J. THOMPSON.
Building Block.

No. 222,211. Patented Dec. 2, 1879.

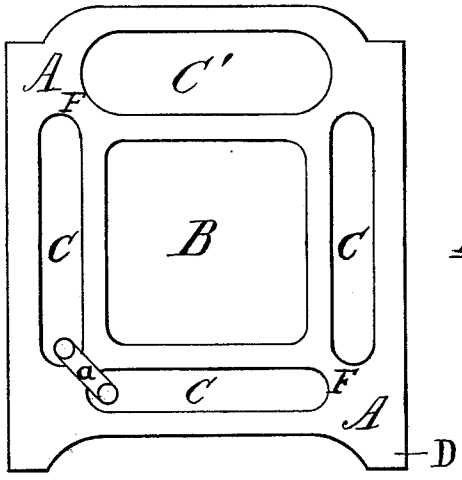
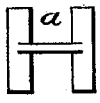


Fig. 1.

Fig. 3.



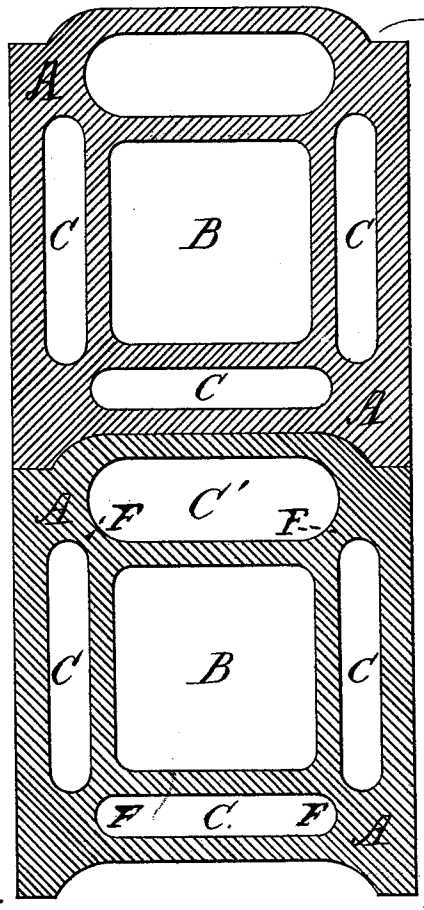


Fig. 2.

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UNITED STATES PATENT OFFICE.

JAMES THOMPSON, OF CAMDEN, NEW JERSEY.

IMPROVEMENT IN BUILDING-BLOCKS.

Specification forming part of Letters Patent No. **222,211**, dated December 2, 1879; application filed January 24, 1879.

To all whom it may concern:

Be it known that I, JAMES THOMPSON, of the city of Camden, in the county of Camden and State of New Jersey, have invented certain new and useful Improvements in Building-Blocks; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved building-block for use in building; and it consists in combining, in a single block of terra-cotta or similar material, a rectangular flue for smoke or hot air and four surrounding channels for ventilation, the same being arranged along and parallel to the sides of the central flue, leaving a bond at each corner for uniting the two shells. By this means I can ventilate the same or other apartments than those from which the smoke or air is conducted, as hereinafter described and claimed.

The advantage of this improvement will be understood by the accompanying drawings, in which—

Figure 1 is a view of the end of a block provided with a flue and ventilating-channels described, and Fig. 2 is a transverse section of two such blocks laid in contact with one another.

A is the block; B, the flue in the center, rectangular in cross-section; and C C′, four surrounding channels or flues traversing the block parallel with the sides of flue B, and disposed around the four sides of the block. Such blocks may be made of any convenient length, and the sections united to one another by cement in the process of building, so that the flues and channels therein may form continuous passages for the purposes specified. When thus used the central flue is employed to carry the smoke from furnaces, grates, stoves, or fire-places, and the surrounding channels are put in communication with ventilating-ducts in the various surrounding apartments and the outer atmosphere.

The warmth of the smoke in the central flue will induce a constant rising current of air by warming the same through the channels C or C′, thus securing the most efficient ventilation, while the building itself would be greatly secured against the danger often attending the overheating of flues in contact with surrounding wood-work.

The flue B may also be used for conducting hot air for heating various parts of a building, the advantages of the warm ventilating-channels being equally secured in that case, as well as the security from fire.

The passages C C′, which surround the central flue, B, have in cross-section an oblong shape, as indicated in the drawings, thus admitting of the air within the same being well heated, and a sufficient upward current of air created to render the means for ventilating thoroughly effective. At the same time the blocks are sufficiently strong for building purposes.

To connect with fires upon different stories of the same building, pipes may be inserted through the walls of the channels C into the central flue, and several such pipes may be introduced into a single flue; or a new flue may be started at each floor, as is usual in building with bricks.

When the sectional flue is designed to extend above the roof the sections may have angle or corner anchors *a* inserted in the cement at the joints, whereby all displacement may be avoided. The sections have ribs and recesses on the ends, as shown in the figure, being formed with longitudinal flanges D upon one side and corresponding recesses E upon the opposite sides to secure them in the proper position. When placed next to one other in the position shown in Fig. 2, the channel C′ is flanked on both sides by other flues, and may be used, in conjunction with the adjacent flues B, to convey smoke, &c., with safety, the three flues C and B B then serving to provide three different floors of a building with a smoke-outlet, while the remaining channels furnish ventilation to the apartments, as specified above.

It will thus be seen how the formation of the blocks with ventilating flues or channels affords the economy and convenience of rapid

construction, with unusual security to the building from damage by fire from the flues.

The blocks may be made of any suitable material other than terra-cotta, and certain of them provided with holes for stove-pipes or earthen connections, if desired.

I am aware that chimneys have been constructed of tubular blocks with additional tubes or passages, for the purpose of producing a cooling circulation by up-and-down draft, as in Patent No. 175,920, and also that chimneys have been formed from blocks having a central tubular portion connected with an outer shell by planes at an angle with each other, as in Patent No. 211,437.

I do not wish, therefore, to be understood as claiming the distinguishing features embraced in either of the said patents. One of the leading features of my invention is, however, that it is a building-block adapted to be fitted to others alongside of it, as shown in Fig. 2, and that the channels or passages may be utilized, as hereinbefore described.

By making the interior flue rectangular in cross-section and arranging the air-flues along and parallel with the sides thereof, but not extending round the corners, I gain at once two points, viz: the maximum of surface for warming the air in the flues and the maximum of strength in the entire block, the inner shell being united with the outer into one structure by firm connections at the four corners.

What I claim is—

As an article of manufacture, a building-block formed with a central rectangular flue, B, four air-passages, C C C C′, arranged along and parallel with the sides of said flue, and having a bond, F, of the inner and outer shells at each of the corners, substantially as shown and specified.

In testimony that I claim the foregoing as my own I hereto affix my signature in presence of two witnesses.

JAMES THOMPSON.

Witnesses:

OLIVER DRAKE,

WARREN L. FISH.