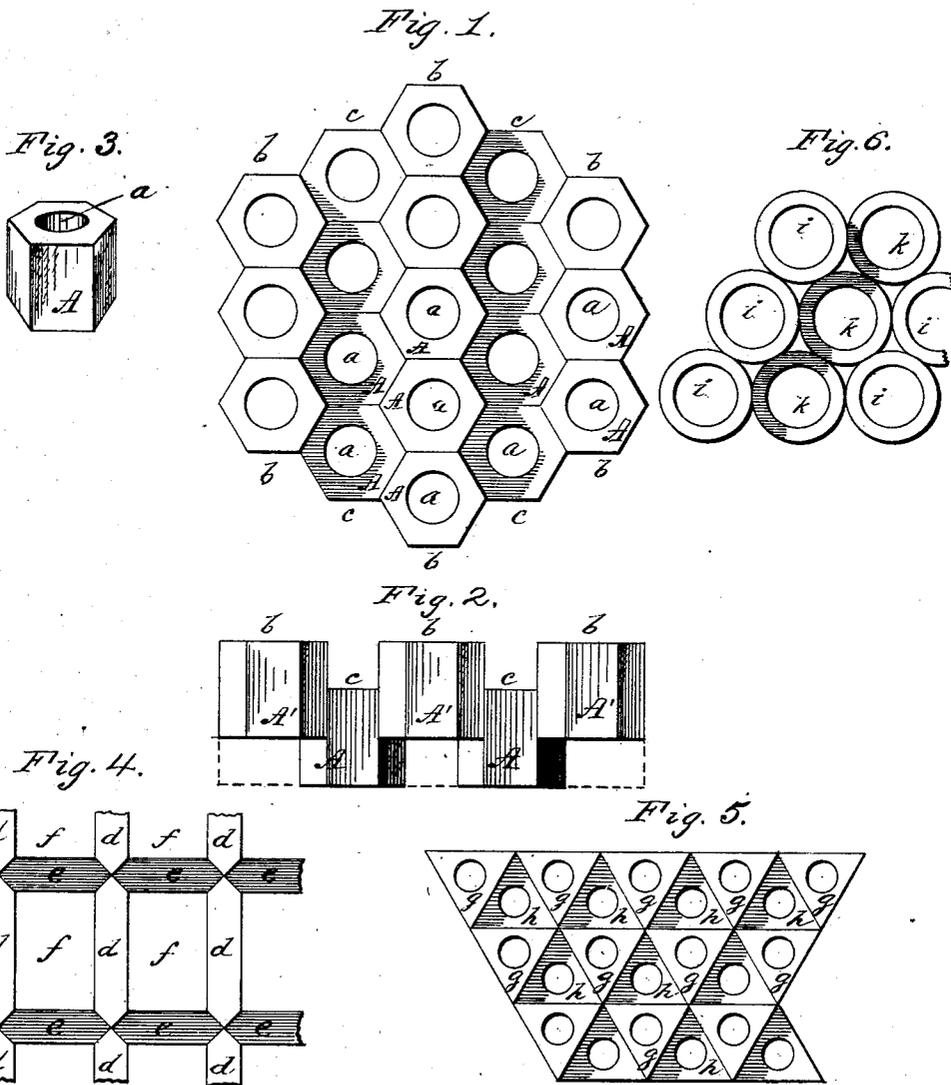


(No Model.)

J. KENNEDY.
HOT BLAST STOVE.

No. 244,997.

Patented Aug. 2, 1881.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JULIAN KENNEDY, OF BRADDOCK, PENNSYLVANIA.

HOT-BLAST STOVE.

SPECIFICATION forming part of Letters Patent No. 244,907, dated August 2, 1881.

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

To all whom it may concern:

Be it known that I, JULIAN KENNEDY, of Braddock, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Blast Stoves; 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, which form a part of this specification.

This invention relates to the construction of hot-blast stoves and regenerators, having for its object the perfect alignment of the flues in true vertical lines, so that they shall present a smooth and uninterrupted passage from end to end.

In structures of this nature, which are always built up of brick, the most approved practice is to lay the bricks on edge in successive horizontal courses, each course being generally across the whole structure, the flues being made by spacing the bricks at the proper intervals. The workman has no reliable guide, the short plumb-line sometimes used being utterly inadequate for the perfect vertical alignment necessary to preserve a straight and uniform passage in the flues, for if he place a brick a fraction of an inch out of its correct position, (and he has practically no guide,) the error grows worse and worse as the structure rises, and the result is that the flue is irregular and crooked, rendering it next to impossible to pass a cleaner or scraper down such flue.

My invention consists in using bricks having a symmetrical horizontal section and uniform height, and so laying them as to break joint in the horizontal courses, substantially as hereinafter fully described and claimed.

In the drawings, Figure 1 is a plan view, and Fig. 2 a side elevation, of a portion of the hot-blast stove or regenerator structure, and Fig. 3 a perspective of the hexagonal perforated brick used. Fig. 4 is a plan view, illustrating the use of symmetrical solid bricks or tiles. Fig. 5 is a modification of Fig. 1. Fig. 6 is another modification of the same.

A designates a brick of hexagonal form in horizontal section, having the vertical central opening, *a*, as in Figs. 1 and 3. In erecting the

hot-blast stove or regenerator with this brick I use two sets of bricks for the ground-course, one size which is used throughout the remainder of the structure, and is shown in Fig. 3, and one size which is the same exactly in horizontal section, but of less vertical depth, as shown in Fig. 2 by the dotted lines. A row of each kind is laid side by side across the base. This done, the upper surfaces of the successive rows are not in a common plane, the top of the whole bricks *A* being above the others. This arrangement leaves a cell or socket, as it were, in which a whole brick or block, *A'*, can be readily placed; but, being full length, its top will now be above the tops of the courses of bricks previously laid. The symmetrical form of the bricks thus enables the successive courses to be aligned perfectly when each new brick has a seat already prepared for it, so that without further guidance the workman can proceed to fill up with the certainty that the flues constituted by the openings *a* will be uniform and accurately aligned.

In Figs. 1 and 2 rows marked *b* are all on the same horizontal plane, while rows marked *c* are on a lower plane and break joint with rows *b*.

Any suitable form of brick having geometrical symmetry in horizontal section may be used, provided the horizontal courses are made to break joint, as above described.

In Fig. 4 I show courses of bricks *d* on a different horizontal plane from the courses of bricks *e*, both sets of bricks being molded so as to meet in a miter-joint, and forming the flues *f* between their sides.

In Fig. 5 I show perforated triangular bricks in staggering courses, as before, the bricks *g* being on a different horizontal plane from the intervening bricks, *h*.

In Fig. 6 I show the staggering courses again, made up of tubular bricks or pipes in two sets of rows—upper row, *i*, and lower row, *k*.

The invention may be applied in many different shapes of brick; but I have shown enough to illustrate the principle.

I claim as my invention—

1. In the construction of hot-blast stoves, the method of securing vertical alignment of the flues by building them with bricks having a symmetrical horizontal section and laid with

the horizontal courses breaking joint in all directions laterally, substantially as specified.

2. In a hot-blast stove or regenerator, a lattice or flue structure built up of bricks or blocks
5 hexagonal in horizontal section, and provided with a central vertical aperture, substantially as described.

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

JULIAN KENNEDY.

Witnesses:

T. J. MCTIGHE,

F. J. PATTERSON.