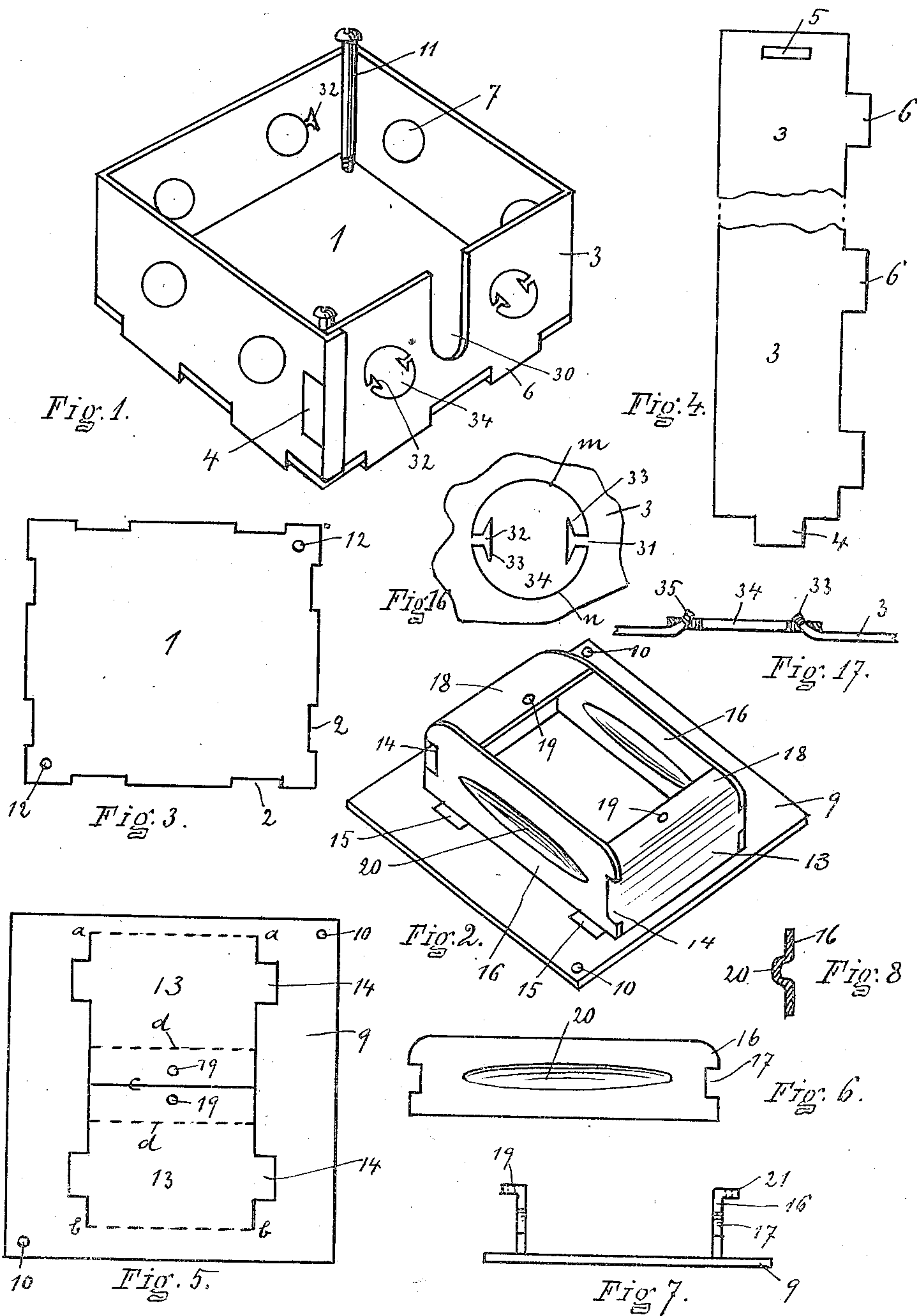


L. T. LA PAUGH.
OUTLET BOX.
APPLICATION FILED NOV. 22, 1907.

963,781.

Patented July 12, 1910.

