

L. I. HEINTZ.

METALLIC DOOR.

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899,164.

Patented Sept. 22, 1908.

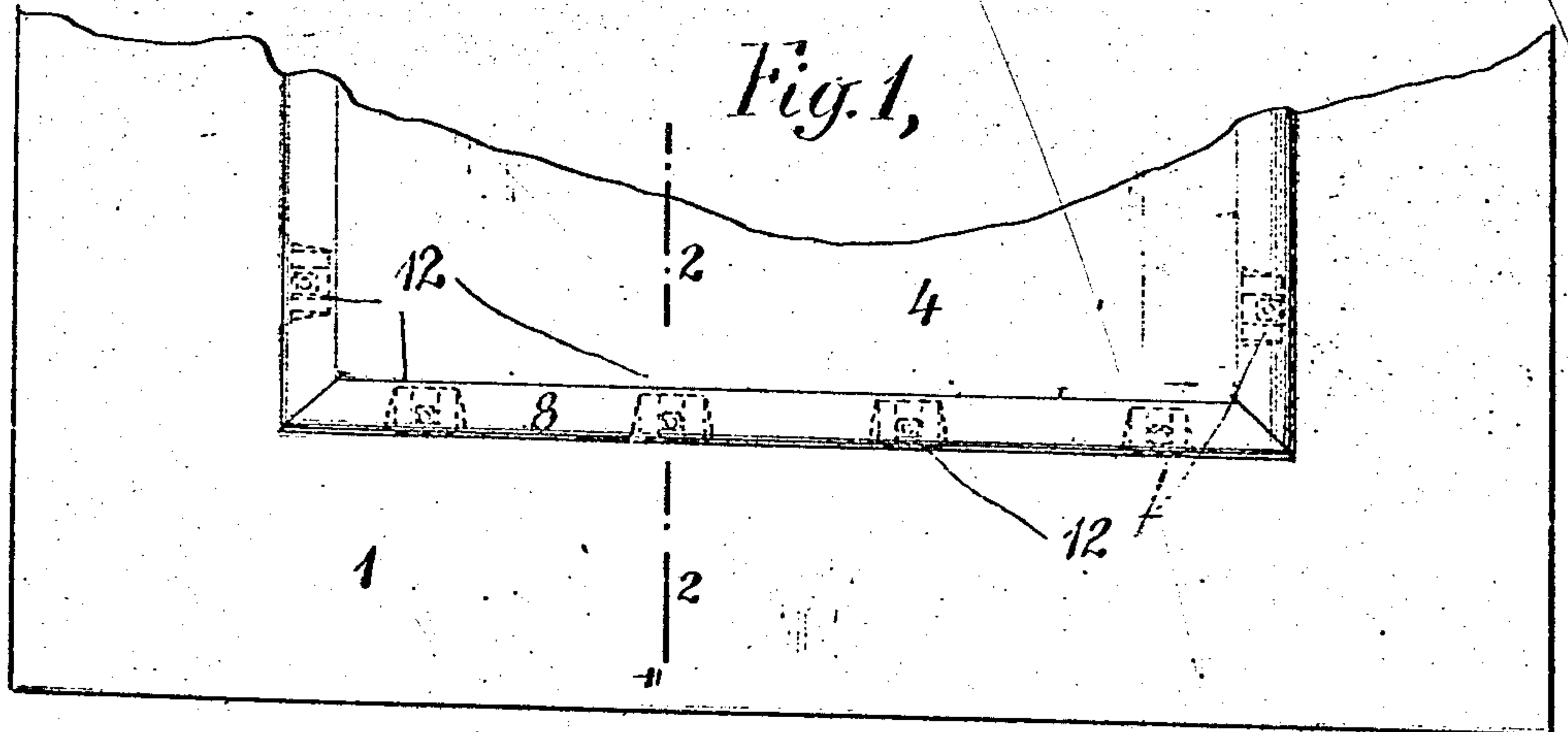


Fig. 2,

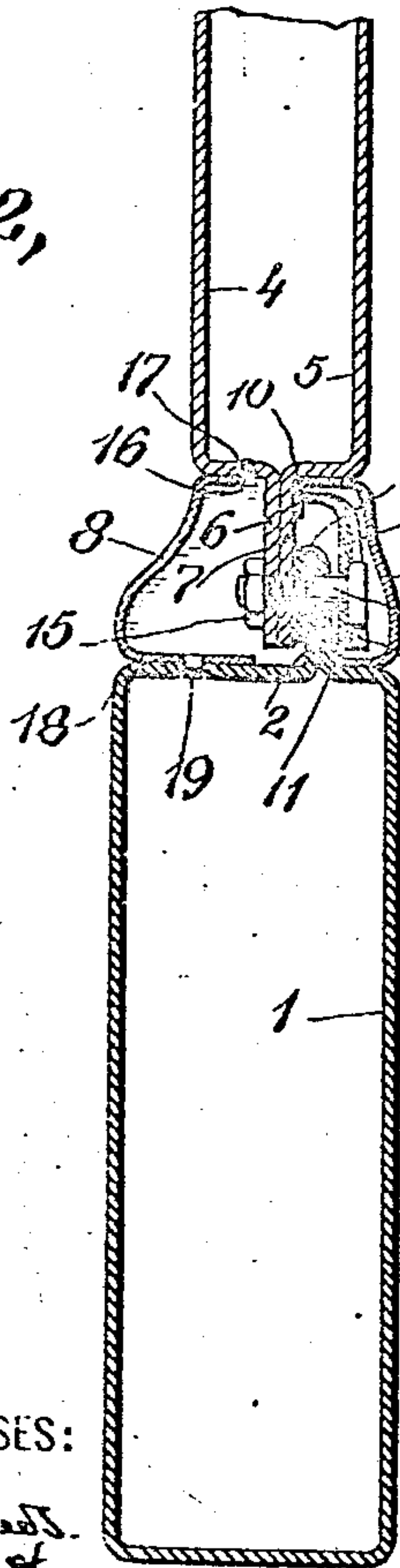


Fig. 3,

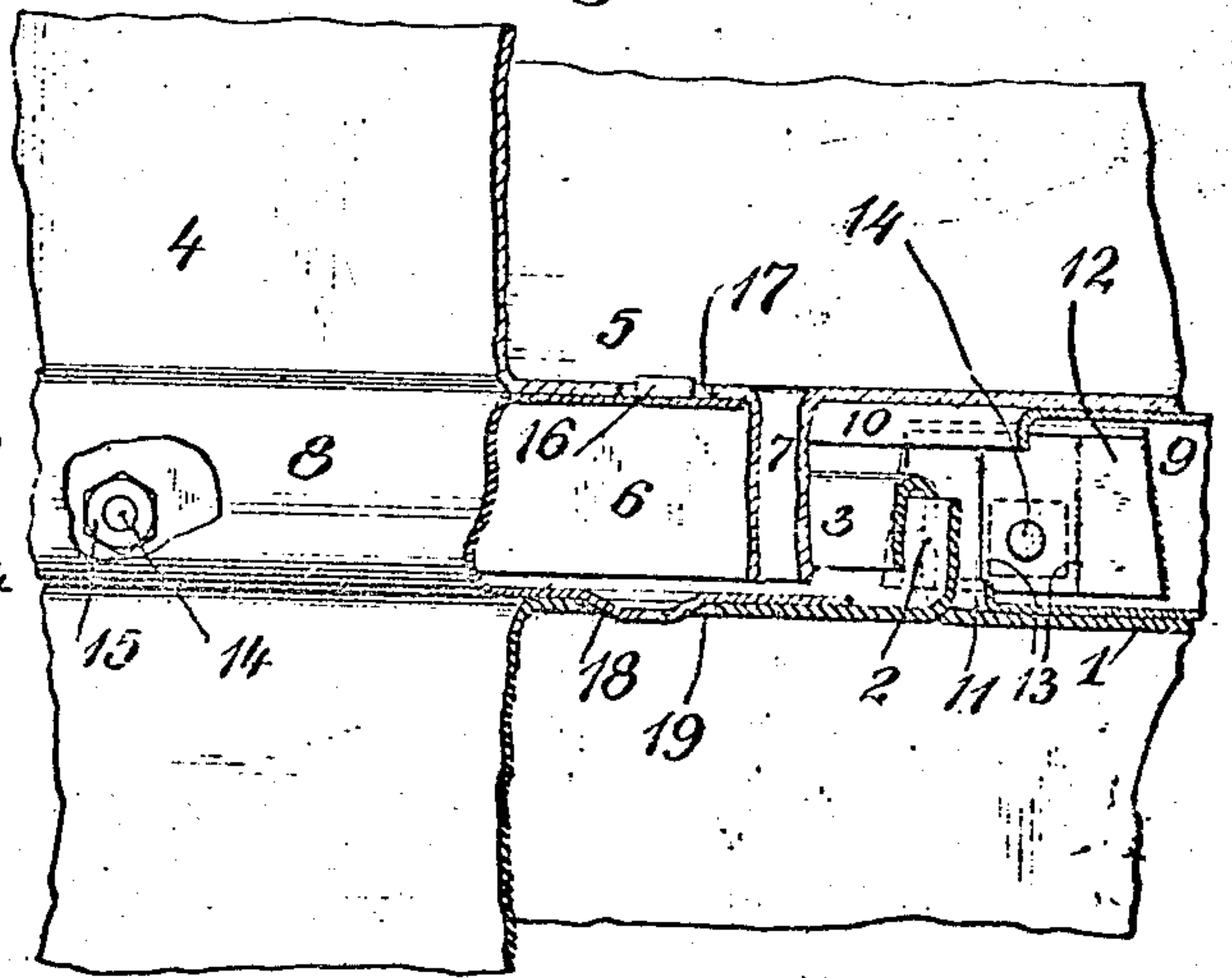
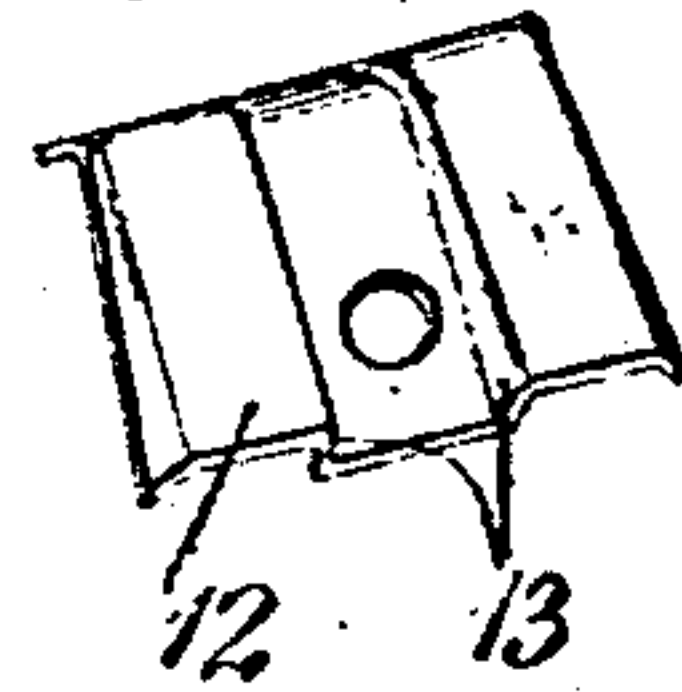


Fig. 4,



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METALLIC DOOR.

No. 899,164.

Specification of Letters Patent.

Patented Sept. 22, 1908.

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To all whom it may concern:

Be it known that I, LEO I. HEINTZ, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Metallic Doors, of which the following is a specification.

This invention relates to metallic doors and has reference more particularly to the construction of such a door whereby decorative moldings are provided between the panels and the rails or frame thereof.

The object of the invention is to effect certain improvements in the construction of metallic doors to the end that a structure of attractive appearance is produced, the parts of which may be readily manufactured and quickly assembled at small expense.

