

No. 640,482.

Patented Jan. 2, 1900.

T. J. MURPHY.
JUNCTION BOX.

(Application filed May 17, 1899.)

(No Model.)

4 Sheets—Sheet 1.

Fig. 1

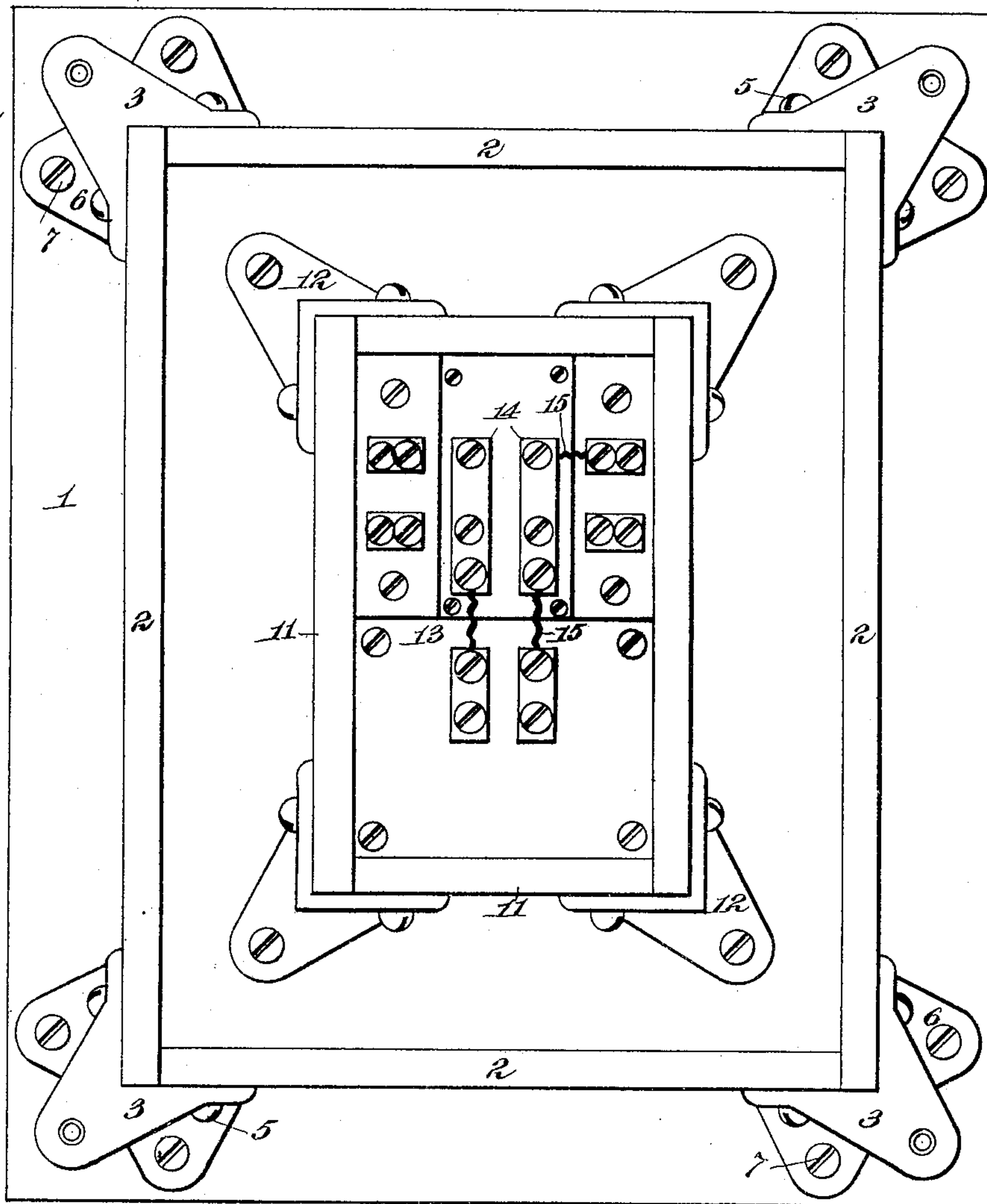
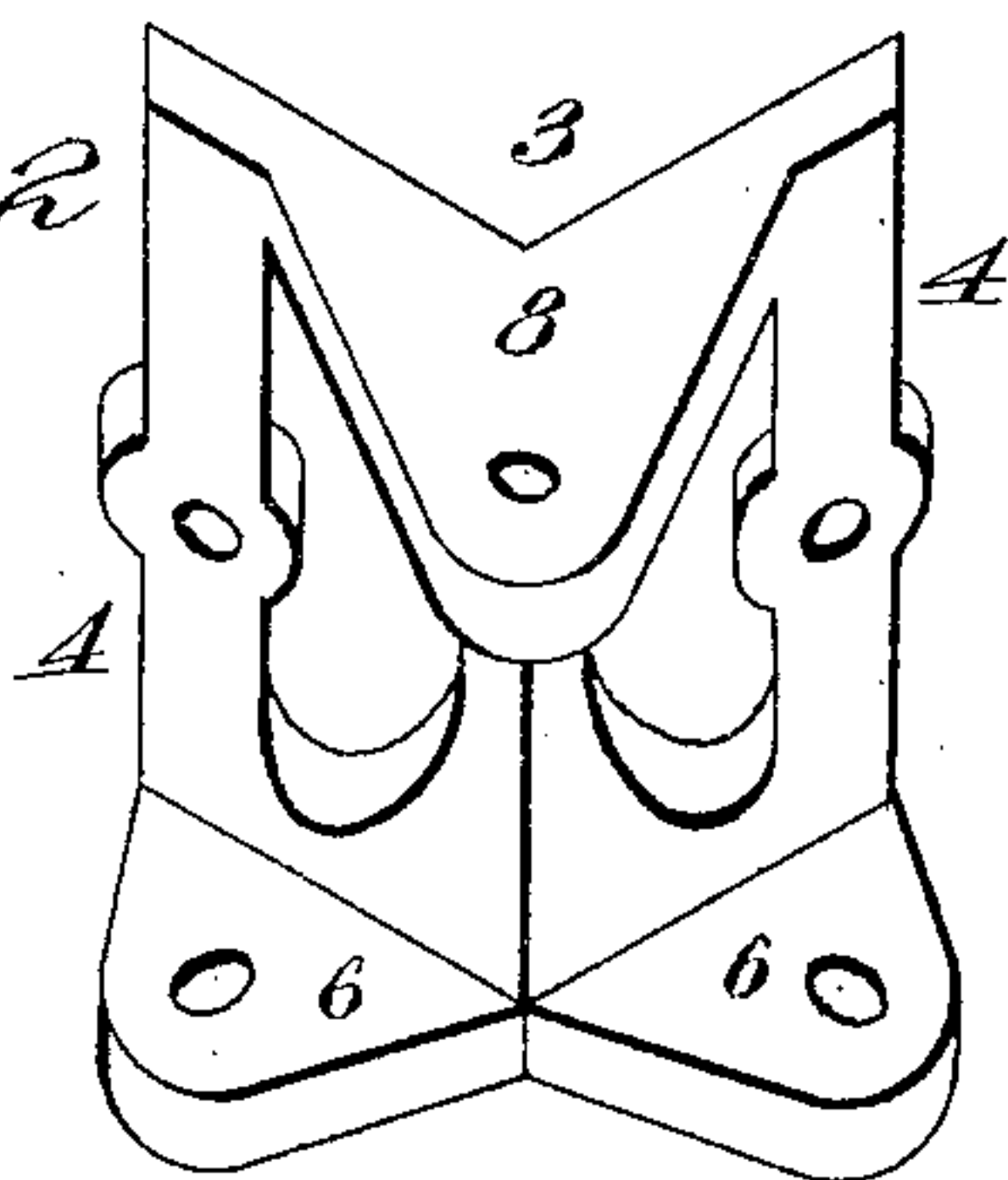


