

(No Model.)

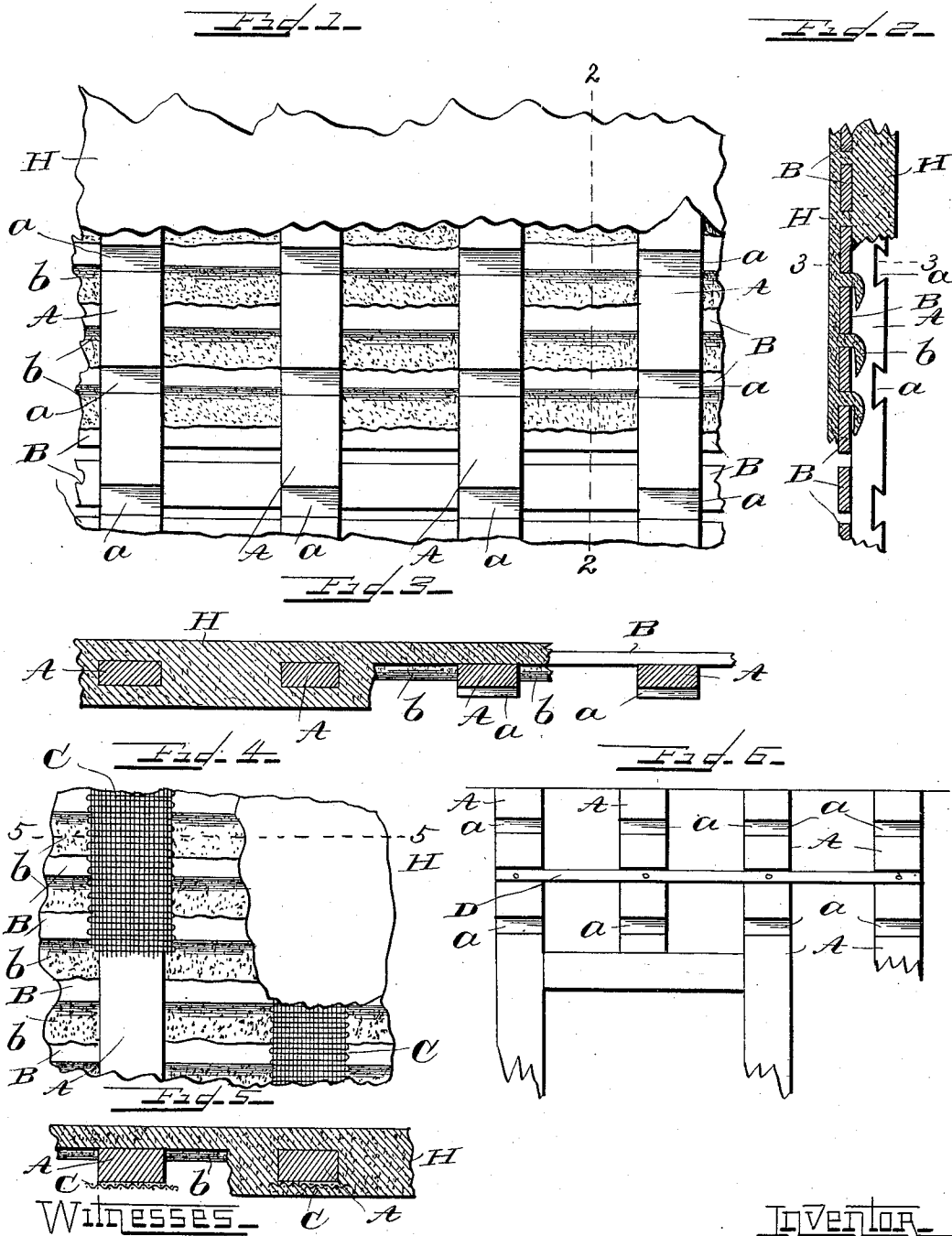
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S. E. RABBITT.

FIREPROOF PARTITION FOR BUILDINGS.

No. 579,838.

Patented Mar. 30, 1897.