The preferred embodiment of the invention is illustrated in the accompanying drawings in which

Figure 1 is an elevation of a portion of a door, Fig. 2 is a section on the line 2, 2 of Fig. 1, Fig. 3 is an enlarged view in elevation, broken away and sectioned to show the various parts, and Fig. 4 is a perspective view of one of the clips.

Referring to these drawings, the door consists of metallic rails secured together at their ends to form the frame of the door and one or more metallic panels secured within this frame. The preferred construction of each of the rails is shown in Fig. 2, from which it will be seen that the rail 1 consists of a single strip of sheet-metal which is pressed to a rectangular cross-section to provide open space between the opposite sides thereof, whereby greater strength is obtained, and to bring together the lateral edges of the strip. One of these edges is flanged outwardly as shown at 2, and the other is provided with a fold 3 inclosing this flange 2 so as to secure the lateral edges of the strip from which the rail is formed together and provide a flange on the inner side of the rail. The several rails forming the frame of the door are secured together at their ends preferably in such a way that the joints between them do not show, and that the frame is of uniform thickness at all points. The panel consists of two sheet-metal plates 4 and 5 each having its edges bent, as indicated in Fig. 2, so that the body portion of the plates are spaced apart and the edge portions 6 and 7 thereof lie side by side.

These edge portions 6 and 7 are secured to the inwardly extending flange on the frame formed by the flange 2 and fold 3 of each of the rails, and suitable moldings are secured in position to conceal the joint between the rails and panel.

The moldings for the opposite sides of the door are shown at 8 and 9. The molding 9 consists of a strip of sheet-metal which is pressed to provide the flanges 10 and 11 at its edges extending toward each other. The width of this molding is such that it will fit snugly between the rail and the shoulder formed on the plate 5 of the panel between the body portion of the latter and the flange 7 at the edge thereof. Intermediate of its edges the strip for the molding 9 is pressed to an attractive curvature. In order to secure each of the molding strips 9 in position, I provide a plurality of clips 12 (Fig. 4) which may be formed of sheet-metal blanks pressed to the shape shown. These clips are of such size that when in position they co-act at one edge with the flange 10 on the molding 9 and at the other edge with the flange 11 on the molding, as shown in Figs. 2 and 3. Also each of the clips is ribbed transversely so as to provide therein walls 13 spaced apart by the width of the head of a bolt 14. Midway between the walls 13, an opening is provided through the clip 12, as shown in Fig. 4. A plurality of these clips 12 are inserted in position within the molding strip 9, as shown in Fig. 1, with a bolt 14 extending through the opening in each of the clips, the head of each of these bolts lying between the walls 13 on its clip and the bolt being held against turning thereby. The strip is then inserted in position between the rail and the shoulder on the panel and the bolts 14 passed through the aligned openings in the flange on the rail formed by flange 2 and fold 3 and in the flanges at the edges of the plates 4 and 5, and a nut 15 is screwed upon the end of this bolt to draw the parts together and hold them firmly.

The molding strip 8 for the other side of the door also consists of a strip of sheet-metal pressed to provide portions at its lateral edges lying parallel one to the other and a portion intermediate of these parallel portions which is curved to present an attractive appearance. On one of the edge portions 16, tangs 17 are struck up which are adapted to enter openings formed in the plate 4, as

shown. The other edge portion 18 of the strip 8 is provided at suitable intervals with parallel cuts and the metal between these cuts is struck out so as to form projections 19 adapted to enter openings provided to receive them in the rail. In mounting the strip 8 in position, the parallel edge portions 16 and 18 are sprung together somewhat and the strip is forced into position; when it reaches its position the tangs 17 and projections 19 will spring into the openings provided to receive them and will then hold the molding strip rigidly.

The ends of the several molding strips are mitered as shown in Fig. 1 so that a neat joint is made between the abutting ends. If desired these ends may be welded together when the strips are in place to give increased strength and to conceal the joints, though this is in no way essential.

