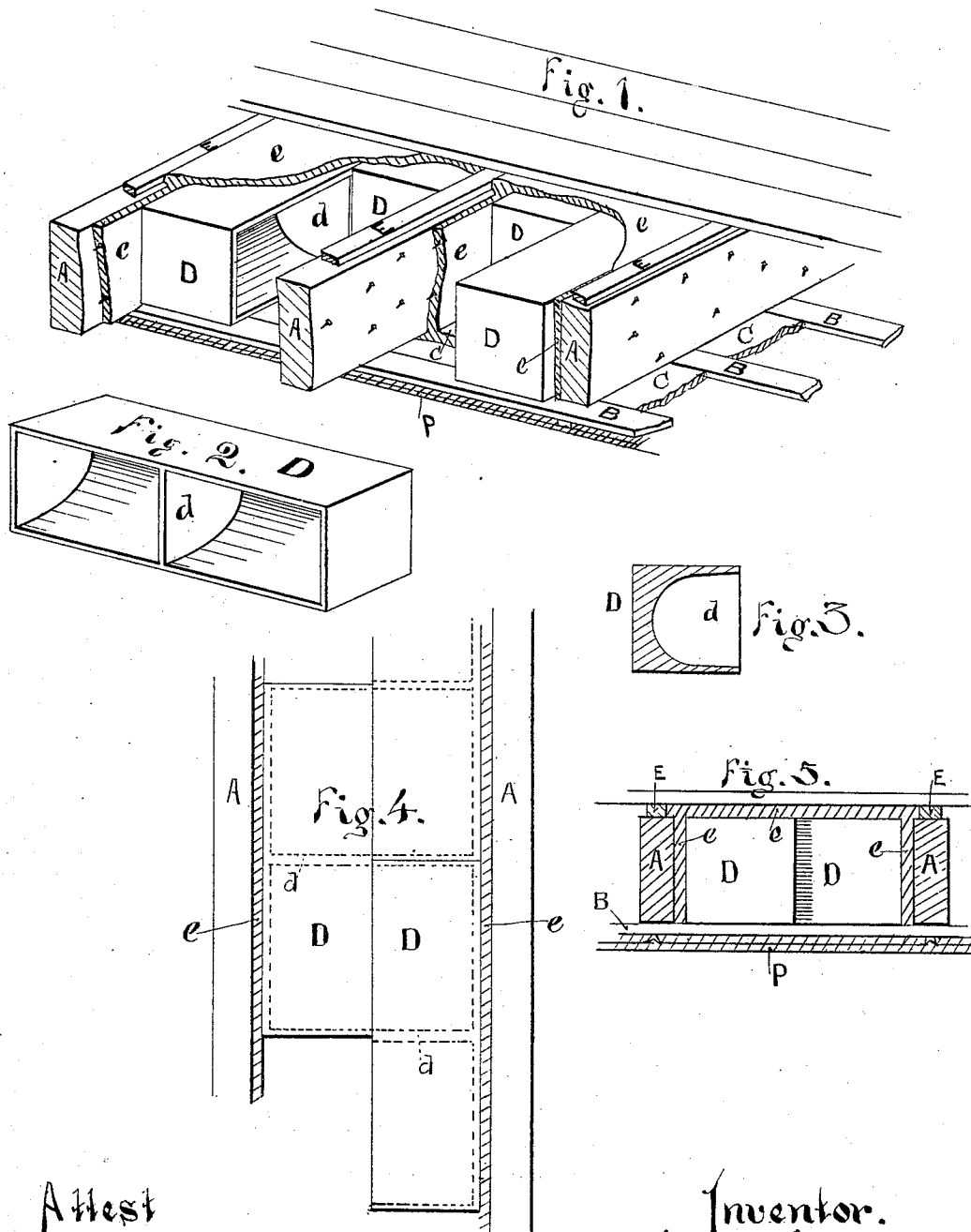


J. JOHN.

Fire-Proof Floors and Walls.

