

B. F. Farrar.

Constructing Buildings.

N^o 64, 512.

Patented May 7, 1867.

Fig: 2.

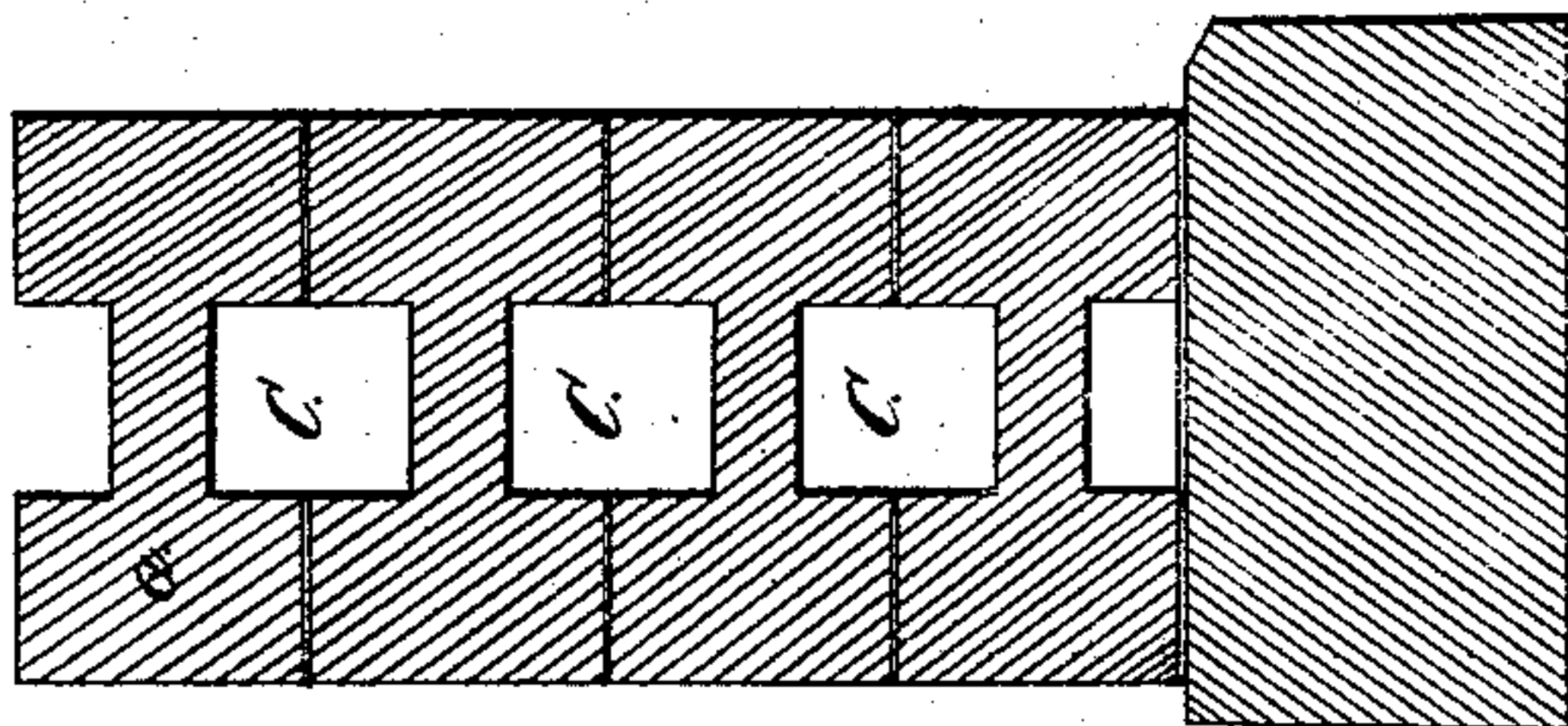


Fig: 3.

