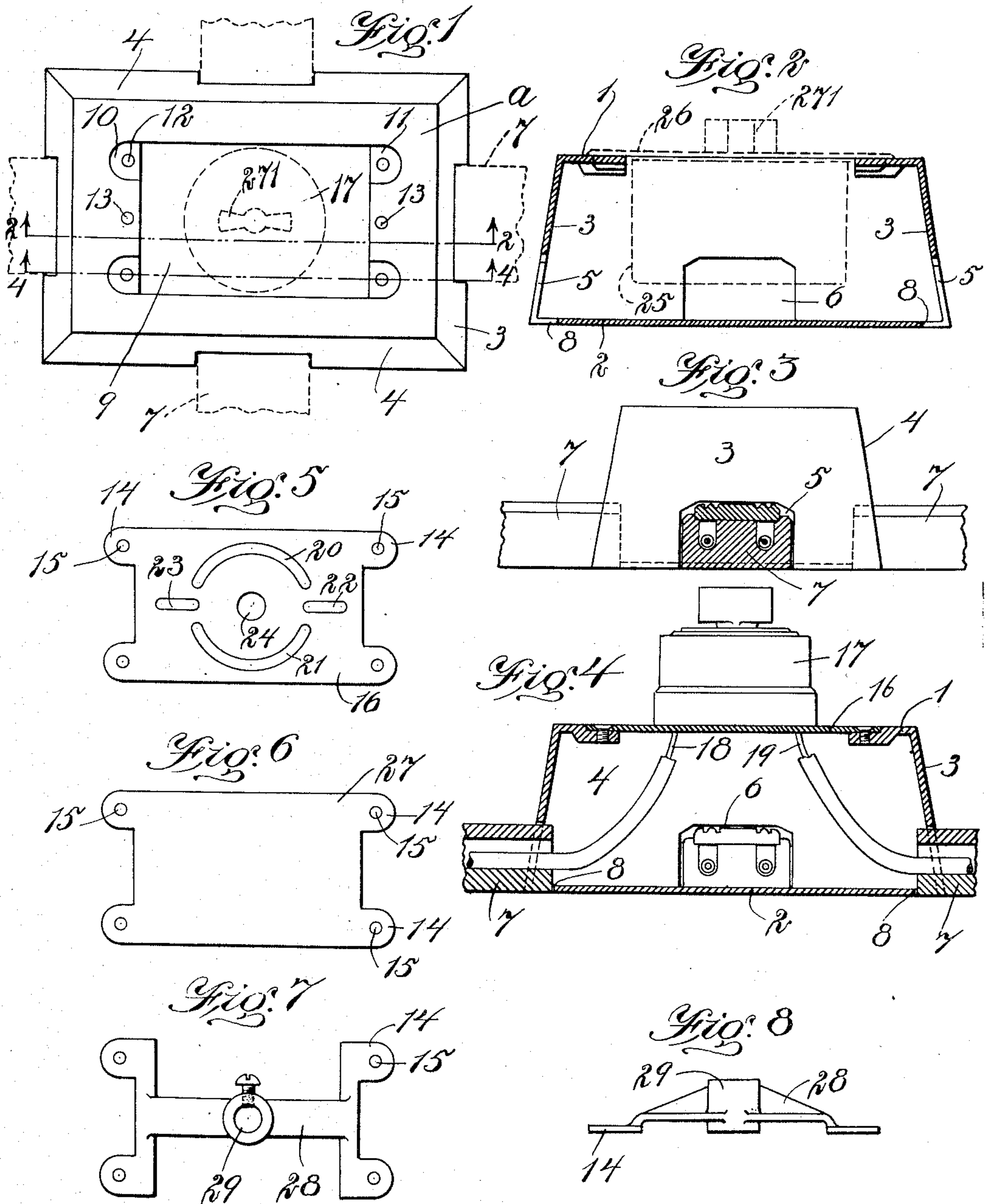


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UNIVERSAL MOLDING BOX.
APPLICATION FILED FEB. 25, 1905.

