

(No Model.)

J. ARBUCKLE.
FIRE PROOF BUILDING.

No. 253,658.

Patented Feb. 14, 1882.

Fig. 1.

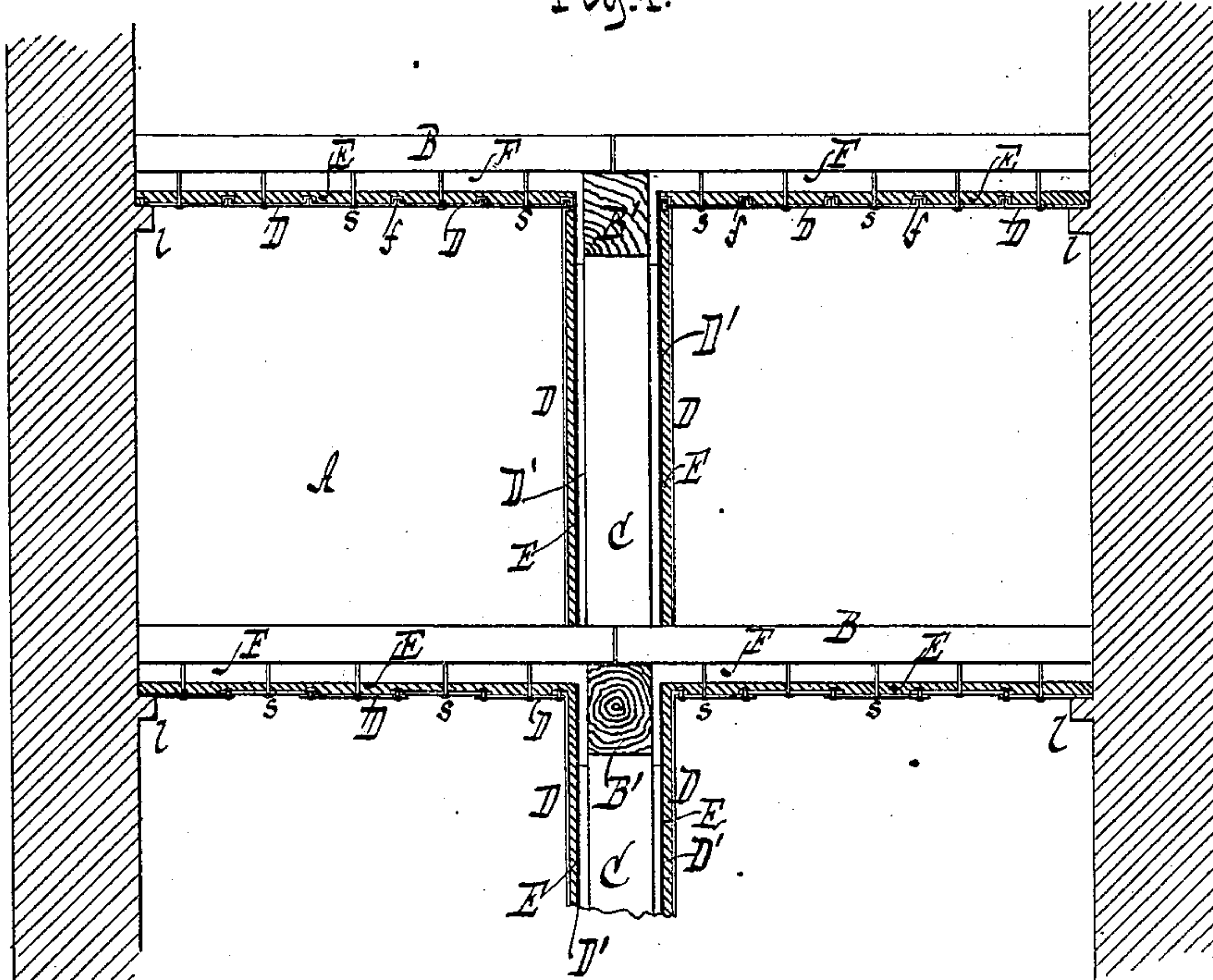


Fig. 2.