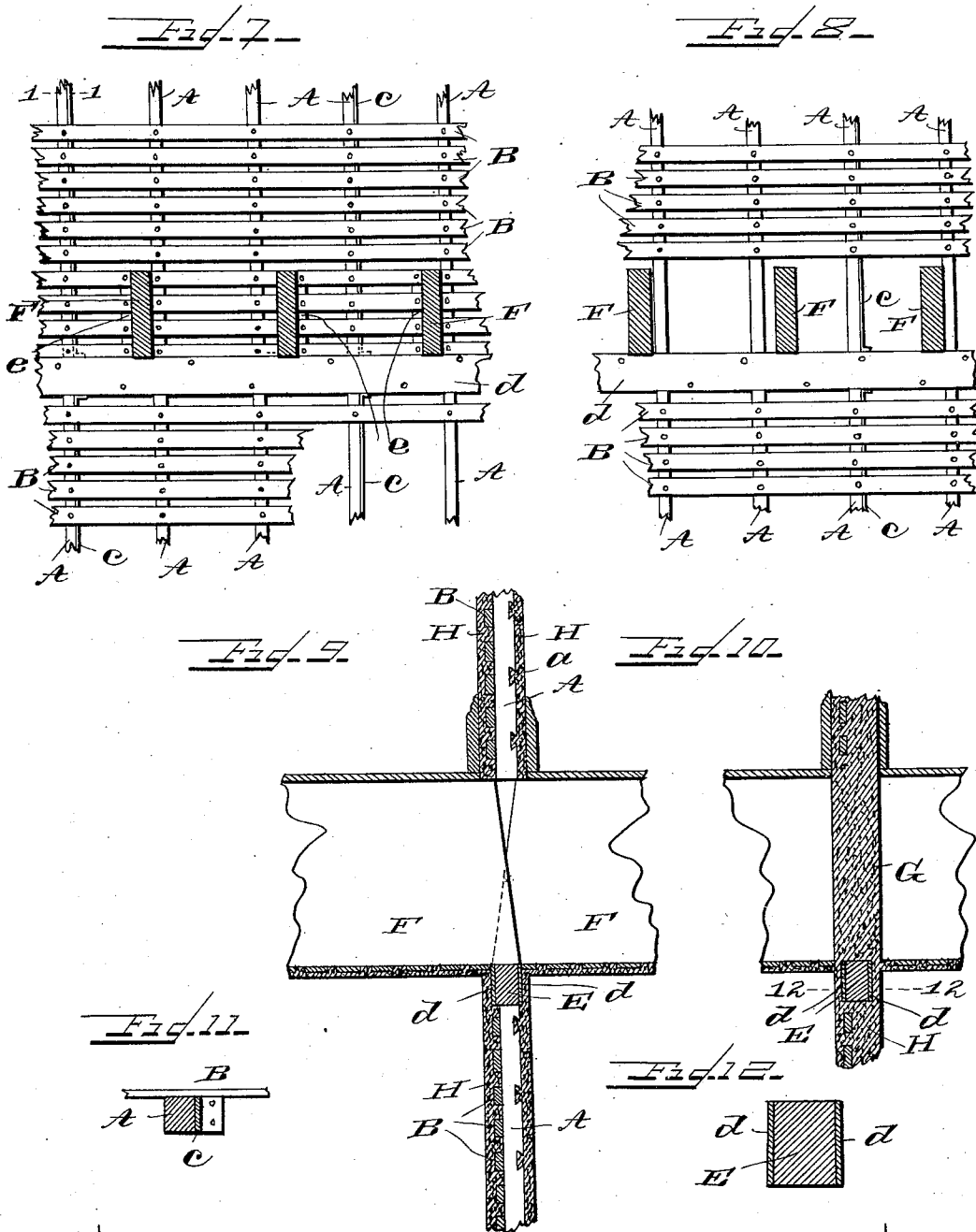
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UNITED STATES PATENT OFFICE.

SAMUEL E. RABBITT, OF WASHINGTON, DISTRICT OF COLUMBIA.

FIREPROOF PARTITION FOR BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 579,838, dated March 30, 1897.

Application filed September 24, 1896. Serial No. 606,825. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL E. RABBITT, a citizen of the United States, residing at Washington, in the District of Columbia, have invented certain new and useful Improvements in Fireproof Partitions for Buildings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to the construction of buildings, has especial reference to partitions, and has for its object a fire, rat, germ, and vermin proof structure, presenting a solid composite partition of wood and plastic material or wood, metal, and plastic material, preferably cement, which partition shall be as thin as practicable to secure strength and rigidity; and it consists in certain improvements in construction, which will be fully disclosed in the following specification and claims.

In the accompanying drawings, which form part of this specification, Figure 1 represents an elevation; Fig. 2, a vertical section on the line 2 2, Fig. 1; Fig. 3, a transverse section on line 3 3, Fig. 2; Fig. 4, an elevation of a modified construction; Fig. 5, a transverse section on the line 5 5, Fig. 4; Fig. 6, an elevation showing the application of a horizontal brace to the studding or body of the partition; Fig. 7, a like view of a two-story partition, showing the application of a girder and vertical and horizontal braces or supports; Fig. 8, a like view of a modification of the same; Fig. 9, a vertical transverse section of a partition between two buildings; Fig. 10, a like view showing the plastic material applied between a ceiling and a floor and between joists; Fig. 11, a transverse section on the line 1 1, Fig. 7; and Fig. 12, a like view on the line 12 12, Fig. 10.

Reference being had to the drawings and the letters thereon, A indicates studs, which are provided with means for securing plastic material thereto, such as transverse grooves *a*, preferably undercut to form a key of the plastic material used in the construction of partitions.