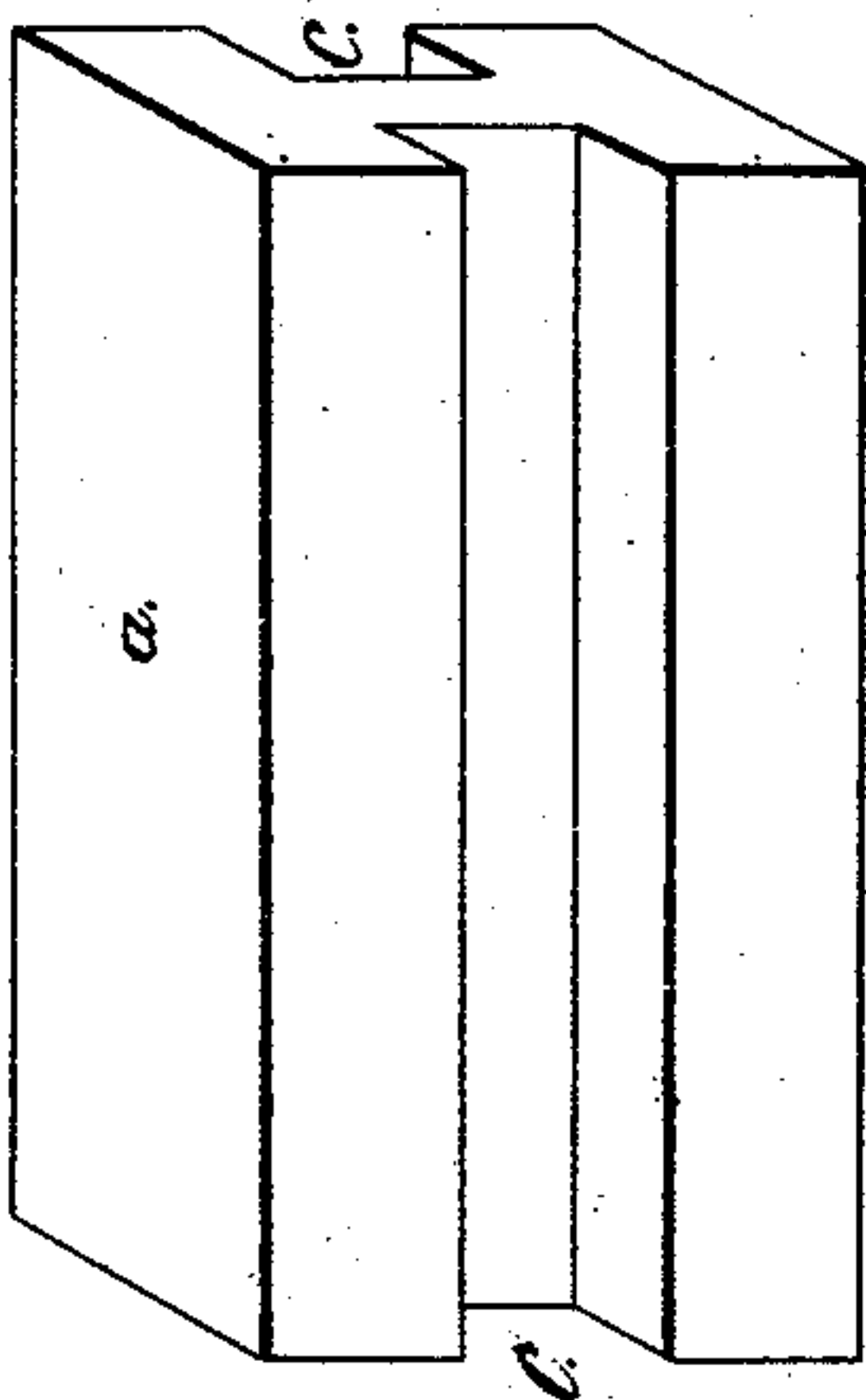
