July 16, 1963 J. R. RICHARDS 3,097,821

BRACKET SUPPORT FOR ELECTRIC OUTLET BOX

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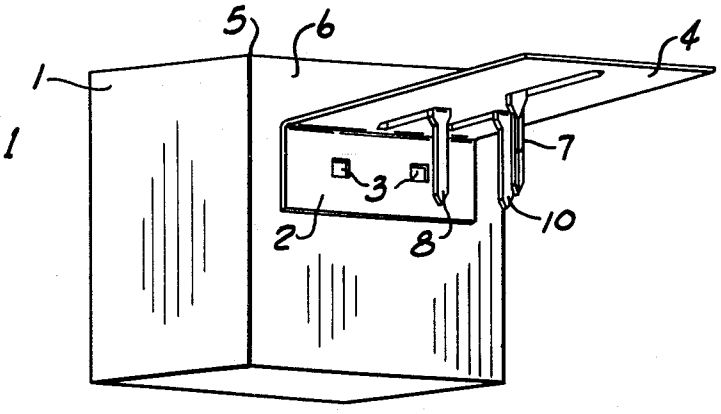


Fig. 1

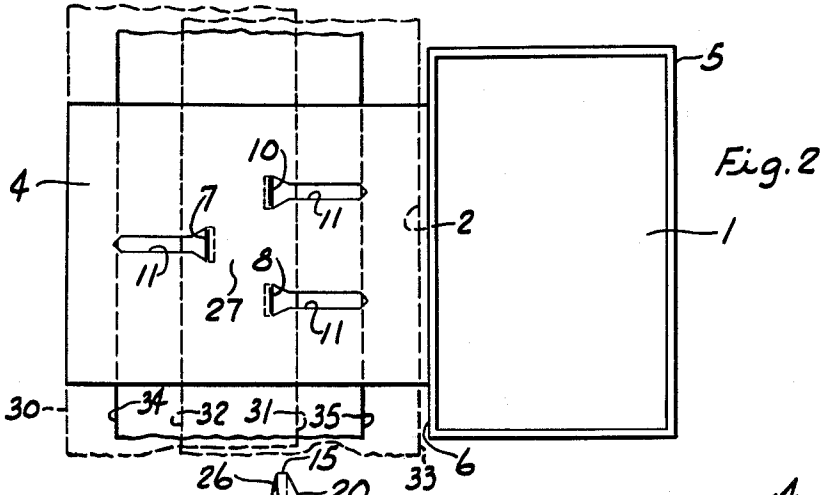


Fig. 2

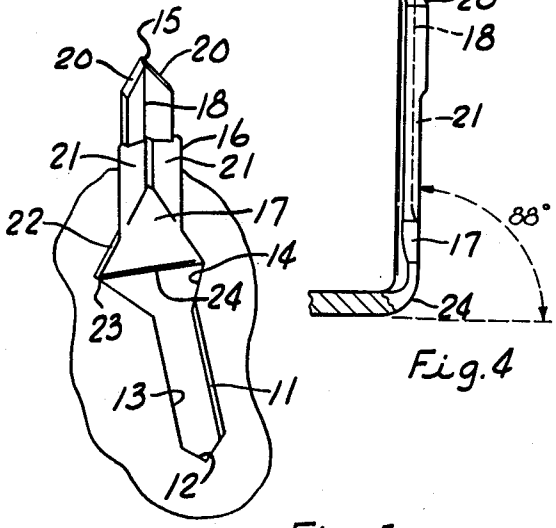


Fig. 5

Fig. 4

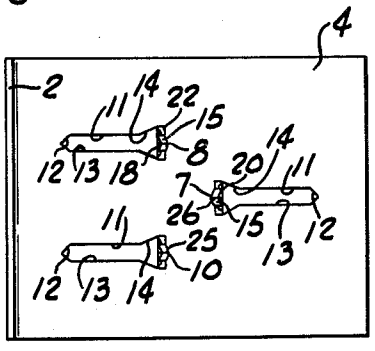


Fig. 3

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BRACKET SUPPORT FOR ELECTRIC OUTLET BOX

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This invention relates generally to supports capable of being driven by a hand hammer and more particularly to a support for electrical outlet boxes and the like in the form of a bracket having integral tines.