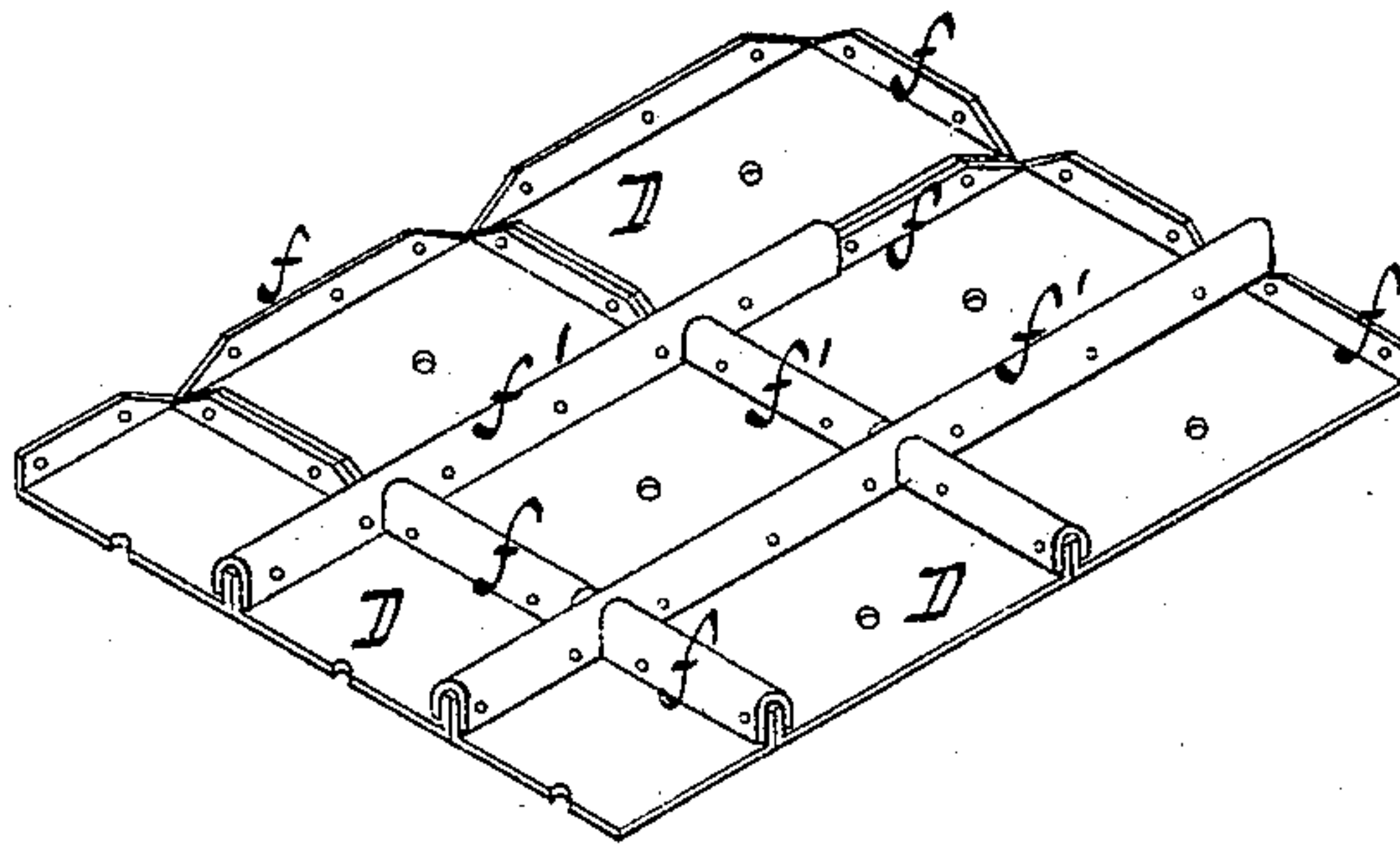
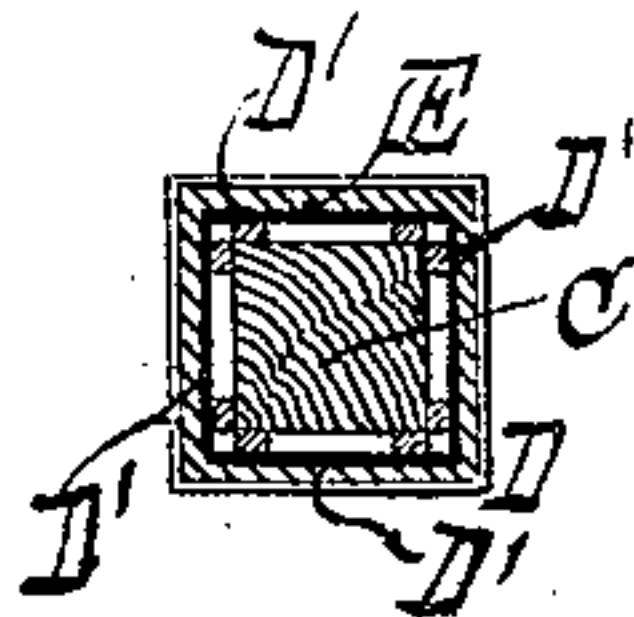


Fig. 3.



