J. C. CAINE.

OUTLET BOX BRACKET.

APPLICATION FILED JAN. 9, 1912

1,066,706

Patented July 8, 1913.

Fig. 1.

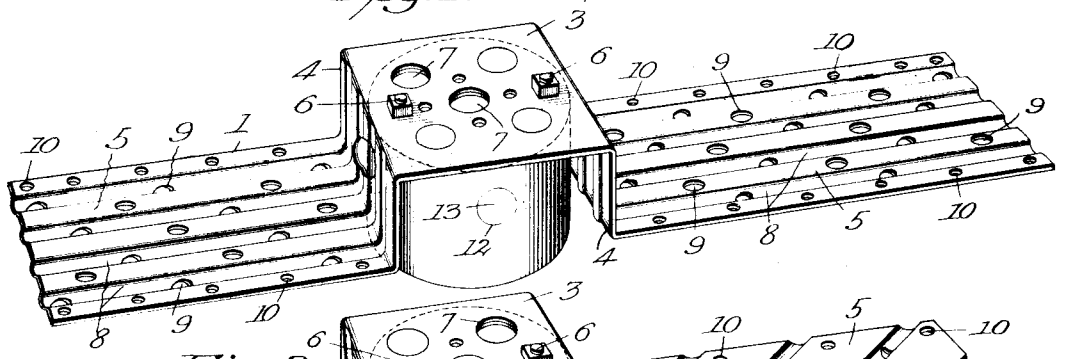


Fig. 2.

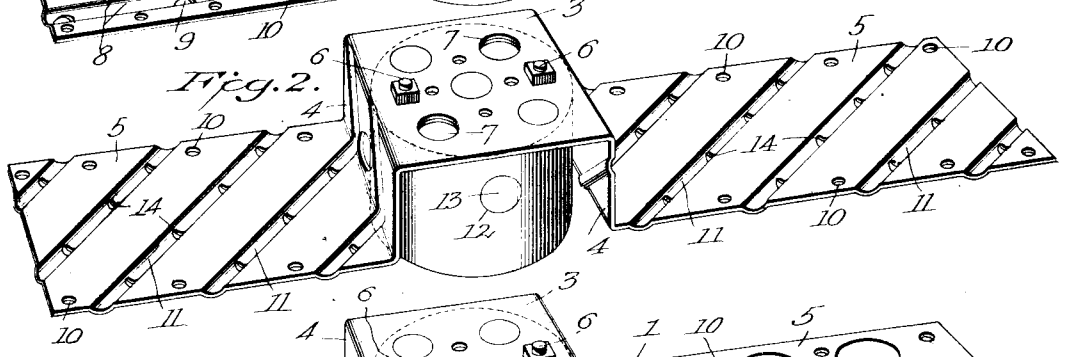


Fig. 3.

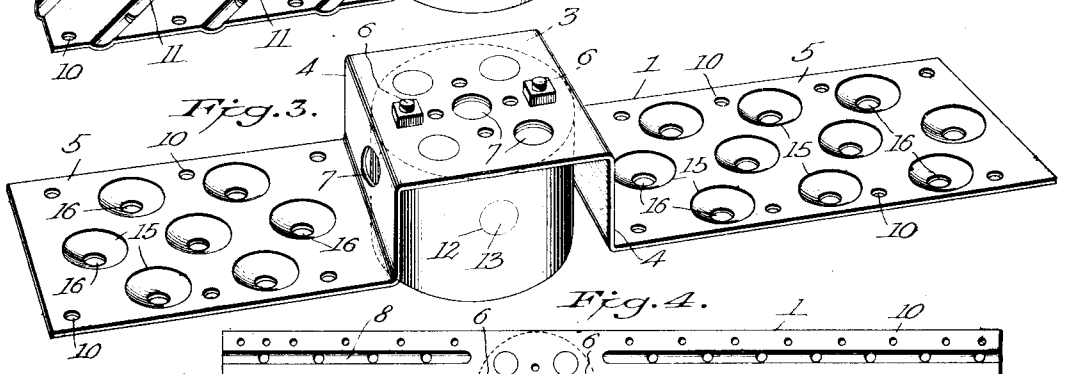
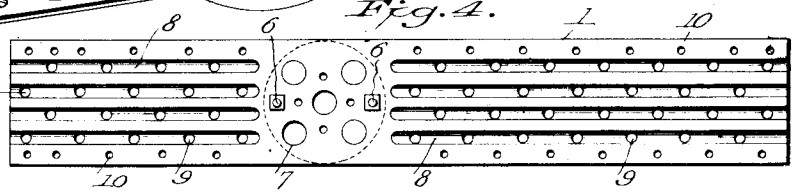


