the weakened sections. That is to say, where all of the sections are weakened to the same extent, a careless worker might break off two sections or three sections, when he intended to break off only one.

Our new structure aims to prevent and avoid this possibility by making the sections successively weaker from the body of the box outwardly so that the first or outer section will be the weakest section, the second section will be the next weakest section, and the third or inner section (where only three sections are employed) while being weakened, will still be the strongest of the three.

By virtue of this arrangement pressure applied to the outer section with a pair of pliers will break it off with certainty without disturbing the others. However, if it is desired to remove two sections, for example, the pliers will be so manipulated as to grasp both the first and second sections, and these may be removed without disturbing the third.

It is a further object of the invention to make the supporting bracket of the box adjustable as to length by providing it with weakened portions adapted to be broken off for a purpose which will be hereinafter set forth.

Further objects and advantages of the invention will be set forth in the detailed description which follows.

In the accompanying drawing,

Figure 1 is a perspective view of an electrical outlet box constructed in accordance with the invention.

Figure 2 is a horizontal sectional view on line 2—2 of Fig. 1.

Figure 3 is a vertical sectional view on line 3—3 of Fig. 1 but showing the lug, hereinafter described, turned inwardly instead of outwardly.

Figure 4 is a fragmentary sectional view on line 4—4 of Fig. 1.

Figure 5 is a diagrammatic view illustrating the manner of locating the outlet boxes and

Figure 6 is a fragmentary front elevation of the structure illustrated in Fig. 3.

Like numerals designate corresponding parts in all the figures of the drawing.

One type of box already on the market comprises a body 5, the sides of which are closed by the removable plates 6, said plates being held in place by screws 7, and lugs 8. In this type of box, a bracket 9 is secured to one of the sides 6 and is perforated, as at 10, for the reception of nails or other fastenings of the bracket. The bracket 9 serves as means for securing the box to the studs of a building, as illustrated in Fig. 5, where A designates the usual vertical studs and B a horizontal sill or floor plate upon which the lower ends of said studs rest.

A box 5*a*, corresponding to box 5, is indicated as being secured by a bracket 9*a* to the plate B in such manner as to support a base board or plug or other base board outlet, the final position of the base board being indicated in dotted lines at C. However, these boxes are also used for the reception of wall switches or wall outlets of various kinds, and in that case they are installed in

the position indicated at 5*b* upon one of the studs A. Since door jambs and the like make it necessary to some times set the boxes some distance away from the studs, the brackets 9 are made sufficiently long to take care of reasonable extensions of the boxes. However, this, especially in the case of narrow base boards, some times makes it necessary for the electrician to saw these brackets off because they are so long that if the box at 5*a* is to be centered with respect to the base board then the bracket, as originally furnished, would be so long as to strike the floor and prevent the box being placed low enough to be properly centered with the base board.

To enable the electrician to easily and quickly shorten these brackets, we propose to weaken them along the lines indicated at 11 so that one or more sections may be broken off to leave these brackets of the desired length. It is immaterial how the weakening of the sections is effected. This may be accomplished by scoring in any suitable way, as for example, by actually grooving the metal or by stamping nearly through in the formation of the bracket or by slitting it entirely through, through nearly the entire width of the bracket, leaving only short portions, at 11*a* not entirely cut through, and even these short portions may be indented or scored. In like manner, the over all depth of the box is made adjustable by providing extensions 12 at the front edge or edges of the walls 5 and 6, said extensions being each divided into three sections 13, 14, and 15 by the weakened portions 16, 17, and 18. These weakened portions may be formed in any desired way as by actual grooving of the metal, but they may be more economically formed by scoring the metal in the stamping operation by which the walls of the box are formed. At 19, for example, we have indicated the usual "knockout" disks, which are weakened portions of the walls adapted to be readily knocked out so that the electrical conductors may enter the box; these weakened portions being well known in the art and being formed by the proper cutting or scoring of the metal in the stamping operation by which the box is formed.

We may form our weakened lines in this same stamping operation and without additional expense. The structure of our present application differs from that of our companion application in that the sections 13, 14, and 15 are successively weakened from the body of the box outwardly. One way of accomplishing this is illustrated in the drawing where the weakened lines 16, 17, and 18 are cut all the way through, see Fig. 4, throughout the major portion of the length leaving short sections 16*a*, 16*b*, 16*c* which are not cut all the way through but which may be scored, as indicated at 16*e*, to render even the portions that are not cut through of less thickness than the wall of the box in which said weakened line is formed.

Boxes of this character are commonly provided with lugs 20 for the reception of screws by which the outlet plugs or switches or like instrumentalities that are to be mounted in the box are held in place, and in most instances the ears or lugs 20 are struck from and form an integral part of the metal of the box and project outwardly from said box.

In plastering around the boxes, the plasterer frequently covers these ears up and then the electrician has to punch holes in the plaster to locate the ears. This difficulty can be avoided by putting the securing screws in the lugs or ears (which are internally threaded) and leaving them there until after the plastering has been done.