Witnesses
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his att'ys

UNITED STATES PATENT OFFICE.

JOHN ARBUCKLE, OF BROOKLYN, NEW YORK.

FIRE-PROOF BUILDING.

SPECIFICATION forming part of Letters Patent No. 253,658, dated February 14, 1882.

Application filed December 23, 1881. (No model.)

To all whom it may concern:

Be it known that I, JOHN ARBUCKLE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented new and useful Improvements in Fire-Proof Buildings, of which the following is a specification.

This invention relates to the construction of buildings embodying wooden floors, beams, girders, posts, &c.; and it consists in combining with the wooden parts a fire-proof covering which is composed of outer metallic plates and an inner layer of cement, and which is secured to the parts at a distance therefrom, leaving an air-space between the cement and the wood.

This invention is illustrated in the accompanying drawings, in which Figure 1 represents a vertical section of the building. Fig. 2 is a perspective view of the metallic plates. Fig. 3 is a transverse sectional view through one of the wooden posts and its fire-proof covering.

Similar letters indicate corresponding parts.

The letter A designates a building embodying wooden floor-beams B, wooden girders B', wooden posts C, provided with a fire-proof covering, made in accordance with my invention.

D indicates the metallic plates; E, the layer of cement, and F the air-space left between the cement and the wood composing the parts.

In carrying out my invention, I join the metallic plates D, and secure the same to the parts desired at a distance therefrom suitable to form the air-space F, and then I spread the cement thereon approximately in an even layer.

The means employed for securing the metallic plates D with their cement layers E consists of screws or nails S, combined in the case of the floor-beams with supporting-ledges l; but this purpose can be accomplished in various other ways, which will readily suggest themselves to a skilled mechanic.

For protecting the posts C, I use the plates D D', the inner plate, D', being secured at a suitable distance from the post to form the air-space, while the plate D is adjusted at such distance from the plate D' that a layer of cement of the desired thickness may be run in between the two plates. For this purpose strips of metal may be interposed between the two plates, which, when the cement has been poured in, are withdrawn. The spaces left

open after the strips have been drawn out are then filled with cement.

By the construction and arrangement of my covering I utilize not only the fire-proof qualities of the materials employed, but also the non-conducting property of air, thus obtaining a very efficient covering, and one which can be applied at low cost.

The metallic plates D are constructed with flanges f, (see Fig. 2,) to which are fitted U-shaped locking-strips f', for the purpose of joining the plates—that is to say, the flanges of two adjoining plates are placed side by side when the U-shaped strips are placed thereon, so as to embrace both flanges, and riveted, and when the cement layer is put upon the plates it acts as a binding to assist in keeping the locking-strips in position. The plates, however, can also be joined by rivets or other fastenings, omitting the flanges, as shown in the lower part of Fig. 1.

The cement which I use by preference consists of Rosendale or Portland cement and sand, or of any other suitable refractory material of a similar nature.

The air-spaces F may be brought in communication with flues in the walls and provided with suitable valves, so that a circulation of air can be produced, if desired.

Heretofore an iron column has been protected from fire by a jacket or inclosure composed of foraminous metal covered with fire-proof cement, and isolated from the column to create an intervening air-space, the upper and lower ends of the jacket or inclosure being open to permit the free circulation of air through the same. Such, however, does not constitute my invention.

What I claim as new, and desire to secure by Letters Patent, is—

The combination, substantially as hereinbefore described, with the wooden parts of a building, of a fire-proof covering which is composed of outer metallic plates and an inner layer of cement, and which is secured to the parts at a distance therefrom, leaving an air-space between the cement and the wood, for the purpose specified.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

Witnesses: JOHN ARBUCKLE. [L. S.]
W. HAUFF,
E. F. KASTENHUBER.