Fig. 4.



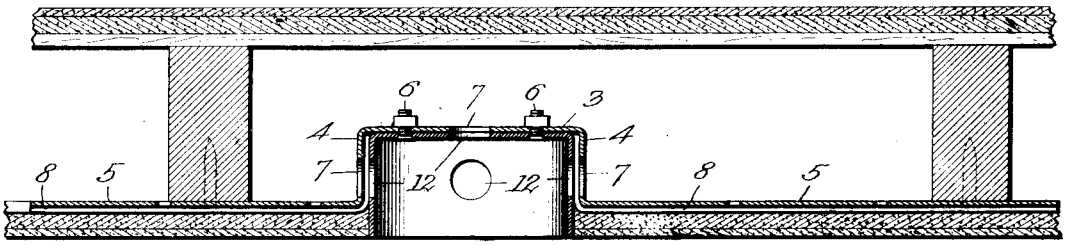


Fig. 5.

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UNITED STATES PATENT OFFICE.

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OUTLET-BOX BRACKET.

1,066,706. Specification of Letters Patent. Patented July 8, 1913.

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To all whom it may concern:

Be it known that I, JAMES C. CAINE, a citizen of the United States of America, residing at the city and county of Denver and State of Colorado, have invented a new and useful Outlet-Box Bracket, of which the following is a specification.

My invention relates to a new article of manufacture and it comprises an adjustable fire-proof supporting bracket for the iron cabinets, outlet-boxes and switch-boxes employed in the electric circuit wiring of office buildings, residences and all other buildings in cities, the building regulations of which are based on the laws of the National Board of Fire Underwriters; and the objects of my invention are: First, to provide a fire-proof supporting bracket, for supporting electrical wiring outlet-boxes, switch-boxes and cabinets between ceiling, joist, iron beams, and wall studding members, that is also adapted to form a lath surface to lay plastering mortar on and over, and that is so arranged that the plastering will lock to it, and second, to provide an inherently trussed form of bracket with ends of uneven and of any predetermined lengths, and a form of bracket to which outlet boxes may be secured without danger of accidental movement. I attain these objects by the mechanism illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of the preferred form of bracket, or one provided with longitudinal corrugations, an outlet-box being secured to said bracket. Fig. 2, is a similar view, showing the bracket provided with diagonally arranged corrugations. Fig. 3, is also a similar view, showing the bracket provided with depressions instead of corrugations. Fig. 4, is a plan view of a flat form of bracket, and Fig. 5, is a sectional view through a portion of a partition, showing the preferred form of bracket secured to the studding of the partition, the bracket and an outlet-box which is secured thereto also being shown in section.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the drawings, my adjustable fire-proof supporting bracket consists of a thin bar or strip 1, of iron or any other suitable metal or fire-proof material. This bar is made of a width that will enable it to be secured rigidly to the wooden or iron ceiling beams of rooms or to the partition studding of walls, and at the same time not interfere with the circuit wire conduit pipes that connect to the cabinet, or outlet, or switch box it is adapted to support, which hereinafter I will term the outlet-box. This supporting bar is preferably made of thin rolled sheet iron, and the opposite end portions are arranged to rest against the under side edges of the ceiling beams of rooms or against the outer edges of vertical partition studding, and in the preferred construction of my fire-proof outlet-box supporting bracket the bar is provided with an offset portion 3, which I will call its saddle portion. This saddle portion 3, is formed by bending a portion of the bar between its ends with right or other angled side portions 4, and then again bending the angled side portions 4, to form a flat straight portion 5, between the angled side portions 4 and the ends of the bar. This flat saddle portion is made long enough to receive in it between its end wall portions, the outlet-box that is to set on the flat portion 5 of the offset portion of the bracket, and this offset portion is made just long enough to allow the outlet box to fit closely between the bent end portions of the offset saddle portion of the bracket. Consequently the outlet can not accidentally move out of position when it is once set where desired. The bottom of the saddle portion is provided with bolt receiving apertures through which bolts 6 are extended from the inside of the outlet-box. This bracket may also be provided with knock-out apertures 7, at any desired part of it.

