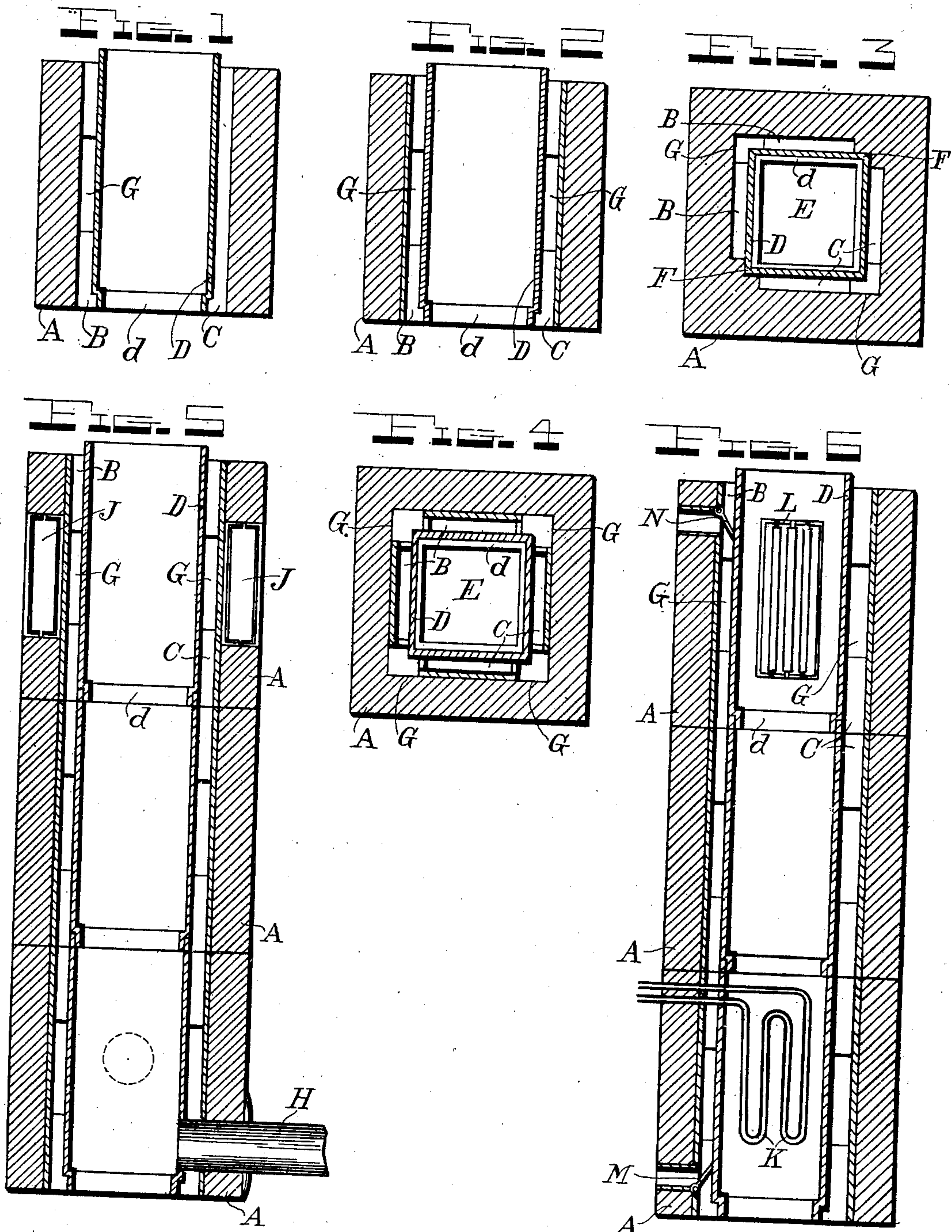


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F. JORDAN.  
HEATING AND VENTILATING FLUE BLOCK.  
APPLICATION FILED SEPT. 8, 1905.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## HEATING AND VENTILATING FLUE-BLOCK.

No. 829,588.

Specification of Letters Patent.

Patented Aug. 28, 1906.

Application filed September 8, 1905. Serial No. 277,495.

*To all whom it may concern:*

Be it known that I, FRANK JORDAN, a citizen of the United States, residing at Ashland, in the county of Jackson and State of Oregon, have invented certain new and useful Improvements in Heating and Ventilating Flue-Blocks, of which the following is a specification.

My invention relates to heating and ventilating flue-blocks, usually constructed of concrete or other fireproof plastic material.

My invention belongs directly to that particular class of blocks which are intended to be placed in a wall one upon another, with a mortar joint between them, and each block is formed with a hollow interior. The construction results in a continuous channel, or more than one, within the blocks, adapted for transmitting the products of combustion, or heated or cooled air artificially set in motion, or general ventilation.