However, another way of avoiding this difficulty is illustrated in Fig. 3 where we have shown the lugs 20*a* as projecting inwardly from the box wall instead of outwardly, and in that case the securing screws 22 for holding a switch or plug 23 of conventional form in place would lie inside of the box instead of outside. In this case, the supporting member 24 of the switch or plug would be of a length to overlap and rest against the end walls of the box, as indicated at 25.

We wish to make it very clear that the invention is not limited to any particular way of weakening the sections comprising the projecting portions 12 of the box, but that the invention includes within its purview any way of accomplishing this result; the invention residing in the broad conception of lengthening all of the walls of a box of this sort so that projecting portions are provided which extend an abnormal distance beyond the supporting member of the box and weakening these projecting portions so that they may be successively broken off to give the box the capability of adjustability as to the extent to which its final front edge projects beyond its supporting element so that variations in thickness of the plaster or variations in position of the base board may be compensated for.

The element indicated at 26 is a conventional one found upon boxes of this sort and is a channeled piece which receives the ends of the laths of the building. Consequently, it will be seen that the position of the box, with respect to the laths, is a fixed one, and it is only by providing adjustability outwardly of that point that variations in thickness of plastering can be compensated for.

What the plasterer aims to do is to strike a nice straight line and he does that by drawing a string from one extreme corner of the room to the other, and if the laths and studding happen to set back a little further from the string at one point than at another, he simply fills in these hollows with plaster. This frequently results in leaving the outlet box setting back from the face of the plaster (or base board as the case may be) a very considerable distance so that the cover plates do not come anywhere near contacting with the outer edges of the boxes. By the use of our invention all of this is avoided and the boxes are made to project so far out beyond the studs as to be certain to take care of these inequalities and to leave, when finally broken off, flush with the edge of the plaster, a front edge against which the cover plates may have a proper fit.

We are aware of the fact that various extension devices, adjustable brackets, and the like have been proposed for outlet boxes of this sort. However, none of those with which we are familiar possess the advantageous features of the box illustrated and described herein. Many of the known devices, while adjustable, are adjustable only at the time that they are being placed upon the studs and after the plaster is in place their adjusting means are no longer accessible.

It should be remembered that building regulations require that the plaster be brought right up to the box and contact therewith all the way around. Consequently, any adjusting means which lie behind the plaster are no longer accessible after the plastering is done.

It is to be observed that the removable ele-

ments comprised by the parts 13, 14, and 15 constitute integral portions of the box up to the time of their removal. Consequently, they do not have to be separately carried and manipulated. They automatically go in place by the mere action of installing the box and no screws or other fastenings have to be provided for attaching them to the box walls.

It is further to be noted that in the removal of the portions 13, 14, and 15 the movement of said parts is inwardly or toward the center line of the box. Thus, there is much less danger of breaking off a large piece of the plaster and requiring excessive pointing up than would be the case if said portions had to be removed by a direct outward movement of the part with respect to the box and by this we mean a direct straight line movement away from the rear wall of the box.

It is to be understood that the invention is not limited to the precise construction set forth, but that it includes within its purview whatever changes fairly come within either the terms or the spirit of the appended claims.

Having described our invention, what we claim as new is:

1. An outlet box comprising wholly separate side and end walls, means for securing said side and end walls together, and a supporting element for the box adapted to support the box in a determined position with respect to the plaster line of a building, the outer portions of both the side and the end walls of said box being provided with a plurality of weakened sections located outwardly of said supporting element and adapted to be broken off to thereby bring the outer edge of the box flush with the plaster of a building irrespective of variations in the thickness of said plaster and irrespective of variations in the setting of the boxes with respect to the plaster line.

2. An outlet box of the character described provided with means for attaching it to a support, and weakened sections in advance of said means by which the extent to which the walls of the box project in advance of the supporting means may be varied at will.

3. An outlet box having the separate side and end walls, each of said side and end walls being provided with a plurality of weakened sections adapted to be broken off.

4. An outlet box of the character described comprising a pair of plates constituting side walls and a U-shaped member lying therebetween, means for uniting the side walls to the U-shaped member, a supporting bracket carried by one of the side walls, and scored and weakened sections upon the U-shaped member and upon the side walls in advance of said bracket to provide a plurality of weakened sections adapted to be broken off.

5. An outlet box of the character described, means projecting laterally from said box for attaching it to a support, and weakened sections in advance of said means by which the extent to which the walls of the box project in advance of the supporting means may be varied at will, the weakness of said sections progressively increasing from the body of the box outwardly.

6. The combination with an outlet box of the character described, of a supporting means for the same projecting laterally therefrom, the body of the box having an adjustable forward edge in advance of said supporting member, said adjusting edge consisting of a plurality of sections that are successively weaker from the body of the box outwardly.

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