2 SHEETS—SHEET 1.

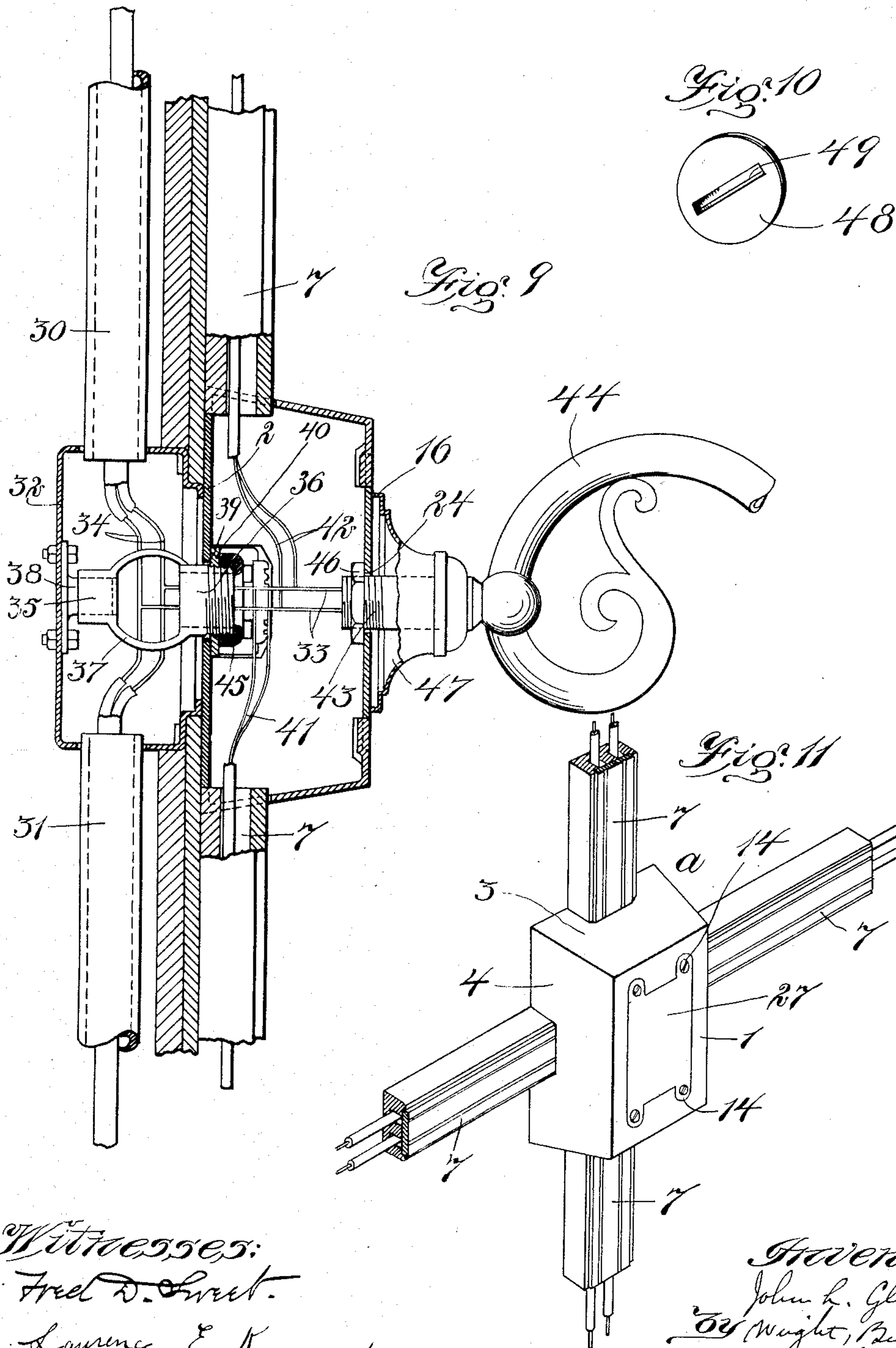


Witnesses:
Fred D. Sweet.
Lamorne E. Kennedy.

Inventor:
John L. Gleason
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UNITED STATES PATENT OFFICE.

JOHN L. GLEASON, OF BOSTON, MASSACHUSETTS.

UNIVERSAL MOLDING-BOX.

No. 811,772.

Specification of Letters Patent.

Patented Feb. 6, 1906.

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To all whom it may concern:

Be it known that I, JOHN L. GLEASON, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Universal Molding-Boxes, of which the following is a specification.