2 SHEETS—SHEET 1.



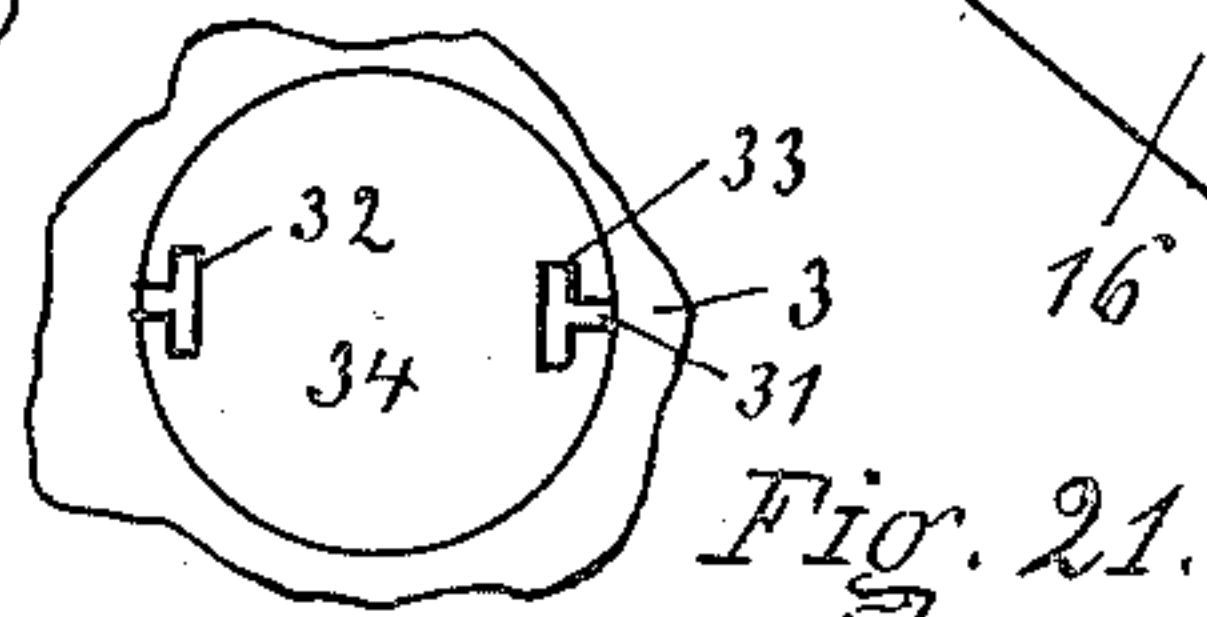
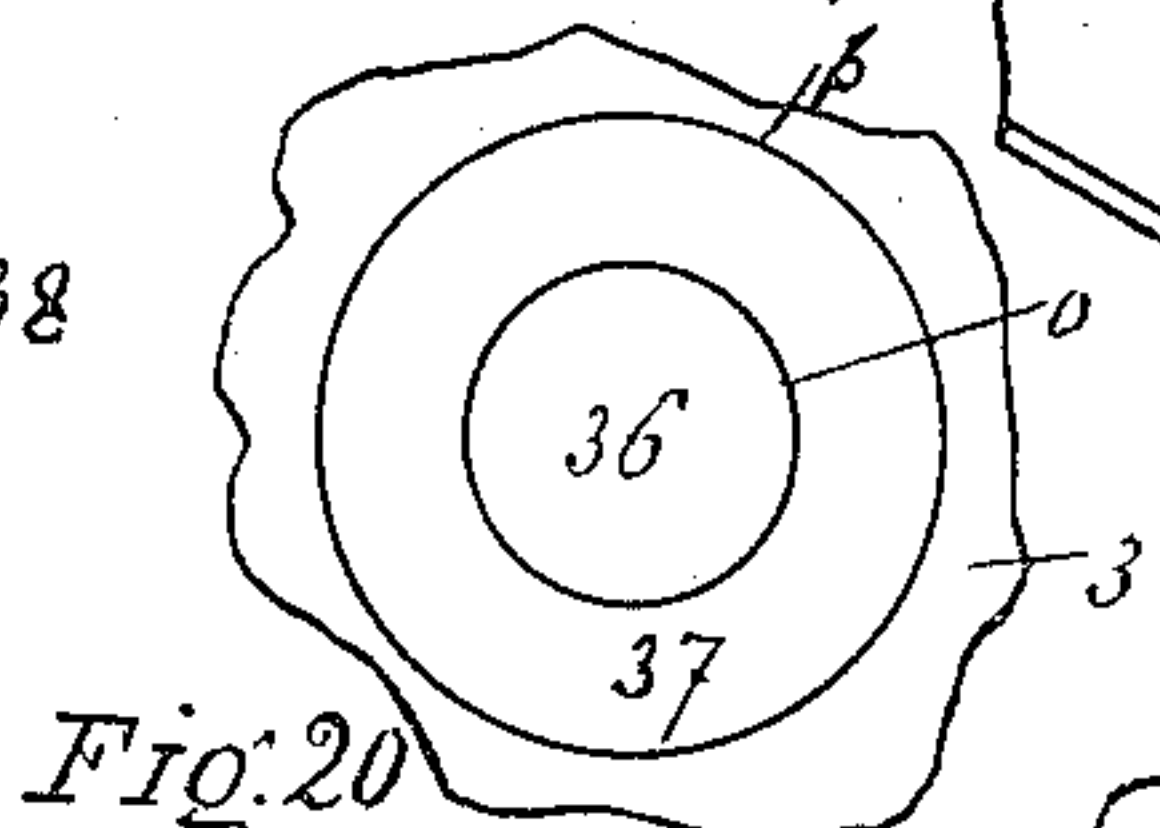