B indicates laths or vertical strips of wood secured to the studs A on the side opposite the grooves *a* and are separated sufficiently

to leave space between them for the plastic material to fill and form overhanging keys *b* on the inside of the laths, as shown.

For ordinary purposes, where the ceilings are about eight feet high, the studs are about two inches wide and about one inch thick and are placed about sixteen inches apart and secured at their upper and lower ends in the usual manner. In ceilings of greater height the studs may be increased in width and thickness, or they may be set closer together, to suit requirements. The grooves are about three inches apart, but they may be closer or farther apart, according to the thickness of plastic material applied to the faces of the studs.

The plastic material may be secured to the face of the studs by applying thereto a strip of metal or wire-cloth C, slightly overhanging or projecting beyond the edges of the studs, as shown in Figs. 4 and 5. It is obvious that, instead of wire-cloth, corrugated, punctured, or otherwise roughened sheet metal may be used. The plastic material is embedded in the meshes, interstices, depressions, or pockets in the metal and under the overhanging edges thereof and prevents the plastic material being separated from the studs by any jarring effect produced upon the partition and the cracking of the plastic material along the edges of the studs. In this construction the transverse grooves may be omitted.

As a further means of strengthening the partition in high-ceiling compartments a brace or braces D, only one of which is shown in Fig. 6, may be used to stiffen the studding, the brace or braces being placed in grooves in the studs, so that they will be completely embedded in the plastic material.

In the construction of partitions or walls for well-holes for stairways, elevator-shafts, or the like provision must be made to support the joists of upper floors and present a smooth unbroken surface of the plastic material where the joists are between the ceiling and the floor above. For this purpose a girder E is placed on the upper ends of the studs A for the joist F to rest upon and to strengthen the partition. Vertical metallic braces or supports *c* are placed between the studs at suitable distances apart and metallic braces or bars *d* are applied to the side or

sides of the girder E to leave the upper and lower surfaces of the girder free for securing the studs A thereto by toeing nails through the studs into the girder and the laths B are brought down to the girder and secured to the studs and to the joists by strips e, secured to the sides of the joists and to which strips the short pieces of laths are secured, as shown in Fig. 7. In this construction the plastic material when applied embeds the girder and the braces and makes a neat finish.

For partitions between compartments in a building the laths are brought down nearly to the joists, as in ordinary lathing, as shown in Fig. 8, and, if desired, the plastic material may be extended down between joists to the girder E, as shown at G in Fig. 10.

The studs A having been properly spaced and secured, the laths B are applied to the plain side of the studs, after which the plastic material H is applied to the surface of the laths and well driven through the spaces between the laths forming the keys b on the inside of the laths and the whole coating allowed to set. The plastic material is then applied to the opposite side of the partition and well worked under and around the keys b into the grooves a or the meshes of the woven wire and under its projecting edges when used, and when it is not used the plastic material is applied directly to the surface of the studs between the grooves a, thus completely embedding the studding or body of the partition and forming a solid body of plastic material the thickness of the partition at the parts thereof between the laths throughout the height and length of the structure.

The partition thus constructed, with the studs one inch thick, laths of maximum thickness, three-eighths of an inch thick, and a plastic covering of three-sixteenths of an inch over the outer surfaces of the studs and the laths one inch and three-quarters thick when cement is used as the plastic material, forms an absolutely fire, rat, germ, and vermin proof structure.

The thickness of the partition may be in-

creased as the weight it is required to sustain is increased, and when substituted for brick party - walls between buildings should be from three to four inches thick.

Having thus fully described my invention, what I claim is—

1. A partition consisting of vertical studs provided on one side with vertical strips of metal or wire cloth and horizontal laths or strips secured to the opposite side of the studs, in combination with plastic material filling the spaces between the studs and between the laths and embedding the studs, metal and the laths.

2. A partition consisting of vertical studs provided on one side with vertical strips of metal or wire cloth extending beyond the edges of the studs and horizontal laths or strips on the opposite sides, in combination with plastic material embedding the studs, coverings and the laths.

3. A partition consisting of vertical studs provided with means on one side for securing plastic material thereto, laths or strips secured to the opposite sides of the studs and suitable metallic supports between studs, in combination with plastic material filling the spaces between the studs and between the laths and embedding the studs, braces and laths.

4. A partition consisting of vertical studs, a transverse girder supported on the upper ends of the vertical studs, metallic braces secured to the transverse girder and metallic supports between vertical studs, means on one side of the vertical studs for securing plastic material thereto and laths or strips on the opposite sides of the studs, in combination with plastic material filling the spaces between the studs and between the laths and embedding the studs, girder, laths braces and supports.

In testimony whereof I affix my signature in presence of two witnesses.

SAML. E. RABBITT.

Witnesses:

D. C. REINOHL,
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