E. H. McCLOUD.

FIREPROOF DOOR OR SHUTTER.

APPLICATION FILED OCT. 21, 1908.

959,576. Patented May 31, 1910.

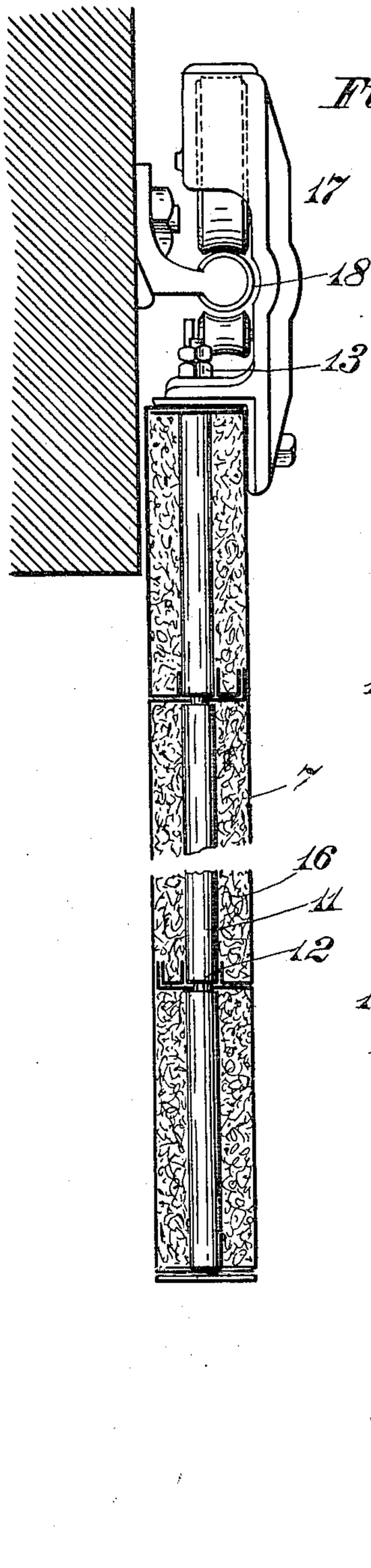

Fig. 1.