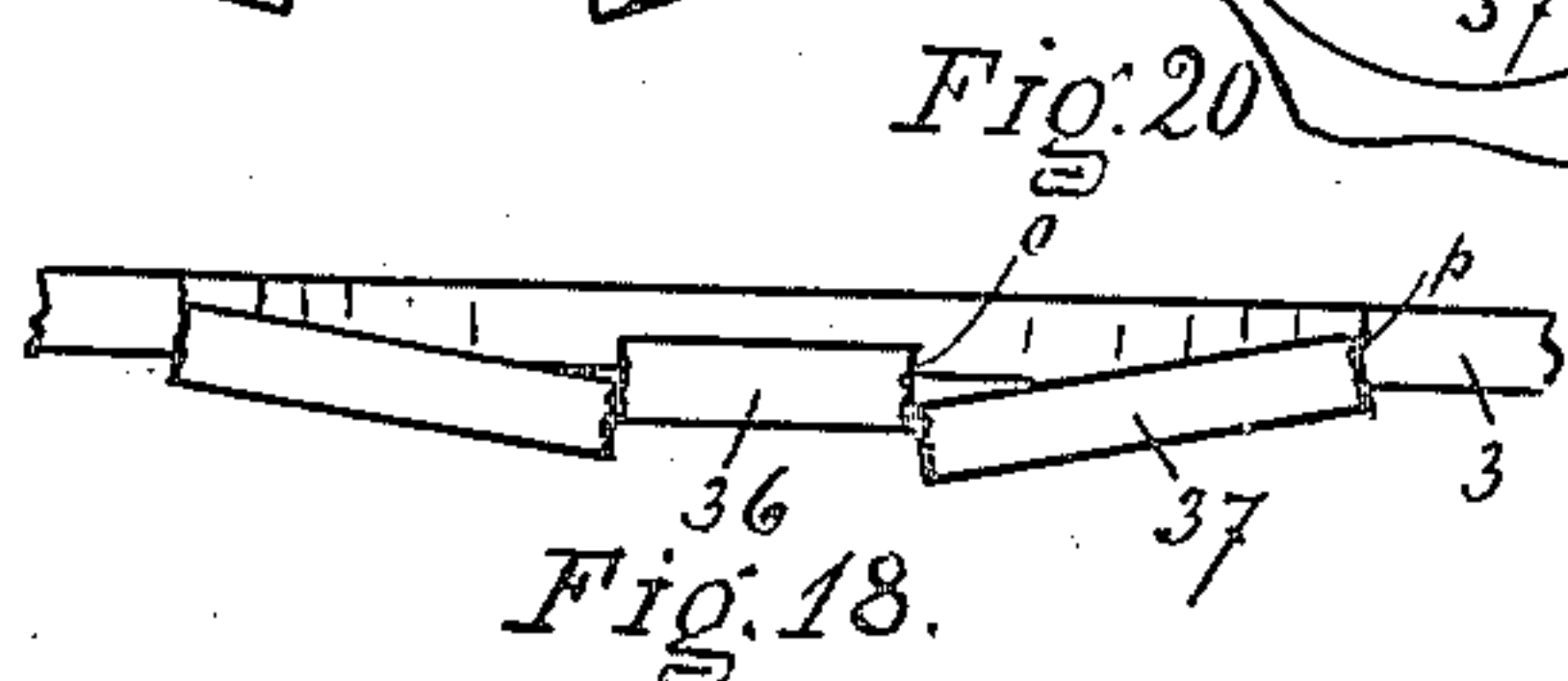
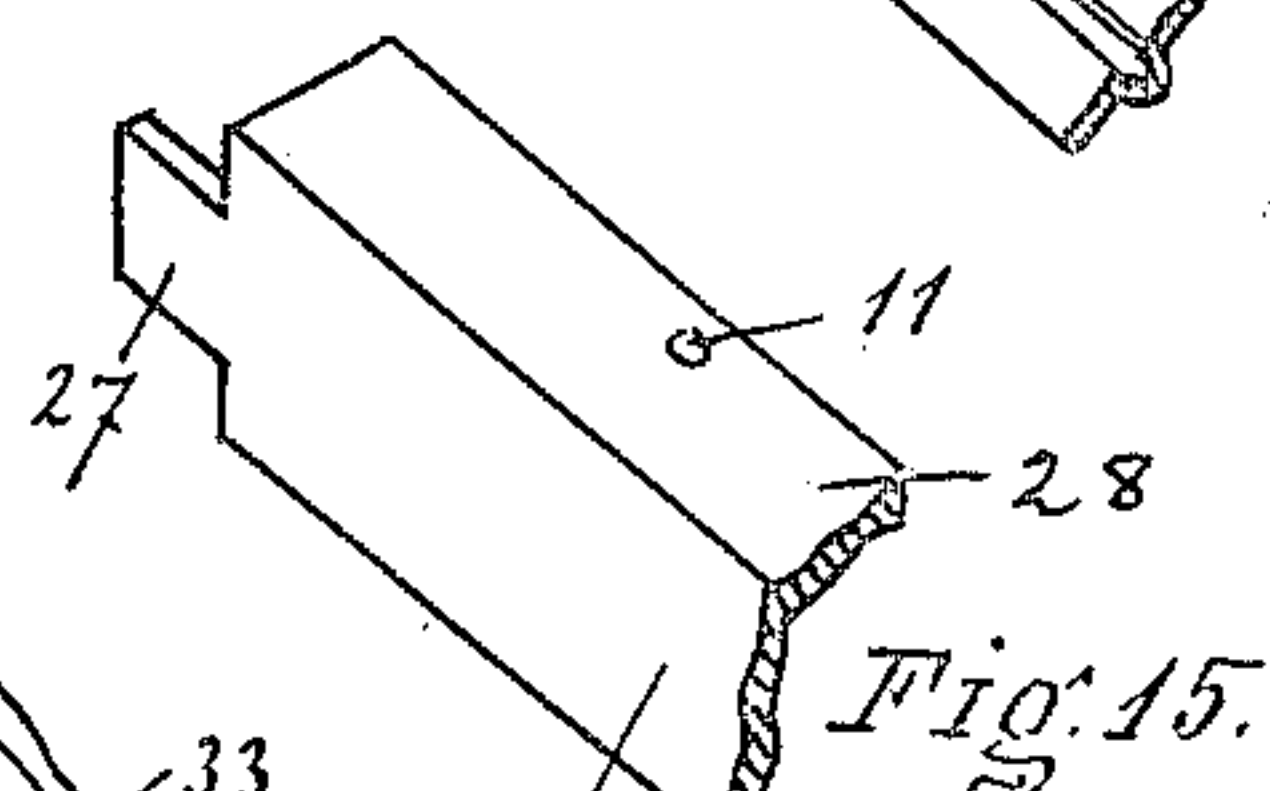