No. 145,211.

Patented Dec. 2, 1873.



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UNITED STATES PATENT OFFICE.

JAMES JOHN, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FIRE-PROOF FLOORS AND WALLS.

Specification forming part of Letters Patent No. **145,211**, dated December 2, 1873; application filed October 29, 1873.

To all whom it may concern:

Be it known that I, JAMES JOHN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Mode of Fire-Proofing Walls and Floors; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a sectional perspective view, showing my method of construction. Fig. 2 is a perspective view of one of my hollow filling-blocks. Fig. 3 is a cross-section of the same. Fig. 4 is a plan of floor with filling. Fig. 5 is a cross-section of same.

The object of my invention is, primarily, to render floors and walls built with wooden joists and studding nearly or quite fire-proof under ordinary circumstances, by completely covering said wooden parts with non-conducting fire-proof material, and filling the spaces between said wooden parts with hollow boxes or shells of similar fire-proof materials, whereby all passage of air through said spaces is prevented without an objectionable addition to the weight imposed upon the joists. A secondary object is, a complete deafening of the walls.

My invention consists, first, in the herein-after-described method of covering the wooden timbers with a layer of incombustible material, and, second, in connecting therewith the hollow incombustible shells or boxes employed to fill the space between joists, &c.

That others may fully understand my improvement, I will particularly describe it.

A A are the common joists, and B B are transverse furring-strips nailed to the under edges of said joists, about twelve inches apart, for the attachment of the lathing. These furring-strips are not always used, and they may be omitted without material injury to my method. The strips B being in place, boards are held up against their under sides by any convenient means, and a layer of mortar, C, gaged with stucco or cement, is put in from the top, and struck off even with the upper sides of the furring-strips B. Strips E E, in width less than the thickness of the

joists, are nailed along the upper edges of said joists, to receive the flooring-nails.

The hollow boxes or shells D, made from plaster-of-paris or other suitable material, having been prepared, are laid upon the furring-strips with their open sides facing each other, and, preferably, in such a way that they will break joints, the ends of one coming opposite the central partition *d* of the other, as shown in Fig. 4.

The shells D are made in depth equal to half the width of the joists, and in width about two inches less than the space between the joists, and about two feet in length.

When the boxes D are in position, their upper surfaces are flush with the upper edges of the joists A, and there is a space, *e*, of about an inch on either side, between said joists and boxes. This space at the sides and over the tops of said boxes (flush with the top of strips E) I fill with concrete mortar.

Nails may be driven into the joists, as shown in Figs. 1 and 5, to hold the concrete and prevent it from settling upon the lathing.

The lathing and ordinary plastering, P, are put on as usual.

The flooring is laid and nailed to the strips E in the usual manner.

By this method, the joists are entirely covered and protected by the concrete, and, the spaces between the joists being entirely filled by the boxes or shells D, they are not only protected from the direct action of fire, but there can be no passage of air between adjoining joists, to act as flues and convey flame from one portion of the building to another. If the floor should be consumed, the strip E only would be exposed, and then would not burn with flame between the concrete edges of the layer *e*.

Aside from the above advantages, the floors will thereby be completely and effectually deafened. The concrete also forms a continuous bridging to the joists their entire length, dispensing with the ordinary bridging, if so desired.

Having described my invention, what I claim as new is—

1. In combination with the joists A A, the

hollow shells or boxes D, to occupy the space between said joists, as set forth, to prevent the passage of air, as described.

2. In combination, the joists A, furring-strips B, strips E, concrete layers C e, and the hollow boxes or shells D, as and for the purpose set forth.

3. The shell or box D, constructed open on

one side, and with a medial partition, *d*, so that said shells may be laid "breaking joints," in the manner and to the effect described.

JAMES JOHN.

Witnesses:

WILLIAM E. COWPER,
CHARLES SCATES.