The object of my invention is the production of a flue-block having a particular and special form and construction and provided with a sheet-metal pipe forming the walls of its hollow interior, the top and bottom of the metal pipe in each block being arranged to engage the corresponding parts of the pipes of the blocks above and below it in the same manner adopted for the connection of joints of stovepipe and as set forth hereinbelow.

The special construction and arrangement of parts constituting my invention are illustrated in the accompanying drawings, of which—

Figure 1 represents a vertical section of a single block, showing the main interior metal lining or wall. Fig. 2 is a like sectional view of my invention, showing the outer or ventilating channels lined with metal. Fig. 3 is a top plan view of the block as constructed according to Fig. 1, and Fig. 4 is a like top plan view of my invention constructed in accordance with Fig. 2. Fig. 5 represents a vertical sectional view of a flue built with my invention and shows the interior channel used as a flue and the outer channels used as heat-conveyers for delivering air heated by the flue itself into rooms of the building that are above the source of heat. Fig. 6 shows the interior channel used to transmit air artificially heated and the outer channel adapted for ventilating purposes.

Like letters are used to refer to like parts throughout.

Considering the drawings, the letter A des-

ignates the concrete block, formed, as a rule, although not necessarily, with a rectangular cross-section and having the corresponding hollow interior B and the separated offsets or recesses C.

In Figs. 1 and 3 the letter D designates the sheet-metal pipe that forms the interior channel E of the block. It will be noted that the corners F of the metal pipe D are embedded in the plastic material of which the block is formed. Each corner F extends substantially as shown into the material of the block and is thus sufficiently made a part of the block. The exterior of the pipe D forms the inner closing-wall of the recesses C, which are thus converted into channels separated from each other and lying upon the four sides of the pipe D.

Let it be assumed that my invention is to be employed as illustrated in Fig. 5—that is to say, the outer recesses C are to convey and deliver air heated by the products of combustion in the main channel E into upper rooms of a house. It may be desired that two of the recess-channels shall act as one, thereby delivering heated air to upper rooms on both sides of the flue. This arrangement I have shown in Figs. 1 and 3, wherein will be noted the connecting passages G, opening the rear recess-channel C into the one at the left and enabling them to deliver their heated contents as one channel. I have found that the presence of the recess-channels C, as shown and described, acts to prevent the heat in the flue from cracking the block, which is thus preserved indefinitely. If, however, the four recess-channels C are to be thrown into one for delivering heated air or for ventilating a room at one side only of the flue, then the connecting-passages G are arranged as illustrated in Figs. 2 and 4.

In Figs. 1 and 2 it will be noted that the upper edge of the pipe D projects above the block and that an offset flange *d* is formed on the pipe at its lower end, and in Figs. 5 and 6 it is shown that the pipes D of different blocks engage each other like stovepipe-joints, forming a continuous flue.

In Fig. 5 the letter H marks a stovepipe discharging the products of combustion directly into the main channel E, which acts, therefore, as a flue. Any number of hot-air registers J may be introduced to deliver the air heated in the recess-channel C into the upper rooms of the house.

In Fig. 6 the air in the main channel E



may be heated by a coil of steam-pipe K and delivered into upper rooms by registers L. In this figure 6 dampers M and N open into the recess-channels C for ventilating purposes.

5 The dampers may be arranged near the floor and ceiling or in any desired manner.

Having thus described my invention and explained the mode of its operation, what I claim is—

10 1. A flue-block comprising the plastic block having an interior channel and offsets or recesses from said channel, and a sheet-metal pipe having portions embedded in the said block and thereby secured to the block,  
15 the said sheet-metal pipe constituting the wall of the interior channel of the block, and forming the inner walls closing the said recesses, substantially as described.

20 2. A flue-block comprising the plastic block having an interior channel and offsets or recesses from said channel, and a rectangular sheet-metal pipe having corners embedded in said block and thereby secured to the block, the said pipe constituting the wall  
25 of the interior channel of the block, and forming the inner walls closing the said recesses, substantially as described.

3. A flue-block comprising the plastic block having a rectangular interior channel

and offsets or recesses from said channel, and 30 a rectangular sheet-metal pipe having its corners embedded in said block between the said recesses and thereby secured to the block, the said pipe constituting the wall of the interior channel of the block and forming the inner 35 walls closing the said recesses, substantially as described.

4. A flue-block comprising the plastic block having an interior channel and offsets or recesses from said channel, and a sheet- 40 metal pipe having portions embedded in said block and thereby secured to the block, the said pipe constituting the wall of the said interior channel of the block, and forming the inner walls closing the said recesses, the up- 45 per end of the pipe projecting beyond the block, and the lower end of the pipe being constructed and arranged to engage the upper end of the pipe of the block next below whereby the pipes of succeeding blocks may 50 be connected, substantially as described.

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

FRANK JORDAN.

Witnesses:

C. W. EVANS,  
H. S. EVANS.