Fig. 2



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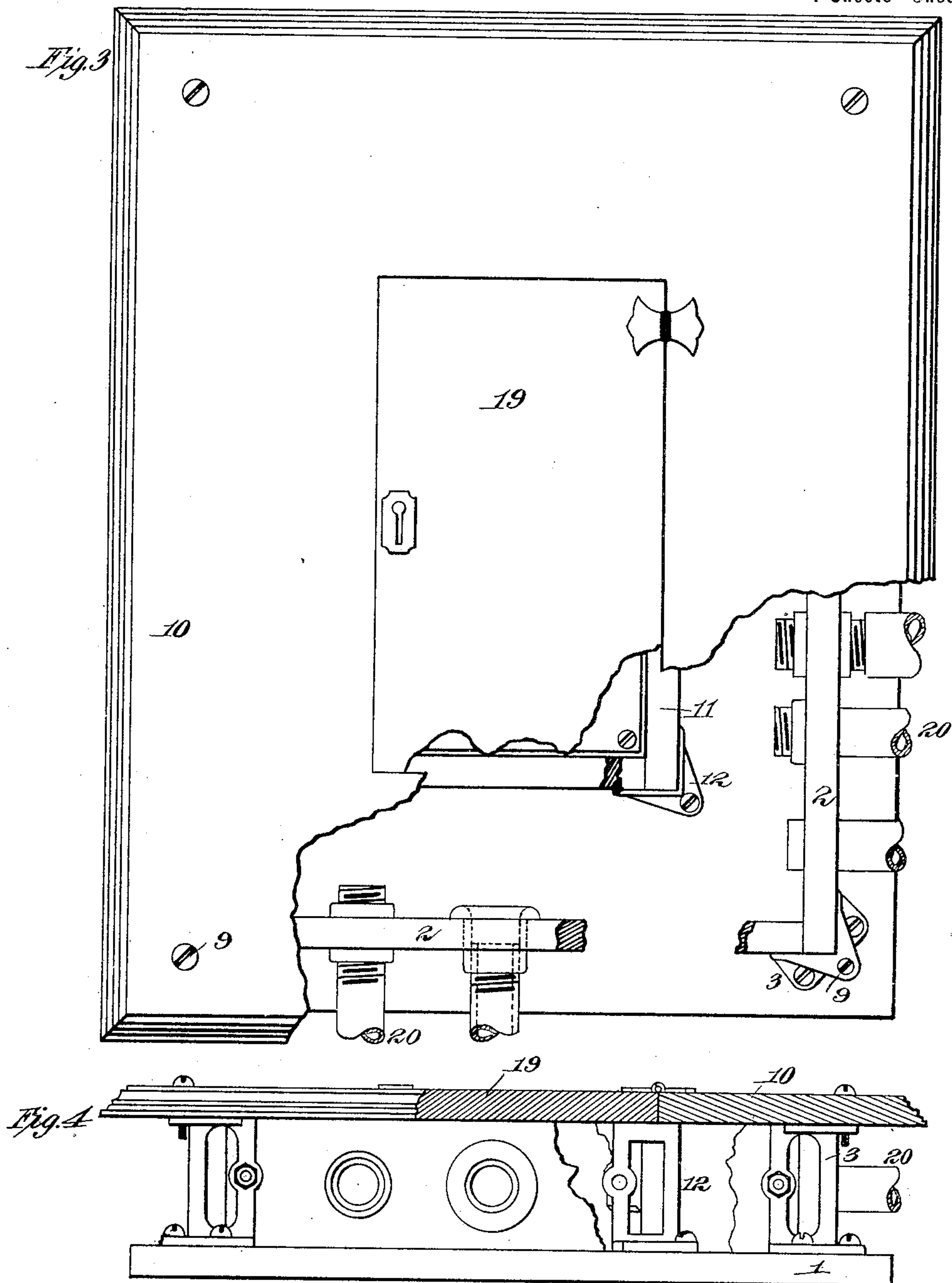
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