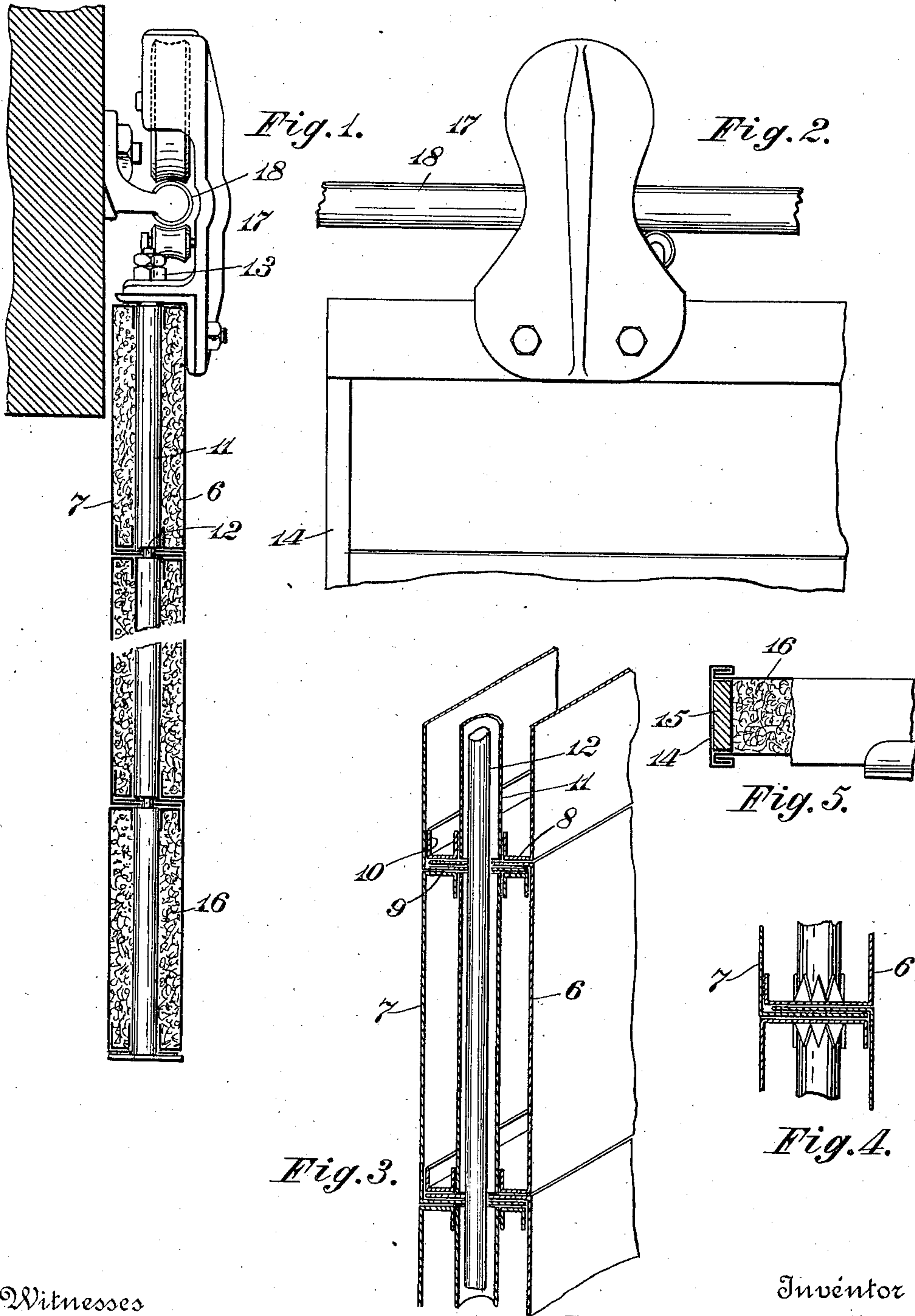


E. H. McCLOUD.
FIREPROOF DOOR OR SHUTTER.
APPLICATION FILED OCT. 21, 1908.

996,781.