The object of this invention is to provide a fireproof and practically indestructible box for inclosing the adjacent ends of the moldings, wires, and the junctions between the wires of converging circuits in a system of electric wiring in which the circuits are contained in exposed moldings mounted upon the walls, ceilings, &c., of rooms and buildings.

To this end my invention consists of a box which is of metal, so as to be fireproof and constructed with inclined sides, by reason of which a blow accidentally received upon one of the sides will be deflected, and this in connection with the material of which the box is made diminishes the liability of breakage of the box by accidental means.

The box is provided with a suitable number of openings in its sides to receive the ends of the moldings and wires of the wiring system and also with various provisions by which circuits and attachments of different kinds may be connected with the wires extending through the sides of the box, as will more fully appear from the detailed description and claims and the drawings, forming a part of this specification, in which—

Figure 1 represents a plan view of a junction-box embodying my invention. Fig. 2 represents a section on line 2 2 of Fig. 1. Fig. 3 represents an end elevation of the box. Fig. 4 represents a section on line 4 4 of Fig. 1. Figs. 5 and 6 represent plan views of different forms of cover adapted to be connected to the top of the box and extend over an opening formed therein. Figs. 7 and 8 represent, respectively, a plan and an elevation of a device for attachment to the box in place of the covers shown in Figs. 5 and 6. Fig. 9 represents a section of a portion of a wall of a building and the junction-box embodying my invention, showing the manner of connecting the various circuits in the box. Fig. 10 represents a perspective view of a removable plug adapted to be inserted in an orifice formed in the bottom of the box to close the same. Fig. 11 represents a perspective view of the exterior of the box, showing portions of four circuits extending thereinto.

The same reference characters indicate the same parts in all the figures.

The box *a* embodying my invention is formed with a top 1, a bottom 2, and side walls 3 4. The top is preferably of less area than the bottom and is located symmetrically with respect to the bottom, the side walls being therefore formed with a slope and inclined to both the top and bottom. When the box is in place upon the surface of a wall, the base 2, which is the bottom or rear, is placed against the wall, while the smaller base 1, which constitutes the top or front face, is held away from the wall and the sloping sides 3 4, joining the front and rear, converge outwardly away from the wall or other supporting-surface. In the form shown in the drawings the parts 1 and 2 are rectangular, so the box is made in the form of the frustum of a pyramid, of which 1 and 2 are the bases; but I do not confine myself to this shape, as the bases may be as well circular as rectangular and of equal, as well as different, dimensions and areas.

In the side walls 3 4 are formed openings 5 6, respectively, which are of such shape and size as to permit the insertion of the end of wire-holding moldings 7, the openings being formed partially in the bottom 2. When the molding-box is in use, it is mounted upon a wall or ceiling with its bottom 2 placed against the surface of the wall and the molding 7 also mounted in the same manner. Thus the outer surfaces of the bottom 2 and the moldings are flush and the ends of the moldings abut against the edges 8 of the bottom, which form abutments preventing the moldings being inserted to too great an extent into the box, and are slightly recessed to permit insertion of the moldings to a slight extent.

In the top 1 of the box is formed an opening 9, which is preferably rectangular, and adjacent two or more of the sides of the opening depressions 10 11 are formed in the top, in the central portion of which depressions are tapped holes 12. The top is preferably webbed or reinforced to give the necessary thickness for the formation of the depressions and give strength. The top is also formed with holes 13 for the reception of screws or bolts adapted to secure a switch or receptacle of a certain kind to the box.

Figs. 5, 6, 7, and 8 show members which are adapted to be secured to the top of the box and extend over the opening 9, each

having lugs 14, adapted to be placed in the depressions 10 11 and to be secured by screws or bolts passing through holes 15 in the lugs and through the holes 12. The member 16 (shown in Fig. 5) is a cover or lid adapted to have supported upon it and connected thereto a switch 17, ordinarily known as a "surface" switch and shown in elevation in Fig. 4. Instead of the switch a surface receptacle of generally similar form, a wall-socket, or a rosette may be attached to this cover. Such switches, &c., are provided with openings to receive the terminal wires 18 19 of electric circuits and also with holes through which screws or bolts may be extended to secure them in position; but in the various types and sizes of such switches and wall-sockets on the market the location of these holes vary to such an extent that in order to enable switches of this character of all sizes to be secured to the cover 16 I form in the latter curved slots 20 21 and straight slots 22 23, of which the slots 20 21 are concentric and the slots 22 23 radial with respect to a common center. I have found that with the arrangement of slots above described I am able to mount any surface switch upon the cover or lid 16, as the holding-screws may be extended through two of the slots, while the terminal wires are passed through the other two. There is also formed in the cover 16, preferably centrally thereof, an aperture 24, into which is adapted to be inserted the stem or stud of an electric fixture, such as a lamp bracket or support.