Especially does my present invention contemplate a bracket provided with apertures along its opposite end portion, and these apertures may be of any desired shape or form. The ends of the brackets may also be of any desired length that will extend between or overlap a pair of floor joists or beams or of wall studding.

My present invention contemplates the end portions of the bracket made in unequal lengths, although if desired they can be made of equal lengths, but in either case they are made long enough. The object of making them of unequal lengths is to enable the outlet-boxes to be positioned at any desired position between the ceiling joists or

beams or studding members, and especially to allow the outlet-boxes to be positioned as close as may be required to either one or the other of the two joist beams or studding between which it is placed. Consequently my present invention pertains more especially to brackets having joist or beams or studding engaging ends of unequal lengths, and of such lengths that the brackets may be reversed end for end and moved along to bring the outlet in the position desired, and then be secured to the joist, beams or studding by nails, screws, wire, or any other suitable means. The brackets may be made of flat smooth iron or they may be made of corrugated iron or be crimped or corrugated or ribbed lengthwise of their length or diagonally or cross-wise of their length, or be otherwise formed into uneven surfaces in order to provide a lath surface to plaster against and to which the plaster will lock itself when the ceilings or walls are plastered.

I preferably illustrate my improved bracket with its surface corrugated lengthwise of the entire length of the ends of the bracket, as shown by 8, as this form makes a stiff well-trussed bracket, and if desired these corrugations may extend along the offset bent ends and saddle portion of the bracket, and in this corrugated form, plaster-receiving apertures 9 are distributed in the bottoms of the convolutions of the bracket, and in any desired order of arrangement, and this form of bracket provides a thoroughly practical and reliable surface for the plastering. Nail receiving apertures 10, are formed in the end members of the brackets, adjacent to their opposite edges, the apertures on one side alternating with those on the other side, so that a hole on either one or the other side of the bracket will register with the joist or studding, as the case may be, and thus permit the securing nail to be driven therein.

In Fig. 2, the end members of the bracket are provided with diagonal stiffening corrugations 11, which also extend over the side portions of the saddle. These corrugations are provided with plaster-receiving apertures 14, and the spaces between these corrugations may also be provided with apertures if desired.

In Fig. 3, the end members of the bracket are stiffened by being formed with rows of concavo-convex depressions 15, the depressions in one row alternating with those in the next row, and plaster-receiving apertures 16 are formed in the bottoms of the depressions, as shown.

Fig. 4, shows a flat form of bracket, the saddle being omitted, and this form of bracket may be used with a shallow outlet-box, or one which is no deeper than the thickness of the plastering.

Flat screw-driver headed bolts are preferably used in the bottoms of the outlet boxes for securing them to the saddle portion of the bracket, and these screw-driver head portions of the bolts set into countersunk holes in the bottoms of the outlet boxes, although any kind of bolt may be used either within or along the sides of the boxes, and the heads may be placed in the saddle and the nuts be turned from the outlet-box side of the saddle, if preferred.