Brackets for supporting objects such as outlet boxes and the like are usually provided with nail holes to permit the user to drive nails through the bracket into the studding or joist on which the box is to be mounted. This requires the installer to carry nails. Again nails do not hold the bracket tightly. A bump to the box or a pull on a cable through the box will loosen it slightly. If the box has been plastered in it may cause fine cracks and continual working on the box may cause it to be very loose. This is unsatisfactory. Many improvements have been made to correct this situation but they fall short of providing a very tight and solid support.

The principal object of this invention is the provision of a bracket, secured to a box or other member to be supported, which has formed thereon a plurality of tines integral with the bracket. These tines are disposed and constructed to provide a very tight holding support.

Another object is the provision of a support bracket having a flange with integral tines grouped to be capable of being driven by hand hammer blows to drive them into the wood.

Another object is the provision of a support bracket having a flange with integral tines punched to extend substantially at right angles from the face of the flange so that their combined angular disposition grips the member into which they are driven.

Another object is the provision of a supporting bracket having a cluster of projecting integral tines selected of which face in opposite directions to provide a grip on the member in which they are driven.

Another object is the provision of a supporting bracket having a cluster of spaced projecting integral tines which lean away from each other owing to the fact that they are substantially ninety degrees from the face of the bracket and thus diverge from each other.

Another object is the provision of a bracket having at least three clustered integral tines with their backs to each other and punched from the bracket leaving slots lying in different planes. These planes may be parallel or intersect. The purpose is to have their backs to each other yet lean away to produce a grip.

Another object is the provision of a tine in a mounting bracket having a sharpened or pointed free end, a stem and a head which is wider and is integral with the flange of the bracket. In punching these tines from the flange they are initially indented along the inside face before being sheared. This produces a groove along the shank providing a rounded back with sharp marginal edges on the front. When these edges are flattened along the stem between the pointed end and the head a barb is formed on the pointed head which aids to cut the fibers when entering the wood or cutting a path in block such as cinder or slag block and lock the tines in place. These barbs in combination with the slight slant of the tines relative to each other increases their gripping power.

Other objects and advantages of this invention appear hereinafter in the following description and claim.

The accompanying drawings show for the purpose of exemplification without limiting this invention or the claim thereto, certain practical embodiments illustrating the principles of this invention, wherein:

FIG. 1 is a perspective view of an outlet box having a bracket attached thereto.

FIG. 2 is a plan view of the top of the box illustrating how the same may be attached to another member.

FIG. 3 is a plan view of the under side of the flange showing the prongs themselves.

FIG. 4 is an enlarged sectional view of a single prong.

FIG. 5 is an enlarged perspective view of the single prong.

Referring to the drawings the outlet box **1** may be any one of many different types of outlet boxes for the wall, ceiling or it may be a character of box that requires one or more brackets to support the same. As shown the bracket is provided with the short flange **2** screwed or welded as indicated at **3** to the outlet box **1**. The long flange **4** is spaced from the opening at the top of the box **5** as indicated at **6** which is allowed for plastering and the like. When the box with the bracket is secured to a studding or other nailable member the distance **6** is provided to permit the rock lathe to be mounted over the top surface of the flange **4** and then receive the plaster and paper coating still permitting the top of the box **5** to be flush with the surface of the wall so that it may receive the switch or outlet together with the mounting plate and other members employed in combination with an outlet box of this character. If the box is not to be flush with the surface of the wall the flange **2** may then be fastened to the box adjacent the top or rim **5** or if it is required to extend from the surface of the wall the flange **2** may be secured to the box intermediate of its depth. Thus the manner in which the bracket is secured to the outlet structure **1** depends upon the use to which the outlet structure is to be placed.