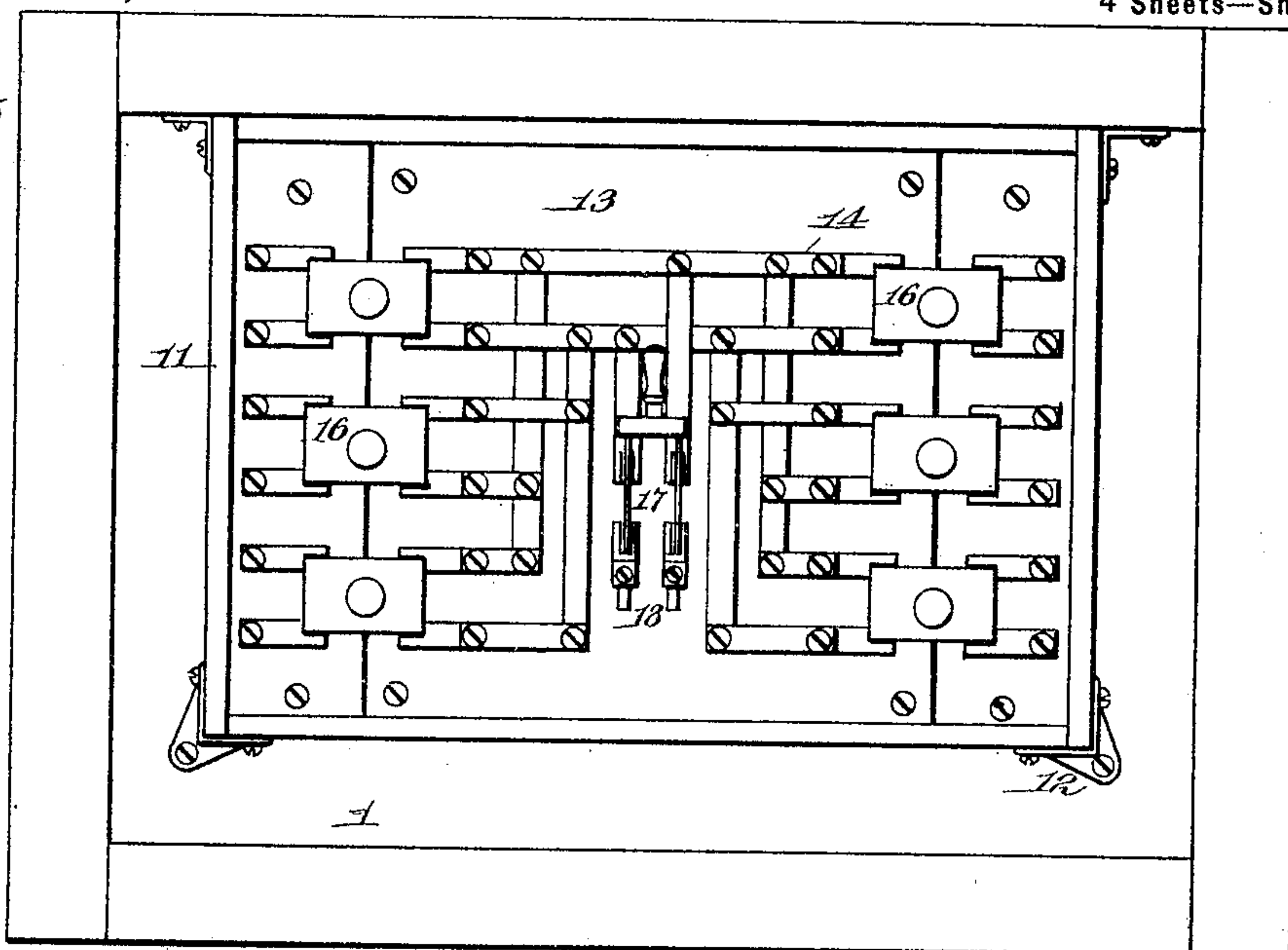
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4 Sheets—Sheet 3.