The openings 13 (shown in Fig. 1) are adapted to receive the holding-screws of a switch of the type known as a "flush switch," one of which is shown in dotted lines in Fig. 2, or of a flush receptacle. Such a switch or receptacle has a body portion 25, of porcelain or other insulating material, in which the terminal wires of the circuit are secured and which is ordinarily set into a recess in a wall or junction-box and there secured, while a flush plate 26 is placed upon the outside of the wall. When my improved molding-box is used, the portion 25 is inserted in the opening 9 and secured by lugs which are formed thereon to the top edge by means of screws taking into the holes 12, after which the cover-plate 26 is placed upon the switch and secured by the key 271.

In Fig. 6 there is shown a cover or lid 27, which has no perforations or fittings other than the lugs 14, by which it is secured to the top of the box. This cover is adapted to be used when the box is to be employed simply as a junction-box for a connection between two circuits or an automatic cut-out where an external fixture is not required, the box when supplied with this plate being shown in Fig. 11.

Figs. 7 and 8 show a bridge member, truss, or crowfoot having the lugs 14 for attachment to the top of the box and a cross-bar 28,

adapted to extend across the opening 9 and having a socket 29, to which may be secured any electric fixture, such as a bracket or pendent light-fixture, rosette, &c.

Fig. 9 shows the manner in which my novel molding-box is ordinarily used, as well as the provisions which I have for connecting through this box an exposed system of wiring with a concealed system. In this figure, 30 and 31 represent the conduits through which the wires are led into the spaces within the double walls of a building, and 32 represents a junction or outlet box, through which the circuits may be tapped to provide current for outside uses. The outlet-box is embedded within the wall inside of the plaster and lathing and has an opening through which wires 33, connected to the wires 34 of the concealed circuit, may be led. The molding-box of my invention is secured to the surface of the wall over the opening of the outlet-box by any suitable connection, that here shown consisting of a device known as a "hicky," having an internally-threaded collar 35, an externally-threaded sleeve 36, and connecting-bars 37. The collar 35 is secured to a stud 38, connected to the wall of the outlet-box, while sleeve 36 is extended through an opening 39 in the bottom of the molding-box and secured by a lock-nut 40, which clamps the bottom of the molding-box against the wall and the outlet-box. The wires 33 lead through a central opening in sleeve 36 into the molding-box, within which they may be connected to the wires 41 42 of an outside wiring system, and they may be also connected to wires leading through the opening 24 in the cover of the box and a stem 43 of a fixture 44, which may carry a light or any other device for which electrical power is to be used. There is also provided an annular insulator 45, threaded on the exposed end of the sleeve 36 to prevent the wires 33 from coming in contact with said sleeve, and the stem 43 may also be furnished with such an insulator, whereby all danger of electrifying the junction-box or bracket is eliminated.

It will be noted that the box when used as illustrated in Fig. 9 has applied to it the cover 16, into the central orifice 24 of which the stem 43 of a fixture 44 projects. A lock-nut 46 holds the stem in place and clamps the canopy 47 of the fixture against the outside of the cover, this canopy also serving to cover the slots in the cover.

By its capability of being used in the manner just described my improved junction-box serves a useful purpose, as it furnishes a very convenient means by which the positions of lights or other electrical fixtures of a building having a concealed system of wiring may be shifted without tearing up the walls. It is frequently desirable to shift a light or to add lights, and in order to do this where my junction-box is employed all that is necessary is

to remove the fixture from the wall or ceiling where it may be held and attach in place of it the junction-box in the manner illustrated in Fig. 9. Then from the junction-box circuits
 5 may be led to any desired points and lights there connected as well as upon the junction-box itself, if desired. The box also serves a useful function by its provision for permitting the ends of the moldings to be inserted a
 10 slight distance into its interior, as thereby it serves as a support for the moldings, which is essential in buildings of fireproof structure where there is no wood to which the moldings may be screwed.