The flange **4** is provided with a plurality of tines preferably at least three as indicated in the drawings. These tines are shown at **7**, **8** and **10** having been formed from the flange **4** and extending substantially at right angles. As illustrated in FIG. 4 the tine is from two to three degrees less than 90°. It is important that it not be fully 90° because the disposition of these tines aid in tightly grasping and locking themselves into the material into which they are inserted. Each of the tines leave a slot or opening **11** into the material from which they are punched. The slot depicts the general outline of the tine by providing a pointed section **12**, a stem section **13** and a head section **14**. The corresponding parts of this slot **11** are found in the tine itself wherein the point or pointed portion **15** was cut from corresponding portion **12** of the slot and the stem section **16** together with the head section **17**. The tool used in making this punching is pointed along the centerline of the tine so as to produce a groove for indentation **18** longitudinally of the line and which extends to the head **17** leaving the wings **20** adjacent the point. The wings **20** are flattened on the intermediate portion of the stem **16** as indicated at **21**. Thus the wings **20** form a barb-like structure with respect to the whole of the tine.

The head **17** is triangular becoming larger towards the parent metal forming the triangular sides **22** which terminate immediately adjacent the metal to provide the parallel sides **23**. Thus when the tine is bent and formed, the head **17** provides the transverse curved portion **24** with the parent metal.

When the sharp edged tool is used to form the tongue and produce the indentation **18** the back of the tine is rounded as indicated at **25**. This type of punching also produces a slight bevel **26** adjacent the tip of the point **15** connecting the point to the back of the tine.

As shown in FIGS. 2 and 3 it is preferred to employ the two tines 8 and 10 in parallel relation adjacent the outlet box 1 and have the backs of these tines facing the back of the single tine 7. This cluster of three tines places the punching surface 27 in the middle of the three tines and permits one to employ a hammer on this area for the purpose of driving the three tines into the wood or other nailable material. Since each of the three tines slightly bend away from each other they have the tendency of deviating from each other as they are being driven into the wood. However, the wings 20 keep them from going too far. The result is that they produce a very tight grip in the wood. The deviation produces a drift in each tine that takes in more material between the three and thus tightly clamps the flange to the wood. This deviation or drifting includes more material rather than less material in the formation of the gripping area.

The wings 20 and the flattened portions 21 cut the fibers and produce shoulders which aid in holding their position in the wood.

The tines may be punched out of the flange 4 in a way that they all are disposed in a direction toward each other, that is, if the slots 11 of the tines 8 and 10 are at an angle of approximately 45° to the tine 7 then they will produce a symmetrical trihedral in the material in which they enter. However, it is difficult to punch material in these planes and to approximate this, the planes of the tines 8 and 10 are made parallel with each other and parallel with the slot of the tine 7. In this way a gripping action is produced in the material into which the tines are driven that will require the distraction of the flange and the material into which the tines are driven before they can be removed or torn from position.

As shown in FIG. 2 the specific location of the three tines as illustrated by the construction lines 30 and 31 place the two tines 8 and 10 close to the edge of a two-by-four and actually spaced the outlet box 1 materially from the construction line 31. If the two-by-four is represented by the lines 32 and 33 the flange 2 forms a

gauge for locking the box 1 and the tines 8 and 10 are then in the center of the two-by-four studding wherein the tine 7 is closer to the edge.

By employing the construction lines 34 and 35 the tines are centered within the studding which would be halfway between the construction lines 34 and 35 which provides the strongest position for the particular tines as shown on the flange 4.

One could employ a bracket 4 of different length and position the tines in any desired cluster at a predetermined distance from the flange 2 to properly center them and still employ the flange 2 as a gauge and position them in the center of the mass of the studding which is ordinarily a two-by-four as employed in building construction.

I claim:

A bracket for supporting electrical boxes on nailable material consisting of a metal flange for securing the bracket to an outlet box, a laterally extending plate on said flange, a plurality of closely spaced rigid nailing prongs integral with and extending in the same direction at substantially right angles from the bottom of said plate, said prongs are indented along one side and have a pointed free end, a portion of said indented prong being flattened to provide barbs on the indented edges adjacent the pointed free end, said prongs closely spaced from each other to define in said plate a rigid hammering area with a hammering face on the top of said plate between the positions from where each of said prongs are integral with said plate, said rigid hammering area when struck simultaneously drives all of said prongs into the nailable material to secure the bracket and its electrical box.

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