Fig. 5



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4 Sheets—Sheet 4.

Fig. 6

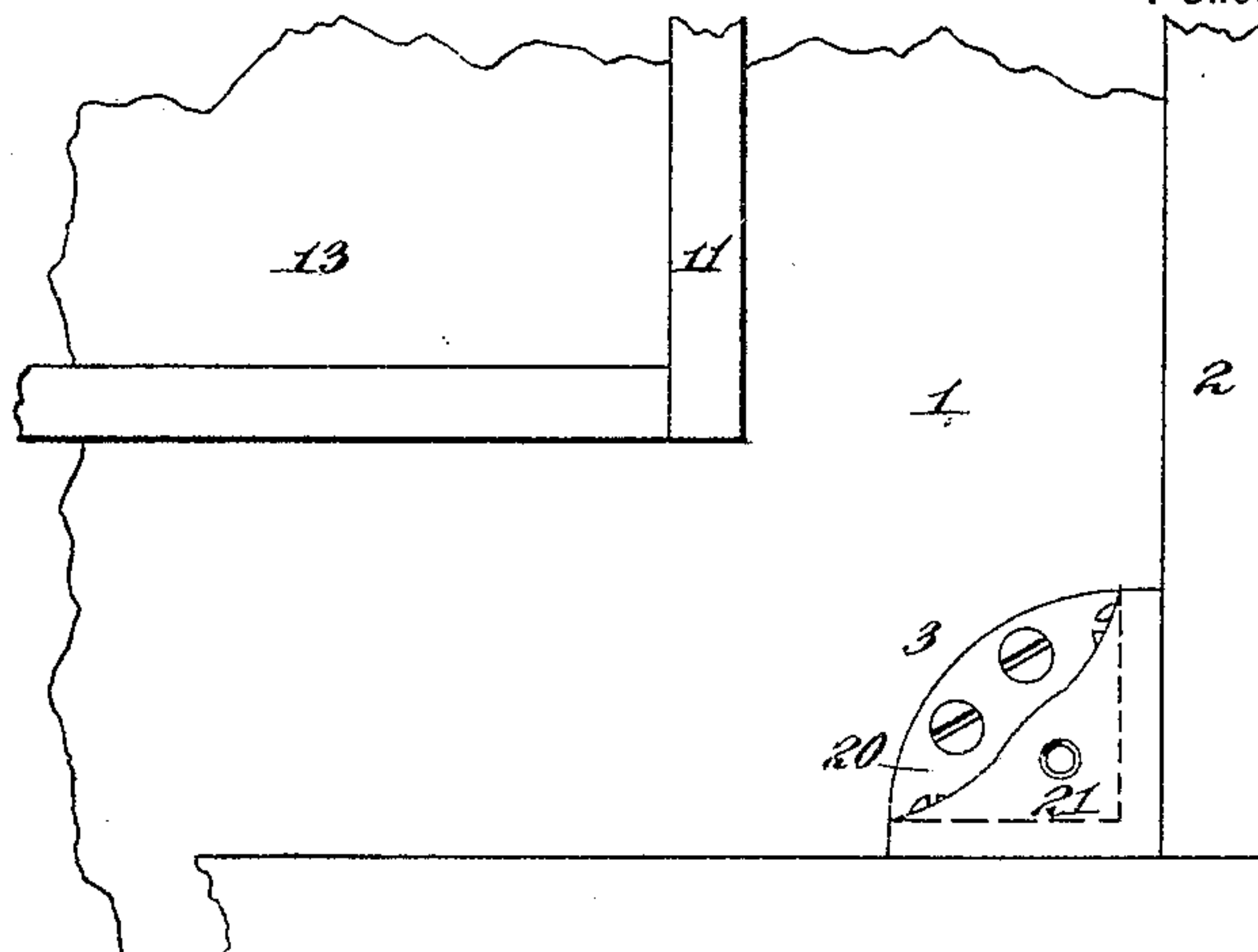
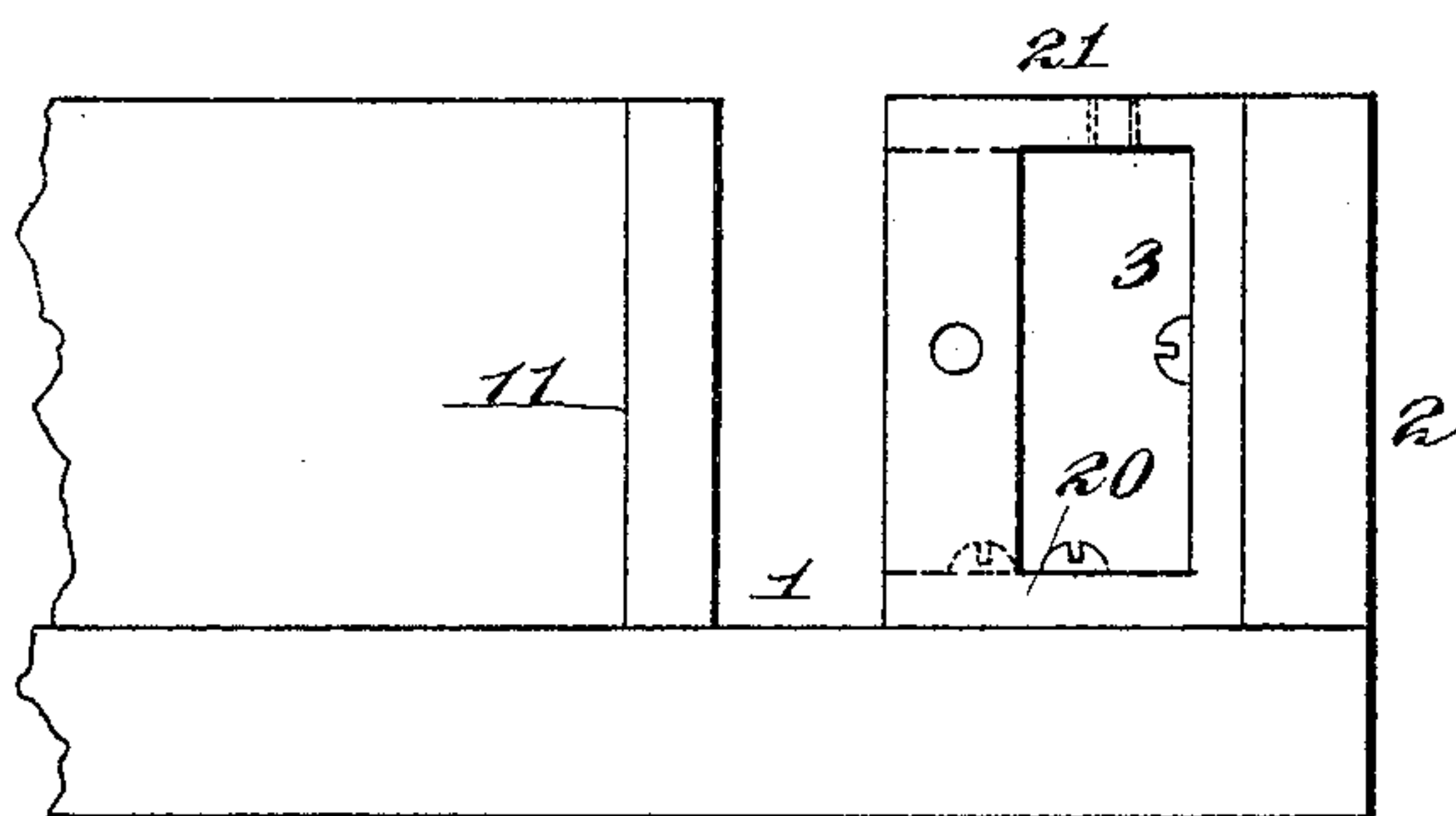