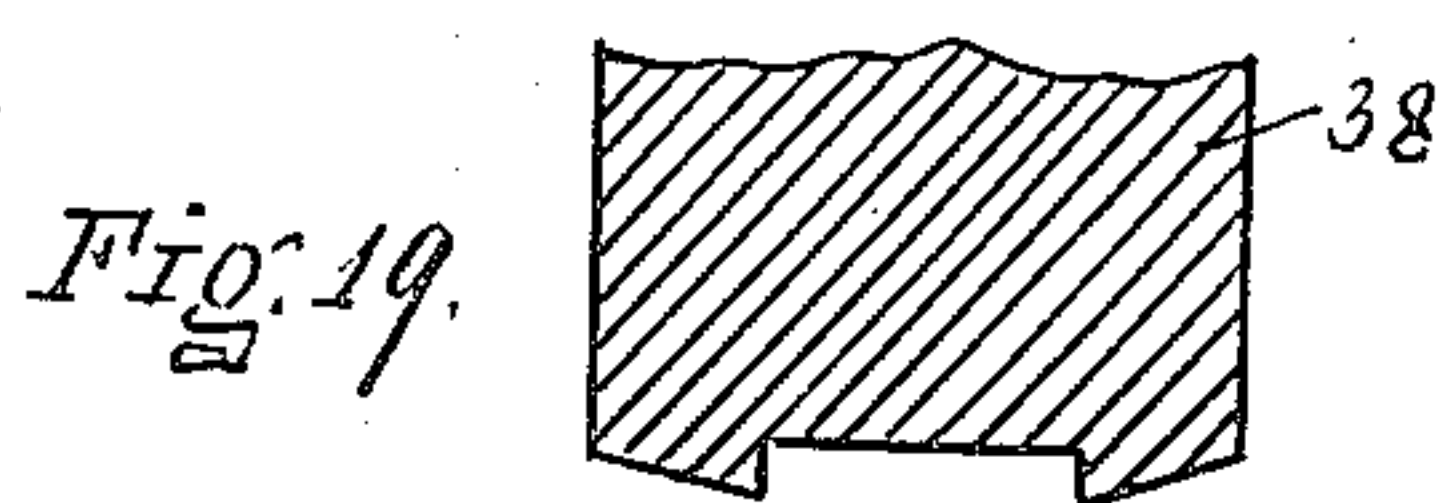
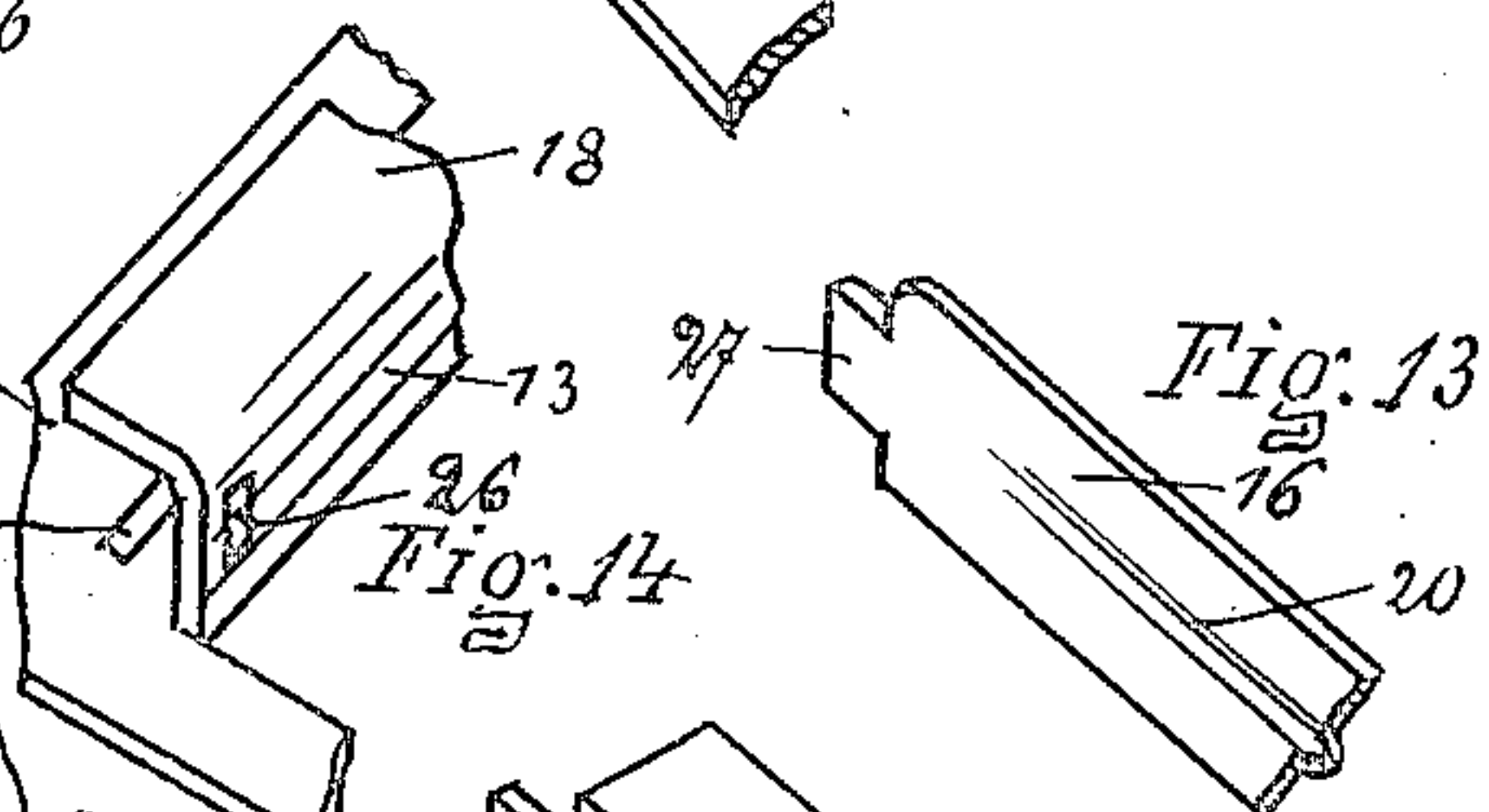