15 When the box is not to be used with a concealed system, the opening 39 should be closed in order to render the box dust-proof and fire-proof. For this purpose I provide a threaded plug 48 of the same diameter as the hole
 20 which is tapped to fit the threads of the plug, the plug being substantially of the same thickness as the bottom of the box and having a slot 49 extending partially through it, with which a screw-driver may be engaged
 25 for turning it. If desired, the bottom of the box may be provided with other holes through which screws or bolts may be passed to attach the box to a wall, and these holes also will be provided with short screws or threaded
 30 plugs for closing them when they are not required, and so making the box tight.

It will be seen that by my construction I have provided a box in which junctions may be made between wires of all kinds of circuits and to which fixtures of all kinds, as
 35 flush and surface switches, receptacles, lighting-brackets, pendants, rosettes, &c., may be secured. Hitherto junctions between exposed circuits have been made in chambers
 40 hollowed out from thin blocks of wood, to which also the switches and other fixtures were attached. None of the blocks used have been of sufficient depth to enable flush switches or receptacles to be attached to them,
 45 and accordingly the use of such switches has been confined wholly to connection with concealed wiring. The former method in which wooden blocks are used is objectionable on account of the fragility of the blocks, since
 50 when they are cored out to give sufficient room for the junctions very little strength is left in them, so that it is always difficult and often impossible to attach them to a wall without splitting, and the brackets, light-fix-
 55 tures, &c., which may be mounted upon them are always very insecure. Then, again, with changes in the amount of moisture in the air they are continually swelling and shrinking, which causes them to warp and split. Not
 60 only are these wooden junction members inconvenient to use, but they are often actually dangerous, since in many places where they are used it is impossible to provide room to accommodate a properly made and insulated junction, on account of which the wires

are often left exposed and set fire to the blocks. All of these objections are avoided with my junction-box, since as the box is of metal, which is stronger than wood, more room may be left in its interior for accommo-
 70 dating the junctions and switches without at the same time making the box so large as to be unsightly. This increased room permits proper insulation of the junctions, and so insures against danger of contact of a live
 75 wire with the box, while the non-combustible material absolutely eliminates danger of fire. The strength of the material also allows the junction-box to be much more securely at-
 80 tached and to support more securely a fixture than is possible with a wooden junction-box and is also less liable to fracture from the effect of an accidental blow. The last result is aided also by the shape of the box, which,
 85 as before stated, is preferably that of the frustum of a pyramid or cone.

In furnishing these boxes for the market the shell will preferably be made continuous, with provisions for making any number of
 openings 5 6 in its sides for the reception of
 90 the moldings, such as by leaving offset webs of less thickness than the shell of the box at the points where the openings are to be, which can easily be broken out whenever it is necessary to effect an opening for a circuit. This
 95 manner of providing for any desired number of openings being well known and forming no part of my present invention needs no illustration. The boxes in being sold are also each provided with a full set of covers 16 and 27,
 100 bridge members 28, and plugs or screws for closing the various holes and orifices in the bottom.

I claim—

1. A molding-box comprising integral metallic bases and sides adapted to be secured
 105 externally upon the surface of a wall with one of said bases adjacent the wall, and having openings in its sides for the reception of the ends of electrical wires and moldings, the
 110 outer base or front of the box being smaller than the other and the sides convergently inclined with respect thereto, and said outer base having an opening; and a plate or cover extending over said opening flush with said
 115 outer base and detachably secured thereto, the plate having an orifice and slots for securing an electrical fixture thereto and permitting passage of wires therethrough.

2. A molding-box comprising integral metallic top or front, bottom and side walls, the
 120 top or front being of less area than the bottom or rear and the sides being inclined with relation thereto, converging from bottom to top or front, the box having in its sides open-
 125 ings for the reception of ends of moldings and wires of an exposed wiring system and having also openings in its bottom and top, a plug detachably secured in the opening of the bottom, and a detachable cover secured to
 130

the top of the box extending over the opening therein.

3. A molding-box having a metallic integral top, bottom and side walls formed with
5 lateral openings for receiving the ends of wires of an exposed electric wiring system and the top having an opening, and a cover or lid detachably secured to the box and extending over said opening, said cover being

formed with a central orifice and slots concentrically and radially arranged with respect to said orifice.

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

JOHN L. GLEASON.

Witnesses:

A. C. RATIGAN,

E. T. GRAHAM.