Fig. 7



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UNITED STATES PATENT OFFICE.

THOMAS J. MURPHY, OF NEW YORK, N. Y.

JUNCTION-BOX.

SPECIFICATION forming part of Letters Patent No. 640,482, dated January 2, 1900.

Application filed May 17, 1899. Serial No. 717,199. (No model.)

To all whom it may concern:

Be it known that I, THOMAS J. MURPHY, a citizen of the United States, residing at New York city, in the borough of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Junction-Boxes, of which the following is a specification.

My invention relates to various new and useful improvements in "junction-boxes," so called, which are at the present time placed in large modern buildings for effecting the connection between the service-mains and the distribution-wires. Such boxes are generally provided with switching devices for controlling the current and with fusible cut-outs or other safety devices for protecting the service-wires from destructive currents.

My improved junction-box is or may be made entirely fireproof in construction, and it can be more economically built and readily erected than any junction-box heretofore suggested with which I am familiar.

My improved junction-box also possesses the manifest advantage of being collapsible, whereby it may be more easily transported and set up than the junction-boxes at present in use.

It also possesses the advantage of being readily constructed in different forms and dimensions by workmen of ordinary skill.

In carrying out my invention I employ a suitable base of proper dimensions and which is made of a suitable fireproof material, such as slate, marble, or iron. This plate may conveniently be secured in place during the construction of the building and may constitute a permanent part thereof. Secured to the plate referred to are side sections of an outer box, preferably rectangular in form, these sections being held in position by means of brackets of a novel construction. This outer box is also preferably made of a fireproof material. Mounted within the outer box thus formed is an inner box, the sides of which are preferably supported by brackets secured to the back plate, the space between the two boxes constituting an insulating-gutter, as is now common. The inner box carries the connecting-plates, the fusible connections or other safety devices, and the switch, if used. The main wires lead through the outer box

into the inner box and are properly connected with the plates therein, while the service-wires extend from the inner box through the outer box and are distributed throughout the building in the usual way. In order to protect the device, a suitable cover made, preferably, of a fireproof material is secured in place by the brackets which carry the walls of the outer box. This cover may be removed whenever desired. Preferably the cover carries a door coincident with the inner box, which may be opened for the examination of the connections of the operation of the switch, if used, and for replacing any safety devices which may have been actuated.