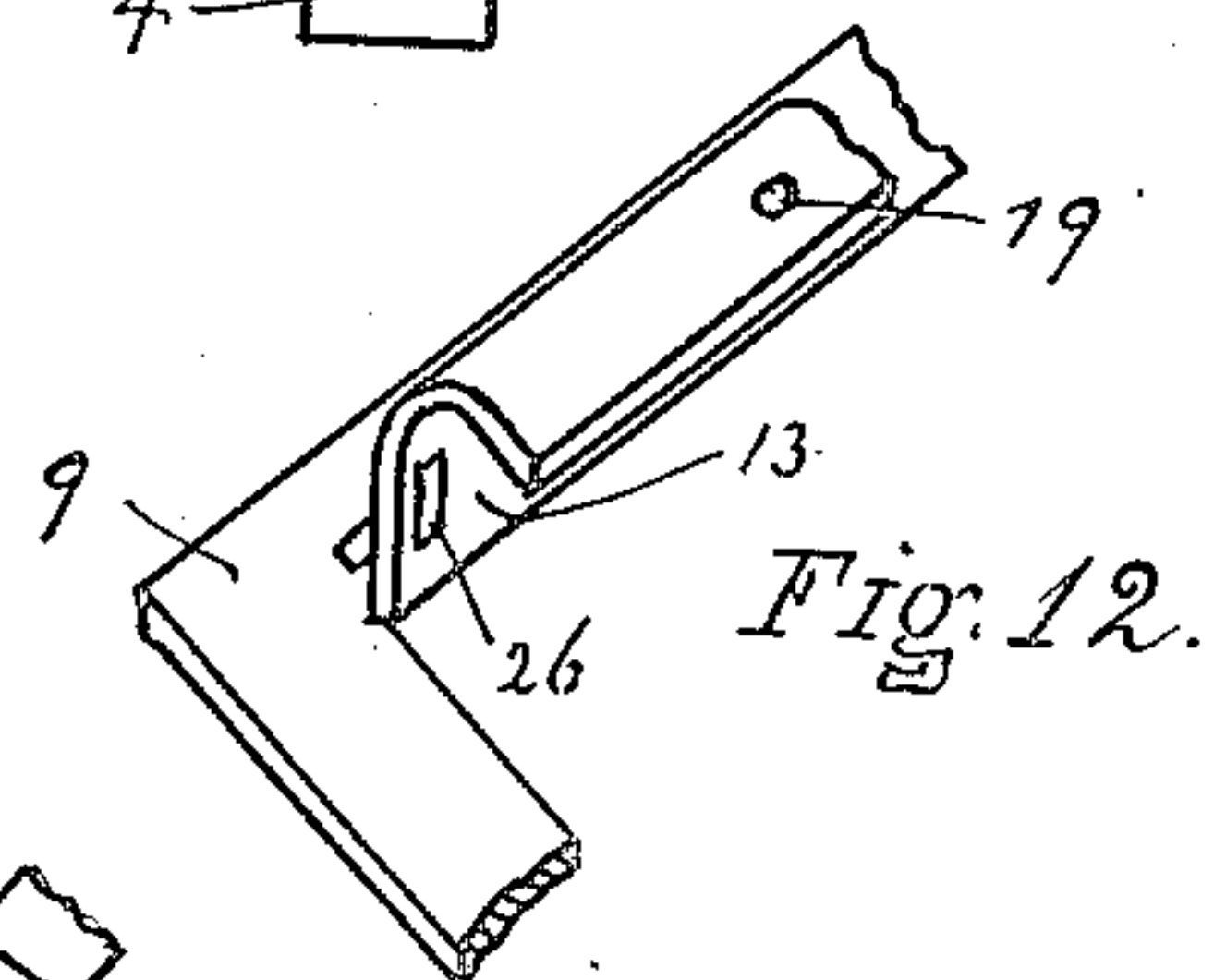
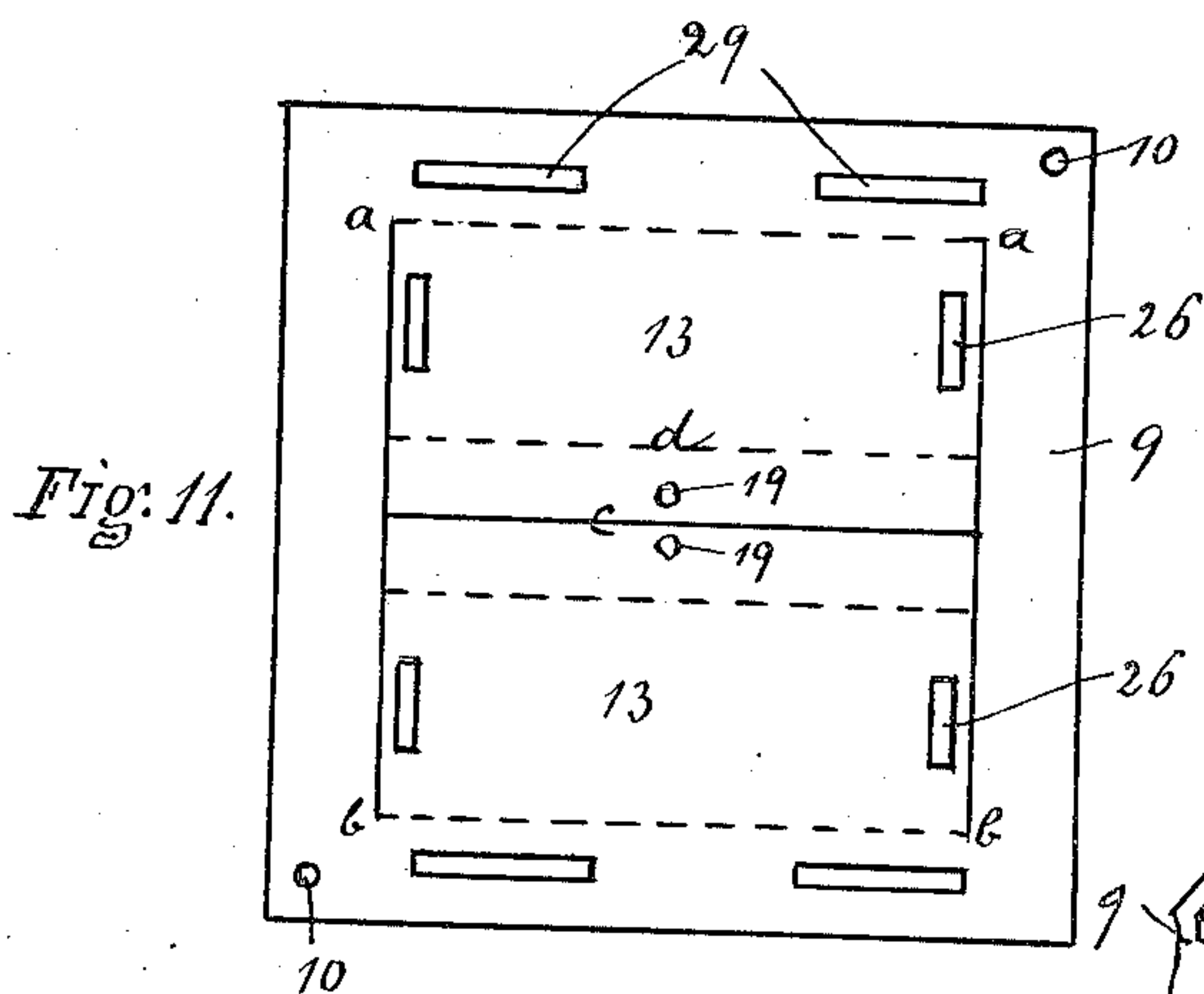
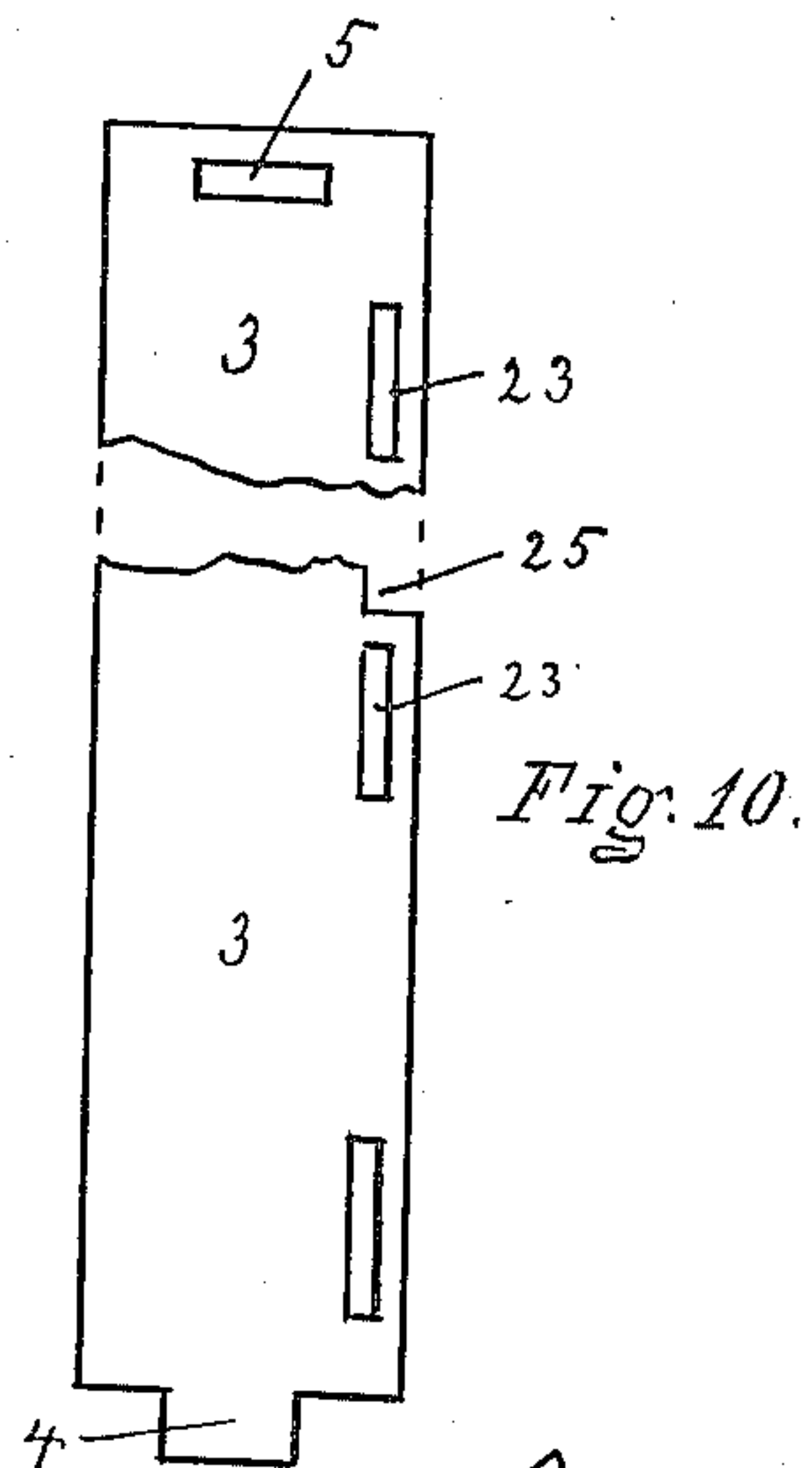