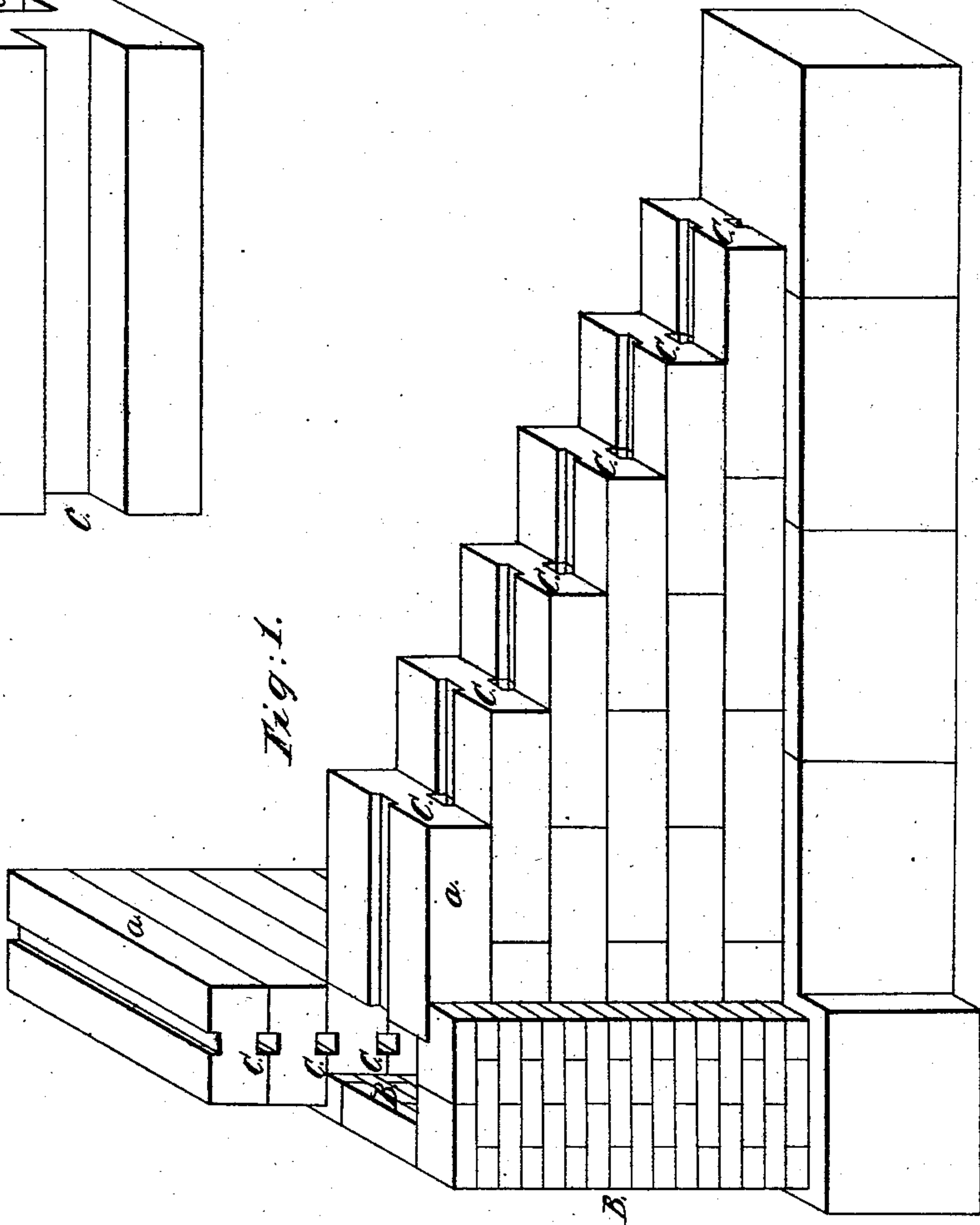