My offset saddle form of bracket is adapted to be used on plastered ceilings and walls, and the offset portion of the saddle part of the bracket is made to correspond to the depth of the outlet-boxes used, and is made of such a relative depth to the depth of the cabinet or box to always bring the outer open edges of the cabinet or box just even with the plastered wall when finished, and they are arranged in such relative position to the ends of the brackets as to allow the usual thickness of first, second, and third or finishing coats of plastering mortar to be applied on the lathing over the edge surfaces of the studding or ceiling joist, as is illustrated in Fig. 3.

These cabinet or switch or outlet-boxes may be round or square or of oblong form, and they are made in various sizes and are adapted to receive within them electric wiring fittings, such as switches, chandelier attaching sockets, and drop light pulley and other attachments, and the electric circuit wires that extend to them from the electric current supply station and are incased in tubes called conduit tubes, iron tubes being generally used, and the sides and bottom portions of these outlet-boxes are provided with a plurality of knock-out apertures 12 which are apertures that have been formed by punching out a disk of metal 13, and then the disk is driven back into the aperture again, thus leaving a plurality of plugged apertures into which the pipe or tubular conduits may be extended from any direction, and the plugs can be knocked out of those that come nearest in line with the direction the pipe and wire is to run to or from the outlet-box. I preferably, however, provide outlet-boxes with five knock-out apertures in the bottom of the outlet-boxes, and I place one of these in the center of the outlet-boxes and the others at the 45 degree angular points from a diametrical line through the box parallel with the saddle portion of the bracket. The sides of the outlet-boxes may also be provided with any desired number of knock-out apertures, and they may be placed, as well as those in the bottom of the outlet-boxes, in any predetermined order.

The operation of my cabinet or box supporting bracket is as follows: During the construction of a building the electric wir-

ing is put in place before the lathing and plastering are put into place, and these outlet-boxes are positioned wherever it is desired to have a chandelier or a drop or bracket or a wall lamp, and from these cabinets and outlet-boxes conduit pipes, usually of iron, are extended, they being inserted at one end in their knock-out apertures and extending between and alongside of ceiling and floor joists and partition studding, to which they are secured and by which they are supported by clips. It has been the practice heretofore to nail a board between two of the floor joists or partition studding, and to secure the cabinets or outlet-boxes to this board by screws, nails or other means. This method requires proper adjustment of the board to bring the top edge of the outlet-box even with the surface of the finished plastering work, which necessitates carefully applied labor and makes the present system expensive.

My fire-proof supporting bracket can be stamped, pressed, punched or otherwise made complete at any properly equipped metal working shop, and it can be made in the various sizes and shapes required to support outlet-boxes in positions that will bring their edges in the right position to be even with the plastering when it is applied after the bracket and outlet-box are secured permanently in place. Consequently the brackets can be made in duplicate lots of large numbers, and may be when desired permanently bolted to the boxes in the shop. Consequently, all that is required to place my brackets in operative outlet-box supporting positions is to hold them up against the edges of two adjacent joists, beams or wall studding members, and move them along or reverse them to bring the box in the position desired, and then insert nails or screws or wire in their fastening openings and secure them firmly to the joist, beams or studding. In case the brackets are put in place first and the outlet-boxes afterward, the outlet-box is laid against the saddle, and the bolts are turned from the inside of the outlet-box into the nuts. When the bracket has been secured in place, the top edge of the open end of the box will come substantially and practically even with the plastering when it is applied and finished, as the saddle portion of the bracket has been made of a depth relative to the depth of the box that is used with it to allow for the lathing and the usual depth of mortar used in plastering ceilings and walls of buildings.

My invention is simple, strong and fire-proof, and can be very quickly and correctly placed in buildings, and while I have illustrated and described the preferred construction and arrangement of my fire-proof outlet-box supporting bracket, I do not wish to be limited to the construction and arrangement shown, as many changes might be made without departing from the spirit of my invention.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

An outlet-box bracket having end securing-portions of unequal length and provided with plaster-holds, an intermediate offset portion forming an outlet-box seat closely fitting the sides of the box, and having pipe-openings corresponding to the pipe-openings of the outlet-box, and means for detachably securing the outlet-box within the seat.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES C. CAINE.

Witnesses:
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