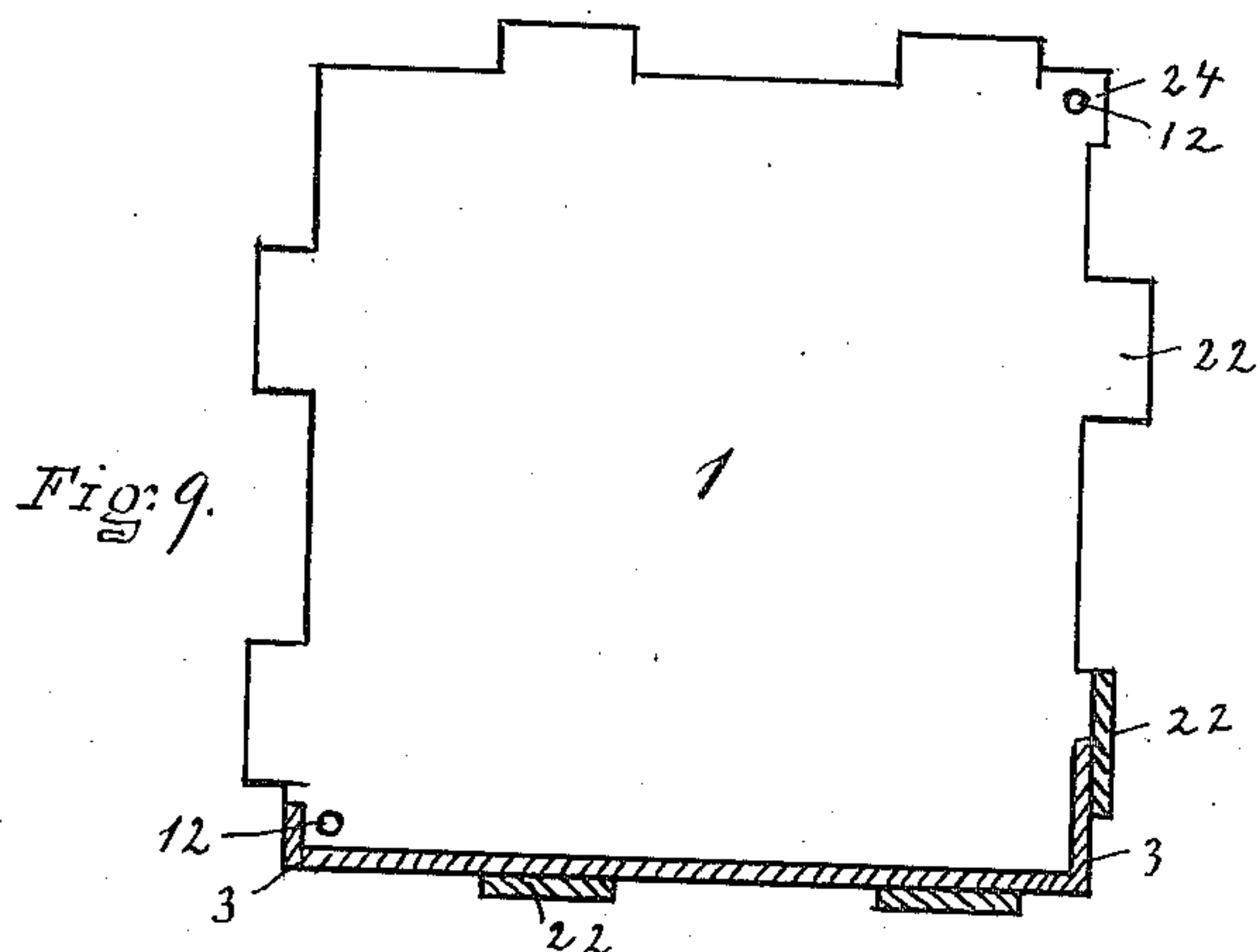
WITNESSES.
Rich. A. George
E. T. De Giorgi.