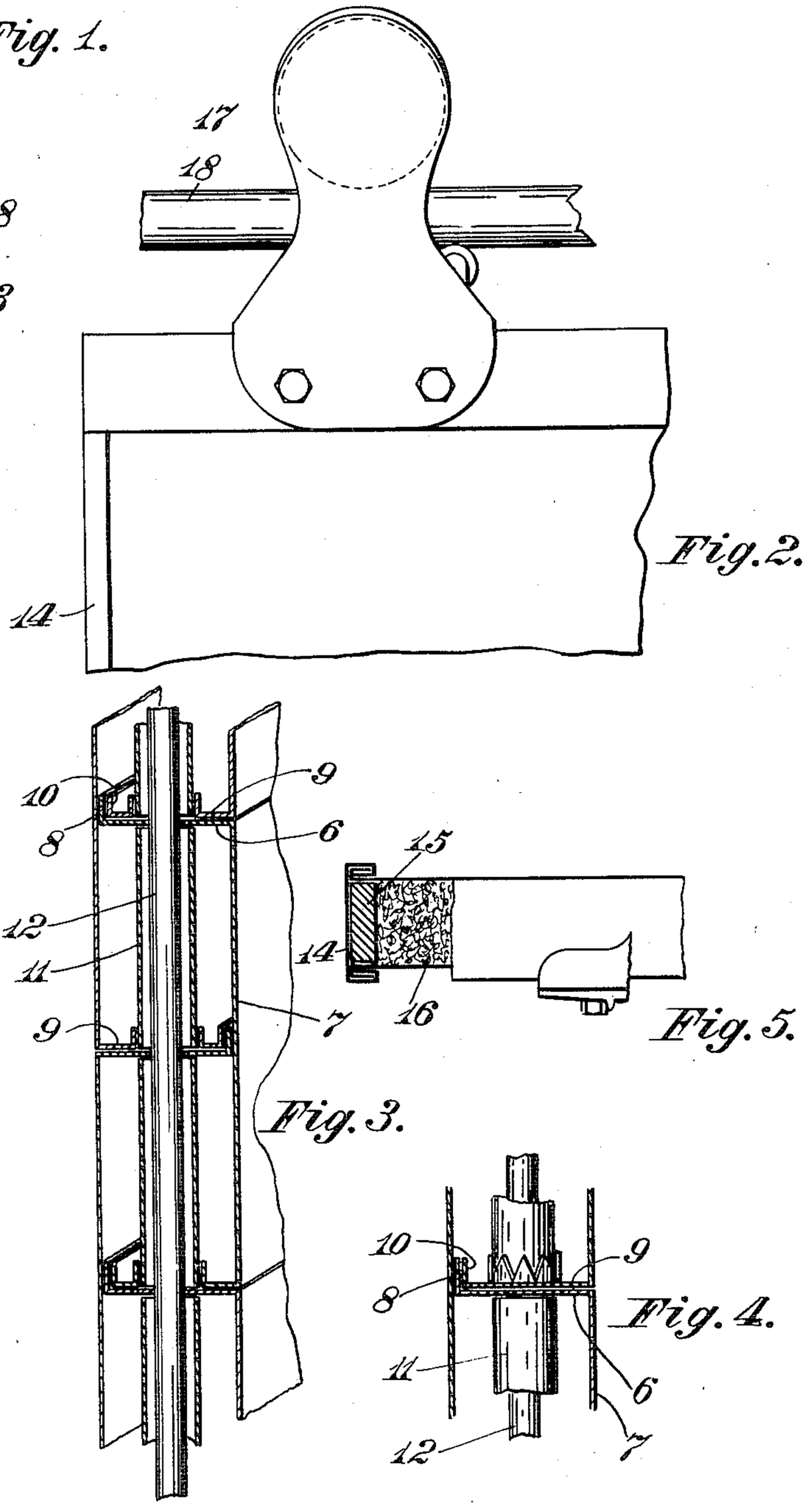

Fig. 2.

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO.

FIREPROOF DOOR OR SHUTTER.

959,576. Specification of Letters Patent. Patented May 31, 1910.

Application filed October 21, 1908. Serial No. 458,793.

To all whom it may concern:

Be it known that I, EDWARD H. McCLOUD, a citizen of the United States, residing at Columbus, in the county of Franklin and State of Ohio, have invented a certain new and useful Improvement in Fireproof Doors or Shutters, of which the following is a specification.

The object of this invention is to provide an improved fire resisting door or shutter of the filled type.

The invention is embodied in the construction herein shown and described and then particularly pointed out in the claims.

In the accompanying drawings—Figure 1 is a vertical section of the door with a portion broken out about midway its height. Fig. 2 is a view in elevation of a corner of the door. Fig. 3 is an isometric perspective projected from a vertical section exhibiting interior construction. Fig. 4 is a fragmentary vertical sectional view taken on a plane somewhat removed from the axis of the connecting devices. Fig. 5 is a plan view of the corner of the door or shutter at its end with a part of the metal removed.