In the accompanying drawings, which form a part of this specification, Figure 1 is a plan of a junction-box embodying my present invention with the cover removed; Fig. 2, a separate isometric view of one of the brackets of the side pieces of the outer box; Fig. 3, a plan view, partly in section, of the box shown in Fig. 1 with the additional illustration of various forms of leading-in pipes for the service and main wires; Fig. 4, a bottom plan view of the same, partly in section; Fig. 5, a view corresponding to Fig. 1, illustrating a different arrangement of the circuit connections for the inner box; and Figs. 6 and 7, detail views of modified constructions of bracket.

In all of the above views corresponding parts are represented by the same numerals of reference.

1 represents a plate or foundation suitably mounted in a recess in the wall of a building or elsewhere. This plate may be conveniently set in place during the construction of the building, so that it constitutes a permanent part thereof. The plate is made of a fireproof material, such as slate, marble, or iron. If made of a conducting substance, such as metal, it is preferably coated with a suitable insulating composition, as is well known. The outer box is formed of four sections 2 2 2 2 when it is to be rectangular in form, secured in place to the foundation-plate 1 by means of brackets 3 3 3. The particular construction filed is illustrated in Fig. 2. This bracket is provided with two rectangular side portions 4 4, through which the screws or bolts 5 pass for engagement with the side pieces 2, with the two bottom lugs 6 6, through

which the screws 7 pass for securing the brackets to the foundation 1, and with a horizontal upper lug 8, through which the screws 9 pass for removably securing a cover 10 in position. Located within the outer box thus formed is an inner box composed of the walls 11 11, which walls are secured to the foundation by means of brackets 12, as I have described in Patent No. 623,172, dated April 18, 10 1899, granted to myself.

In the inner box is secured a preferably sectional bottom 13, to which the contact-plates 14 are secured in any suitable way. Safety connections 15 are employed to connect the plates 14 across the brackets formed in the sectional bottom of the inner box, as I have described in said patent. Instead of using safety connections 15 for this purpose it will be obvious that ordinary safety-boxes 16 may be employed, as shown in Fig. 5. These safety-boxes consist generally of a receptacle made of insulating material, such as porcelain, and carrying one or more fusible wires therein, the boxes being provided on their exterior with contact-plates, which make contact with the connecting-plates as the boxes are inserted in position. In Fig. 5 I also illustrate a switch 17 for connecting the main leads 18 with the distribution-circuits which I described in said 30 patent.

The cover 10 of the box may be provided with a door 19 therein, located immediately over the inner box and through which the inner box may be reached for any purpose. 35 The cover 10 and the door 19 are, in common with the other portions of the box, made, preferably, of fireproof material—such as slate, marble, or iron—which material is either inherently insulating or is suitably superficially insulated. The wires leading to and from the inner box are preferably carried in metal tubes 20, as shown in Fig. 3, and in that figure I illustrate several well-known constructions of connections for these tubes and which 45 may be carried out, if desired. These con-

structions are familiar to those skilled in the art and need not be described in detail.

In Figs. 6 and 7 the brackets are of a slightly different form. Instead of the rearwardly-extending lugs 6 and 8 I employ a base 20, which is secured to the plate 1 and extends forwardly, and an arm 21, which supports the cover and is similarly extended. With this form the brackets will be located within instead of outside of the box. 55

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

1. A junction-box comprising a base, a collapsible outer box, and a collapsible inner box, 60 substantially as set forth.

2. An improved junction-box comprising a base, a collapsible outer box carried in brackets secured to said base, a collapsible inner box carried by brackets also secured to said base, and a cover common to both boxes secured to the brackets of the outer box, substantially as set forth.

3. An improved junction-box comprising a base, a collapsible outer box carried in brackets secured to said base, a collapsible inner box carried by brackets also secured to said base, a cover common to both boxes secured to the brackets of the outer box, and a door in said cover coincident with the inner box, 75 substantially as set forth.

4. In an improved junction-box the combination with a base, a plurality of angular brackets carried by said base, box-sections secured to said brackets, an arm carried by each bracket and extending parallel to the base, and a cover for the box removably secured to the last-mentioned arms, substantially as set forth.

This specification signed and witnessed this 10th day of May, 1899. 85

THOMAS J. MURPHY.

Witnesses:

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