INVENTOR
LOUIS T. LA PAUGH
BY *Risley Love*
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

LOUIE T. LA PAUGH, OF UTICA, NEW YORK.

OUTLET-BOX.

963,781.

Specification of Letters Patent. Patented July 12, 1910.

Application filed November 22, 1907. Serial No. 403,275.

To all whom it may concern:

Be it known that I, LOUIE T. LA PAUGH, a citizen of the United States, residing at Utica, in the county of Oneida and State of New York, have invented certain new and useful Improvements in Outlet-Boxes, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to an improved outlet box, and I declare that the following is a full, clear, concise and exact description thereof, sufficient to enable one skilled in the art to make and use the same, reference being had to the accompanying drawings in which like letters and numerals refer to like parts throughout.

While the device is termed an outlet box, it may also be defined as a junction box or as a switch box, as it is adapted for use in any such condition, as where different electric wires are brought to a junction, whether within wall construction or at the surface for the mounting of a switch. Such boxes are generally made by drawing a flat blank into form to fashion the bottom and sides of the box out of one piece. In doing this a larger sized blank is necessary than is needed for the box, as provision must be made for trimming the edges of the box when drawn. Also, the blank is subjected to great strain at the corners of the box when being formed and the sides, between the corners, have unnecessary fullness of material. This requires material of particular quality and is proportionately expensive and wasteful. In making the cover of such a box as is used for outlet purposes there are the same objections, of uneven distribution of material in the article, of increased cost and of waste of material by trimming. I have conceived the idea of making such boxes and covers out of flat blanks which are cut to the exact size and of the necessary form and trim so as to effect a great saving of cost, material and of labor and whereby a box and cover can be made by assembling the blanks and securing them in place by pressure of interfitting parts and by other means as herein shown and described. The invention can be employed in making round as well as square boxes. This method of construction and the article itself are shown in the accompanying drawings in a small number of the ways in which the idea can

be practiced, these being set forth simply as illustrations and not as limitations.

In the drawings Figure 1 is an isometric view of the box proper and Fig. 2 of the cover. Figs. 3 and 4 show the face of the blanks cut for the bottom and side of the box, respectively. Fig. 5 is a plan view of the blank used for the cover, the blank which completes the cover being shown in like view in Fig. 6. Figs. 7 and 8 are end and sectional views respectively of modified forms of parts of the cover. Fig. 9 is a plan view of a blank for the bottom of the box, showing in section portion of the side of the box and certain of the lugs in the base turned up and in section. Fig. 10 is a like view of the blank for the side of such a box. In Fig. 11 I show a different style of blank for the cover, a part of the same, when shaped, being shown in perspective in Fig. 12, while Fig. 13 is a perspective view of part of the blank used to form the side of the switch case. Figs. 14 and 15 are perspective views showing different ways of forming the wall portions of the switch case. Fig. 16 is a plan view showing one way of cutting the blanks for the outlet openings, Fig. 17 being a sectional or edge view of the blank when the outlet has been cut. In Fig. 18 I show, in somewhat enlarged sectional detail, a different way of cutting the blank, Fig. 19 showing a central cross-section of the die used therefor, Fig. 20 showing in a plan view the lines on which the cutting is done. Fig. 21 shows in plan view a style of cut somewhat differing from that shown in Fig. 16.

It will be understood that the blanks may be made of any size or proportion, as, for instance, to receive a single switch, turn or push, or a number of them arranged on the case as desired.

Referring to the figures in detail, 1 is the bottom of a box which is formed out of a blank, shown in Fig. 3, of the desired size and character of material. In the style shown in Fig. 1 the bottom blank is cut out at points on the edges as shown at 2. The blank 3 is fashioned to form the sides of the box and is a strip having its body as wide as the inside depth of the box. It has at one end tongue 4 and at the other a slot 5, through which the tongue is passed when the blank is bent to form the sides of the box, the tongue being bent against the

blank as seen in Fig. 1. The blank also has tongues or lugs 6 at proper points along one edge, which fit into cuts 2 in the bottom blank and are bent up against the bottom. By these means the side walls and the bottom of the box are held firmly together. These side walls are apertured as at 7 for the insertion of wires or conduits as will be shown.

The cover blank is shown by 9 and has thereon the switch-case to be described and which may be formed in part out of the blank from which the cover is made. This blank is of a size to rest on the upper edge of the box sides. At opposite corners of the cover are holes 10 for the insertion of screws 11, threaded holes 12 being bored in corresponding corners of the bottom to receive the screws whereby to hold the cover tightly on the box. Holding screws have, of course, been used before, but I have conceived the idea of putting the screw-holes in exact position at the corners so that the screws will lie close in the corners of the box and be thus out of the way. The greater advantages are, however, that the walls form a guide for ready insertion of the screws in the bottom, which, lying in contact with the walls, prevent the cover from sliding in any direction.

In the form of the cover shown in Fig. 5 the blank is cut on the full lines $a-b$ and $a-b$, across the blank and then cut transversely on full line c , and each flap 13 thus made is bent up on the dotted lines $a-a$ and $b-b$, at each side, to form the ends of the switch-case, each such flap having ears 14 and the blank having corresponding apertures 15. The advantage of this construction is that while the ears provide means for securing the sides of the case in place the plaster which incloses the box is held firmly by engaging the edges of the apertures 15. Of course, additional apertures can be made if desired.

