C. MARCOTTE.

FIRE-PROOF JOINT FOR BUILDINGS.

No. 195,452. Patented Sept. 25, 1877.

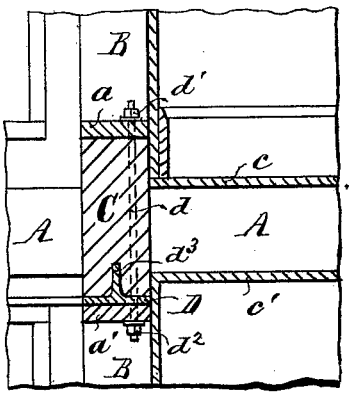

Fig. 1.

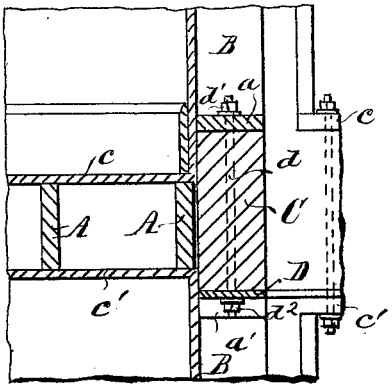

Fig. 2.

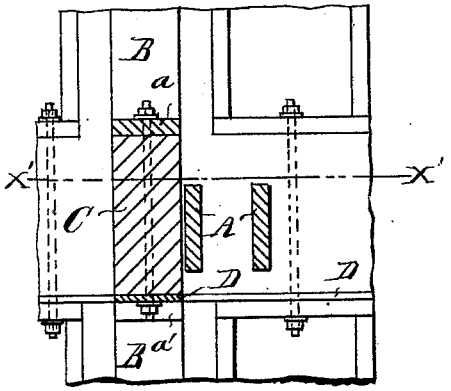

Fig. 3.

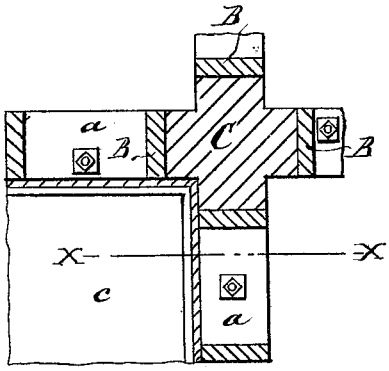

Fig. 4.

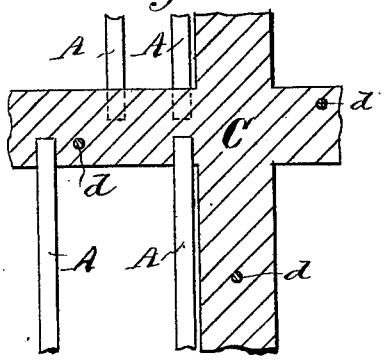

Fig. 5.

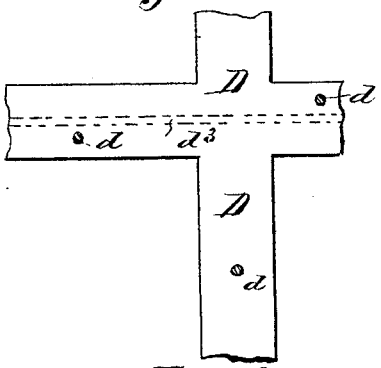

Fig. 6.

Witnesses;
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UNITED STATES PATENT OFFICE.

CHARLES MARCOTTE, OF ST. LOUIS, MISSOURI.

IMPROVEMENT IN FIRE-PROOF JOINTS FOR BUILDINGS.

Specification forming part of Letters Patent No. **195,152**, dated September 25, 1877; application filed August 3, 1877.

To all whom it may concern:

Be it known that I, CHARLES MARCOTTE, of St. Louis, in the county of St. Louis, and State of Missouri, have invented an Improved Fire-Proof Joint for Buildings, of which the following is a specification:

In the ordinary construction of buildings it is well known that the floor-joists in line with the "studs" (stud partitions) are spaced some distance apart, creating openings through which, in case of fire, the flames reach and travel between said joists, and also between the said studs, all of which, therefore, facilitate the fire to communicate and spread from one part of the building to another.