Fig: 1.



Witnesses:

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Inventor:

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By his Attorney,
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United States Patent Office.

BENJAMIN F. FARRAR, OF SPRINGFIELD, MASSACHUSETTS, ASSIGNOR TO HIMSELF, EDWARD M. WESSON, AND HENRY WILLIS, OF SAME PLACE.

Letters Patent No. 64,512, dated May 7, 1867.

IMPROVEMENT IN THE CONSTRUCTION AND VENTILATION OF THE WALLS OF BUILDINGS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, BENJAMIN F. FARRAR, of Springfield, in the county of Hampden, and State of Massachusetts, have invented certain new and useful Improvements in the Construction and Ventilation of the Walls of Houses and other Buildings; and I hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a perspective view of wall and chimney.

Figure 2, a section of the wall; and

Figure 3, a perspective view of brick or block.

My invention relates to the construction and ventilation of the walls of houses and other buildings, when composed of brick, stone, lime and sand, cement, or other similar material. As heretofore constructed, such walls gather moisture from the atmosphere or from storms, rendering them damp and unhealthy for the occupants. To obviate this difficulty various methods have been resorted to, particularly the construction of small chambers or cells for the reception of air in the interior of the walls. But in all the methods heretofore adopted, so far as my knowledge extends, no provision has been made for the introduction of fresh air into, or the escape of dead air from, such cells or chambers, and the air, therefore, therein confined, remains dead or stagnant. But it is a well-known fact that a free circulation of air tends to dissipate moisture and promote the process of evaporation, and my improved wall is constructed with a view to this principle. And in carrying out my invention I introduce into the walls of houses and other buildings, when composed of brick, stone, lime and sand, cement, or other similar material, what I call a system of horizontal ventilation, that is, a free circulation of air through the interior of such walls, whereby they are kept dry and comfortable. To accomplish this object I construct my improved wall with a series of horizontal air-ducts, leading through the interior of such wall, as seen in figs. 1 and 2; and these air-ducts *c c c* I construct between every tier or alternate tier of bricks or building-blocks, or as often as desirable, and I extend such ducts from one end of the wall to the other, unless they are interrupted by windows, doors, or some like impediment, in which case I leave a space on the sides and over the top of such windows or doors, between the brick and the casing or frame of the windows or doors, thus allowing the air to circulate freely around and over them. And further, I construct the air-ducts *c c c* with the ends thereof opening into the chimney or flue, at each corner of the building, or at such other places as may be found necessary or convenient, as seen in fig. 1. My object in opening the ends of the air-ducts *c c c* into the flues or chimneys of the building is to promote the circulation of air through the ducts, which would naturally follow and be increased by the heat rising through such chimneys. And still further to promote the circulation of air through the ducts *c c c*, the chimney or flue B, at one end of the duct, may be constructed open at the bottom and closed at the top, while the chimney or flue at the other end of the duct is constructed open at the top and closed at the bottom, in which case hot air may be introduced into the chimney closed at the top, and forced through the ducts *c c c*, passing out of the other chimney, by which means any wall, however damp, may be effectually dried and warmed. And further, if desired, an ordinary register may be placed on the inside of my improved wall, communicating from the room with one or more of the air-ducts, thus affording ventilation for the room as well as improving that of the wall. To facilitate the building of walls on the principle herein described, I have invented a new pattern of a brick, *a*, or building-block, which I make of common clay, stone, lime and sand, cement, or any other similar or suitable material, and I construct my bricks or building-blocks with a groove or channel on the opposite side thereof, as seen in fig. 3. The width and depth of the groove or channel *c* I make in proportion to the size of the brick or block, but usually of a depth equal to about one-third of the thickness of the brick or block, and of a width about equal to the depth, these proportions giving the largest channel consistent with the strength of the block. The size or dimensions of the brick or block *a* are immaterial, varying to suit circumstances, and ranging from two inches thick, four wide, and eight long, to five inches in thickness, ten in width, and twenty in length, or greater or smaller. My improved bricks or blocks when laid up in walls present the ordinary external appearance as seen in fig. 1. But being grooved on the opposite sides, and the groove of one being placed directly over that of another, I thus form the air-ducts *c c c*, leading from one end of the wall to the

other, or from one chimney or flue to another, except when obstructed by windows, doors, or the like, in which case I proceed as above stated. But the same end, that is, continuous air-ducts leading through the wall horizontally, may be attained by constructing the bricks or blocks with a groove or channel on but one side, or by perforating the bricks or blocks lengthwise, with one or more holes, or by bevelling off one edge or corner of the brick or block; or, finally, the same end may be attained with the ordinary brick by laying the first tier tight or in continuous contact, and placing the bricks composing the second tier in two continuous lines, leaving a space or channel between them, the third tier being made tight, and the fourth with a channel, and so on. But I consider all these variations equally of my invention, if they form air-ducts leading through the walls horizontally, from one end thereof to the other, or from one chimney or flue to another, thus allowing a free circulation of air (heated if desired) through the entire walls, and accomplishing a horizontal ventilation thereof.

1. I claim the wall of a house or other building, when constructed with horizontal air-ducts *c c c*, such air-ducts and their openings being arranged and combined substantially in the manner and for the purpose specified.
2. I claim a brick or building-block, when constructed with a channel or groove extending the entire length of one or both sides, as and for the purpose specified.

Witnesses:

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BENJ. F. FARRAR.