It will be seen that by this construction, a metallic door is produced having one or more panels secured within a suitable frame and the molding strips, pressed to any desired configuration, conceal the joints between the panels and frame and give the door a finished appearance. The means for securing the molding strips in position not only holds these strips firmly but is inexpensive both to manufacture and assemble and is entirely concealed.

Having described my invention what I claim as new therein and desire to secure by Letters Patent of the United States is:

1. In a metallic door, the combination of a frame, a panel secured thereto, and a molding strip secured to the door and overlying the joint between the frame and panel, said strip having projections thereon entering openings in the door to secure the strip in position and the metal of the strip between adjacent projections lying in engagement with the metal of the door, substantially as described.

2. In a metallic door, the combination of a frame, a panel secured thereto, said frame and panel having parallel walls thereon lying substantially transverse to the plane of the door and openings in said walls; and a molding strip overlying the joint between the frame and panel and having projections thereon entering said openings to secure the strip in position, substantially as described.

3. In a metallic door, the combination of a frame, a panel secured thereto, and a molding strip overlying the joint between the frame and panel and having integral projections thereon entering openings in the door, said strip being capable of flexure to permit inserting it in position with said projections coacting with said openings and being adapted to be held in that position under tension, substantially as described.

4. In a metallic door, the combination of a frame, a panel secured thereto, said frame

and panel having parallel walls thereon lying substantially transverse to the plane of the door, a molding strip lying between said parallel walls, and means coacting with the interior surface of said strip for securing the strip in position upon the door, substantially as described.

5. In a metallic door, the combination of a frame, a panel, a molding strip overlying the joint between the frame and panel, a plurality of bolts for securing the frame, panel and molding strip together, and means for concealing said bolts, substantially as described.

6. In a metallic door, the combination of a frame, a panel secured thereto, said frame and panel having walls thereon lying at an angle to the plane of the door, a molding strip of pressed sheet-metal lying between said walls and having edge portions turned toward each other, a plurality of bolts securing the frame, panel and molding strip together, and means for concealing said bolts, substantially as described.

7. In a metallic door, the combination of a frame having a flange at its edge, a panel having a flange at its edge overlapping said flange on the frame, a molding strip of sheet-metal overlying the joint between said parts, and means coacting with the interior of said strip for securing the strip and said flanges together, substantially as described.

8. In a metallic door, the combination of a frame, a panel secured thereto, said frame and panel having walls thereon lying at an angle to the plane of the door, a molding strip of pressed sheet-metal lying between said walls and having edge portions turned toward each other and means coacting with said edge portions to secure the strip in position, substantially as described.

9. In a metallic door, the combination of a frame, a panel, a molding strip overlying the joint between the frame and panel, means coacting with the interior of said strip for securing it to one side of the door, and a molding strip on the other side of the door concealing said securing means, substantially as described.

10. In a metallic door, the combination of a frame having a flange at its edge, a panel having a flange at its edge overlapping said flange on the frame, the panel and frame having walls thereon lying at an angle to the plane of the door, a molding strip lying between said walls on one side of the door and having edge portions turned toward each other, securing devices within said strip and coacting with said edge portions, bolts passing through openings in said securing devices and said flanges to secure the parts together, and a molding strip on the other side of said door concealing said bolts, substantially as described.

11. In a metallic door, the combination of a frame, a panel secured thereto, a molding

strip of sheet-metal having its edges turned toward each other, metallic securing devices lying within said strip and having openings therethrough, and bolts extending through 5 said openings and securing said devices to the door, said devices being formed to coact with the heads of said bolts to prevent turning thereof, substantially as described.

12. In a metallic door, the combination of 10 a frame having a flange at its edge, a panel having a flange at its edge overlapping said flange on the frame, a molding strip of sheet-metal overlying the joint between said parts

and having integral edge portions turned toward each other, metallic securing devices 15 within said strip engaging said edge portions, and bolts passing through openings in said devices and flanges to secure said parts together, substantially as described.

This specification signed and witnessed 20 this 17th day of December, 1907.

LEO I. HEINTZ.

Witnesses:

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R. M. FRIES.