Patented July 4, 1911.



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UNITED STATES PATENT OFFICE.

EDWARD H. McCLOUD, OF COLUMBUS, OHIO.

FIREPROOF DOOR OR SHUTTER.

996,781.

Specification of Letters Patent.

Patented July 4, 1911.

Application filed October 21, 1908. Serial No. 458,792.

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 to exhibit interior construction. Fig. 4 is a fragmentary vertical sectional view taken on a plane somewhat removed from the axis of the section-connecting and bracing 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 door is made up largely of sections or tubes of sheet metal of oblong form generally in cross section. The main body of the section comprises two strips 6 and 7 of sheet metal, each having its two longitudinal margins 8 and 9 bent to stand at right angles to the central portion of the strip, which latter forms the side or face of the section. One of the thus formed margins 8 of each strip is further bent at its edge to form a tongue 10 that stands at right angles to the margin, and when the two strips are placed together to form the section, said tongue rests against and somewhat braces the side of the section, while the other margin 9 is left plain or unbent. In placing the two strips together to form the section the tongued margin of one strip is placed adjacent a plain margin in lapped relation but with the tongued margin innermost, but when two sections are placed together edge to edge the tongues are interlocked so that the plain margin of one section lies between the plain and tongued margin of the other. This mode of connecting two sections is pursued throughout the length of the door, and in this way the sections are prevented from entirely separating at any point when subjected to great heat and forming an open-

ing through which flame can pass. Both the margins are perforated. The perforation of the margin 8 is formed by making a number of equal radiating slits and bending up the teeth thus formed. The perforation in the margin 9 is of smaller diameter, so that its edge projects beyond the edge of the perforation in the margin 8 and forms a seat for the end of the tube 11. The said tube 11 extends from edge to edge of the section and internally braces it. The tubes 11 are held from dislodgment and in line by the serrations, and said tubes are so located in the several sections that when the sections are properly placed together, edge to edge, they aline and form a continuous passage. Through this passage is passed a long bolt 12 that unites all the sections to form the body of the door or shutter, and said bolt is secured by a nut 13 turned tightly down on its 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.

At the upper and lower ends of the door or shutter the margins merely lap as shown. They can, of course, be suitably reinforced by a suitable strip added thereto. The vertical edges of the door or shutter, as a unit, or the ends of the sections separately, 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 sections being removed to permit this.

It is desirable that the sections be filled with a suitable fire resisting material or a poor conductor or 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 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.

In applications for patents filed concurrently herewith Serial Numbers 458,791, 458,793 and 458,794, I have claimed matters herein shown and described but not claimed.

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

1. In a fire resisting door or shutter a plurality of sections, each including two strips of sheet metal, each strip having its margins bent to lapping relation with reference to the correspondingly bent margins of the other strip, the outer margins of contiguous sections being interlocked between the edges of the contiguous sections, combined with means for rigidly binding the sections together, substantially as described.

2. In a fire resisting door or shutter, a plurality of sections, each including two strips of sheet metal and each strip having its opposite longitudinal margins bent to lap, both of said margins provided with alining perforations, the perforations of the inner of such margins being of larger diameter than that of the outer of such margins to form seats, and the outer margins of contiguous sections being interlocked, tubes seated in said seats, a rod passed through said tubes and means in connection with said rod for securing the sections together.

3. In a fire resisting door or shutter, a plurality of contiguous sections placed edge to edge, each section including an inclosing jacket of sheet metal having its margins bent to lapping relation with reference to each other at the edge of the section and a portion of the margin of one section interposed between the overlapping margins of the contiguous section combined with means for securing the sections rigidly with reference to each other.

4. In a fire resisting door or shutter a plurality of contiguous sections, each section including an inclosing jacket of sheet metal having margins thereof bent to lapping position at one edge of the section, the inner of said margins being further bent to lie against an inner wall of the section and the outer of the lapped margins of the two sections being interlocked with each other combined with means for securing the sections rigidly with reference to each other.

EDWARD H. McCLOUD.

Witnesses:

ANNA TERESA KING,
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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."