The shell of the door is made up of similarly formed strips of sheet metal. As shown, each strip has one longitudinal margin 6 bent to stand at right angles to the side or face 7 of the strip, and said margin has its edge bent to form a tongue 8 standing at right angles to the margin, and the other longitudinal margin 9 bent to stand at right angles to the side or face of the strip and its edge bent to form a tongue 10 standing at right angles to the margin. Both the tongues 8 and 10 are shown to be bent in the same direction so that they lie facing each other when the strips are placed together to form the body of the door or shutter and against the inner side of the face of the adjacent strip. Both the margins 6 and 9 are provided with perforations. The perforation in the margin 6 is plain while the perforation in the margin 9 is formed by making a number of equal radiating slits and bending up the teeth thus formed. The perforation in the margin 6 is of smaller diameter than that in the margin 9, so that its edge projects beyond the edge of the perforation in the margin 6 and forms a seat for the end of a tube 11. The tube 11 extends between the seats in adjacent margins and serves to internally brace said margins. The metal strips formed as described are placed together to "break" joints at opposite sides of the shutter or door. That is to say, for example, the margins of two strips of unlike formation are placed together and these fitted against the inner side of a similarly formed strip at say about its middle, and this method of location is pursued throughout the height of the shutter except, of course, that at the upper and lower ends of the shutter where one side piece is cut off, and its edge provided with a perforated margin to lap on the margin of the regular strip. In the manufacture of the shutter or door the special end strips can be formed in quantity and by suitable machinery, especially where large numbers of doors or shutters of standard size are to be constructed.

The tubes 11 are held from dislodgment and in line by the serrations and said tubes when the strips are properly assembled, margin to margin, form a continuous passage. Through this passage is passed a long bolt or rod 12 that unites the strips to form the body of the door or shutter, and said bolt is secured by a nut 13 turned tightly down on its upper threaded end. The number of passages and bolts or rods 12 employed in a door or shutter will be varied according to the width of the door or shutter. The vertical edges of the door or shutter, can be closed by a strip 14 suitably secured thereto, as by seaming as shown in Fig. 5. The vertical edges may also, as shown, be strengthened or reinforced by inserting a metallic bar 15 extending the entire length of the structure, the aforesaid margins at the ends of the strips being removed to permit this.

It is desirable that the pockets or spaces formed btween the margins be filled or stuffed with a suitable fire resistant material, or a poor conductor or poor radiator of heat as indicated at 16. This material 16 can be put in before both vertical edges of the structure are closed.

The door or shutter as thus constructed presents small or no liability to the creation of an opening for the passage of flame when subjected to high heat.

The door or shutter as thus constructed can be mounted for closing the opening of a building in any desired way. The instance of mounting shown consists of a hanger bracket 17 in which are mounted suitable rollers for suspending and guiding the door or shutter on a suitable track 18 on the building.

In applications for patent of the United States filed concurrently herewith having Serial Numbers 458,791, 458,792 and 458,794, I have claimed other features herein shown and described.

What I claim and desire to secure by Letters Patent is:

1. A fire proof door or shutter comprised of metallic strips having their longitudinal margins bent to extend from the same side of the strip, the margins of adjacent strips at one side of the structure being butted and located between the corresponding margins of a similarly formed strip at the opposite side of the structure, combined with means for securing said strips together consisting of a uniting member passed through said margins.

2. A fire proof door or shutter comprised of metallic strips having their longitudinal margins bent to extend from the same side of the strip, the margins being provided with perforations and the margins of adjacent strips at one side of the structure being butted and located between the margins of a similarly formed strip at the opposite side of the structure, bracing tubes between said margins in line with said perforations, combined with a uniting bolt or rod passed through said tubes.

3. A fire proof door or shutter comprised of metallic strips having their longitudinal margins bent to extend from the same side of the strip, the margins of adjacent strips at one side of the structure being butted and located between the corresponding margins of a similarly formed strip at the opposite side of the structure and extending to the opposite side to brace the same, combined with means for securing said strips together.

4. A fire proof door or shutter comprised of metallic strips having their longitudinal margins bent to extend from the same side of the strip, the margins of adjacent strips at one side of the structure being butted and located midway between the corresponding margins of a similarly formed strip at the opposite side of the structure and adapted to brace the same, combined with means for securing said strips together.

5. A fire proof door or shutter comprised of metallic strips having their longitudinal margins bent to extend from the same side of the strip and having tongues thereon the margins of adjacent strips at one side of the structure being butted and located between the corresponding margins of a similarly formed strip at the opposite side of the structure and adapted to brace the same, combined with means for securing said strips together.

EDWARD H. McCLOUD.

Witnesses:
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