The side pieces 16 of the case are formed of suitable blanks cut out at the end, as at 17, to receive ears 14 which pass there-through and are bent along the side pieces. The flaps 13 in the cover blank are bent on the lines d , forming flanges 18 to conform with the edge of the side pieces 16, and are bored at 19 so that the switch-plate can be screwed thereto. The side pieces of the case may be provided with a longitudinal outwardly projecting rib 20 for holding the plaster in place. Or, if preferred, the blanks of the sides may be wider than the height of the case to allow of bending the upper edge outward in flange 21, as seen in Fig. 7, to provide a flushing face and a holding ridge for the plaster and which may have bores 19 to hold the switch-plate.

Various modifications may be made in the shape, style and cut of the blanks, so as to

assemble the parts in a slightly different manner, as seen, for instance, in Figs. 9 to 15. The bottom blank 1 is cut with ears 22 and the side blank 3 with slots 23, the latter having tongue 4 and slot 5 as before. Screws 11 may be used as before to hold the cover in place, the bottom being formed, as at 24, at the screw corners to project under the side, the latter being cut out as at 25 to allow for such projection, this arrangement giving room for the screw-holes in the bottom.

In the cover blank 9, shown in Fig. 11, the flaps 13 are cut somewhat differently, forming a case suitable for a larger switch or for two switches lying in the opposite direction. They have slots 26 to receive ears 27 of side blanks, but are bent on like lines as in the former instance into a similar form. If desired, the flange 18 may be bent outwardly as seen in Fig. 14 for the uses specified, while the side pieces may be formed as seen in Fig. 15 with inward bent flange 28. Screw holes 19 may be placed where desired, according to the design and use of the box. The cover 9 may also be provided with plaster-holes 29 of such form and location as needed.

At 30, Fig. 1, is shown an aperture for a gas pipe elbow or the like. In some cases this is cut a quarter distance down the side than there shown, but in such case the means which connect the side and the bottom are to be brought near enough to the aperture to provide necessary strength and rigidity.

Outlets are made in the sides of the box as at 7, Fig. 1. The desire is to provide a box having such ports or openings normally closed, but so constructed that the workman can readily remove the closure in case he wishes to use the port. In Figs. 16 and 17 I show one way of accomplishing this end. As there seen the port is cut on a circle of two parts, m and n , which are separated by the shank 31 of clasp 32, which may be given the outline shown in Fig. 16 or that shown in Fig. 21, or other suitable outline. In the former figure the clasp has lateral prongs 33. The operation which cuts the outlet on lines m and n and on the lines of the clasp, bends the end of each clasp upward which brings the prongs slightly back to bear on the face of the disk 34. The same operation presses the disk outward just enough to clear the blank or, more accurately, so that the inner face lies, for instance, on the line of the outer face of the blank, the distance between the line of the circle and the inner edge of the prongs providing for this.

The jagged edges of the blank and the disk prevent the latter from coming out in the direction from which it has been pushed and the prongs prevent it from going in the opposite direction. The die which cuts

the blank may, if needful, be given a slight fullness at about the point corresponding to the point 35, Fig. 17, so as to insure the overlap of the prongs over the disk.

5 The shanks of the clasp are made of such a size that the workman can by a blow bend them back, as seen in Fig. 1, and break them off, releasing the disk and leaving the outlet free and of such size and form as may have been designed.

10 In Fig. 20 I also show a circular outlet, cut in two complete circles, *o* and *p*, leaving ring-disk 36 and ring 37. The face of the die 38 is seen in a central cross section view in Fig. 19 and the effect of its operation is shown, on an enlarged scale, in Fig. 18. That operation severs the blank on the circles and crowds the outer edge of the ring partly through, its inner edge beyond the face of the blank, while the disk is crowded about as far as the outer edge of the ring. The dishing or tilting effect given to the ring crowds its outer edge against the edge of the blank and its inner edge is crowded against the edge of the disk. This holds the disk and ring against accidental dislodgment but the former can be removed by driving it backward and both, by driving them forward, relative to the direction in which pressure was applied.

30 I claim—

1. A device of the character described composed of a bottom formed of a single blank having cutouts at given points on its edges, a blank adapted to form the sides of the box and having lugs along the edge adapted to fit into the cutouts of the former blank and be bent to hold the two blanks together, and a third blank with a central aperture therein and adapted to fit on the top edge of the side blank when in place, the said device being provided with screws passing through the top blank and into the bottom blank for holding the parts assembled, the said screws being positioned to lie in close contact with the sides in the corners of the box whereby to hold the blanks firmly in their assembled position.

2. A device of the character described comprising a bottom blank and a blank for forming the sides, the two having corresponding cutouts and lugs for the interfitting of the blanks, and a top blank, means for securing the same in place, the said top blank having an aperture therethrough

formed by cutting the blank to provide flaps adapted to be turned up to form opposite walls of a casing, and members adapted to be fitted into engagement with the said walls to complete the said casing.

3. A device of the character described having a bottom blank and a side blank severally provided with means for the interfitting and securing of the same, and a top blank, the said blank being cut to provide an opening therethrough by bending up flaps cut from the blank to form walls of a casing on the said top, and other members provided to interfit with the said walls, the said latter members having longitudinal ribs whereby to make firm connection of the wall material surrounding the said device with the same.

4. An outlet box formed of blanks cut with recesses and lugs interfitting whereby to form the bottom, sides and top of the box, and means for holding the same in position, the top blank being cut with flaps said flaps being upturned and members adapted to fit therewith to form a casing, the said flaps and members having corresponding lugs and cutouts for the interfitting of the same, substantially as described.

5. An outlet box having a top with flaps cut therein and turned up to form opposite walls of a casing, blanks cut to fit the said flaps in forming the other opposite walls of the casing, the said flaps and members having lugs and recesses interfitting in the uniting of the same, substantially as described.

6. An outlet box having bottom, side and top pieces, the top piece being cut with flaps upturned and upset along the upper edge, blanks cut to fit the said flaps and form, with them, the walls of a casing, the said flaps and blanks having lugs and cutouts respectively interfitting, substantially as described.

7. In an outlet box, a cover formed of a blank cut with upturned flaps, blanks attached thereto and forming the side-walls of a casing on the cover, the said blanks being upset along the upper edge, substantially as described.

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

LOUIE T. LA PAUGH.

Witnesses:

E. T. DE GIORGI,
HENRY M. LOVE.