The object of my invention is to prevent this, and specially to form a fire-proof joint to exist between the floor-joists in line with the studs above and below, also in the angles of a building, and where said stud partitions exist.

The nature of my invention, therefore, consists in the peculiar manner and means, hereinafter pointed out in the claims, to accomplish the objects stated, and to achieve the new results and advantages resulting from a fire-proof system of construction of those parts of a building referred to.

Of the drawings, Figure 1 is a longitudinal section on line of joists, having studs above and below, and of the contiguous apartments, showing the joint as per my improvement. Fig. 2 is a transverse section through the joists, and showing my improved construction. Fig. 3 is a front sectional view of joists and filling on line of *x x* of Fig. 4. Fig. 4 is a top sectional plan. Fig. 5 is a top sectional plan on line *x' x'* of Fig. 3. Fig. 6 is a plan view of the plate I use to support the parts.

A are the joists, which rest in the walls, as usual. In my case, also, the top and bottom wooden plates *a a'* are used. B represents the stud partitions.

My improvement consists in providing a filling, which can consist of bricks, stone, concrete, cement, plaster, or any well-known non-combustible material, and with which I fill or close the openings that exist between the floor-joists in line with the stud partitions.

C represents this filling or fire-proof material. (See Figs. 1, 2, 3, 4, 5.) Further, my improvement consists in causing or making the filling C to extend below the ceiling and above the floor, to afford additional protection against fire. For this purpose the ordinary plates *a a'* are somewhat above and below their well-known positions, and the distance said plates are removed the filling C is made to occupy. (See Figs. 1, 2, in which *c* is the floor and *c'* the ceiling.) The filling C forms, therefore, in the corners, the required fire-proof joint, (above the flooring and below the ceiling,) and hence the flames cannot reach or communicate to the adjoining apartments by way of said corners. Also, my improvement consists in using a plate, D, together with connecting-rods *d* and bolts d^1 d^2. (See figures.) The said parts are to support the upper sections and partitions, in case the partition which is intended to be the permanent support is burned or consumed. Both partitions (upper and lower) can be united by passing the rods through the filling C, the lower end of the rod being secured below the plate D, the upper end of rod running above and being secured to the upper plate A. (See Figs. 1, 2, 3, 4.) The same fastening can be extended to the upper-story partitions to form a stronger truss in large spans, the design of said truss being, as stated, to support the upper structure independent of the partition that may be consumed.

The plate D can be plain or with ribs d^3, (see Figs. 1, 6,) and built flush with the wooden plates *a a'*, or made to project on each side thereof. Said plate D can further consist of iron, or slate slabs, or other fire-proof material. As shown, the plate D rests directly above the lower plate *a'*; the filling C is between said plate D and the upper plate *a*. The filling can be of any width required or thickness. The joists can be laid close together, and the filling used top and below, and the joint secured, as described, to achieve the same fire-proof construction. By my invention, therefore, the studs are effectually closed throughout their length at top and below; also, the ends of the joists are closed by a continuous fire-proof wall from the lower story to top. The draft is, therefore, by this fire-proof joint checked, and the flames are confined; also, this construction affords

protection against vermin, and in every other respect my invention is a most desirable improvement.

What I claim is—

1. The filling or fire-proof material, in combination with joists, wooden plates, and stud partitions, as and for the purpose set forth.

2. The filling of fire-proof material above the floor and below the ceiling, in combination with joists and stud partitions, as and for the purpose set forth.

3. The truss, consisting of a plate with or without ribs, the rods and bolts, in combination with the filling C, plates *a a'*, joists and stud partitions, as and for the purpose set forth.

4. The filling C, plate D, rods *d*, bolts d^1 d^2, in combination with plates *a a'*, joists A, and stud partitions B, to form an improved fire-proof joint, as and for the purpose set forth.

In testimony of said invention I have hereunto set my hand.

CHARLES MARCOTTE.

Witnesses:

WILLIAM W. HERTHEL,

JOHN W. HERTHEL.