No. 742,709. PATENTED OCT. 27, 1903.

K. M. MITCHELL & J. DELL.

HOLLOW TILING BLOCK.

APPLICATION FILED AUG. 8, 1903.

NO MODEL.

Fig. 1.

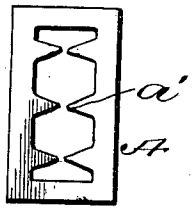


Fig. 2.

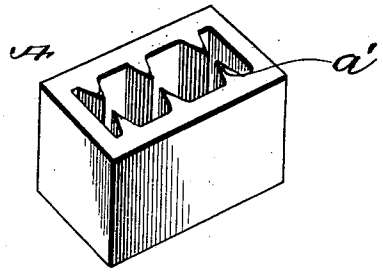


Fig. 3.

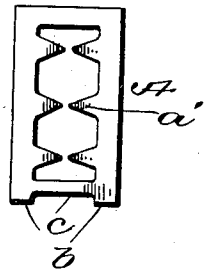


Fig. 5.

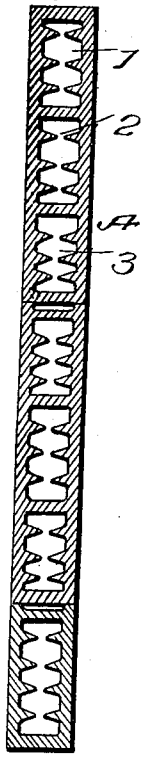


Fig. 6.

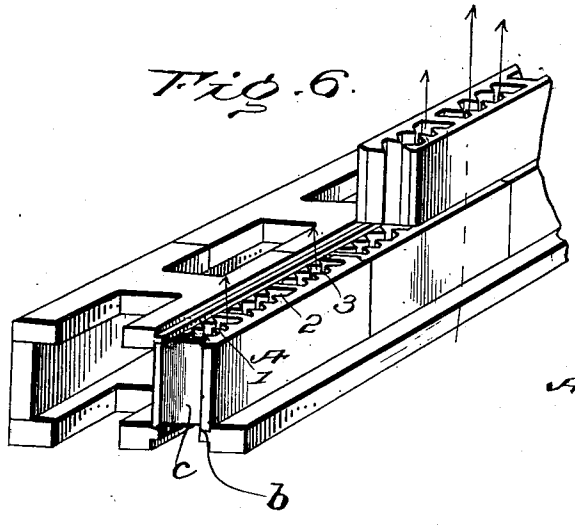
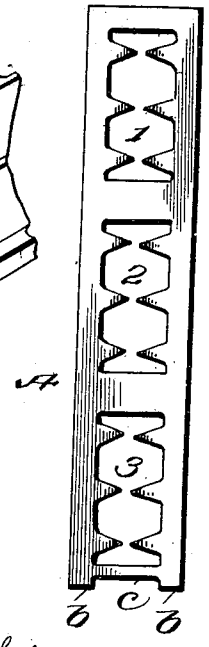


Fig. 4.



Witnesses:

Jr. Innis

Louis H. Schmidt.

Herr Murray Mitchell

John Dell.

Inventors

By their Attorneys John J. Halsted & Son

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 742,709. Patented October 27, 1903.

UNITED STATES PATENT OFFICE.

KERR MURRAY MITCHELL, OF ST. JOSEPH, AND JOHN DELL, OF ST. LOUIS, MISSOURI.

HOLLOW TILING-BLOCK.

SPECIFICATION forming part of Letters Patent No. 742,709, dated October 27, 1903.

Application filed August 8, 1903. Serial No. 168,825. (No model.)

To all whom it may concern:

Be it known that we, KERR MURRAY MITCHELL, residing at St. Joseph, county of Buchanan, and JOHN DELL, residing at St. Louis, State of Missouri, both citizens of the United States, have invented new and useful Improvements in Hollow Tiling-Blocks, of which the following is a specification.

Our invention consists in improved hollow tiling-blocks of special novel construction.

Although our blocks may be used in various branches of the arts, we illustrate them as more especially adapted for the abstraction and utilization of the waste heat of the outgoing gases and to afford an effective heat-absorbing surface in gas-furnaces, &c.

Figure 1 is a plan of a single short one of our novel hollow blocks in one piece and having interior ribs projecting toward each other from two opposite walls; Fig. 2, a perspective of the same; Fig. 3, a similar plan, but with a recess at one end for a purpose presently to be explained; Fig. 4, a similar plan, but the block having three holes or hollow spaces or passages through it and with the recess at one end; Fig. 5, a series of the hollow tiles as when cemented end to end; Fig. 6, a perspective illustrating on a somewhat larger scale one of our tripassage blocks and indicating their position relatively to our smoke-flue tiles, for which we have applied for an independent patent in Serial No. 138,004, filed January 6, 1903, for recuperators of gas-furnaces.

Our tiles A, as shown, are made integral and hollow and while in some cases are preferably made each in three compartments or sections 1 2 3, (see Fig. 4,) yet the interior structure is the same in all. This interior novel structure is as follows: On the inside or hollow portion of these tiles are formed projecting ribs a', which are integral with both the opposite insides of the walls of the tiles. These ribs are inclined or narrowed from their bases to their edges or extremities so that near the center of the space within the tile their narrow edges may face each other and near to each other within the same chamber of the tile, the tile being, as shown, closed at four sides and open at top and bottom. Each of these tiles has thus within its hollow space two rows of such projecting ribs, affording ample means for absorbing heat from any source—as, for instance, from the smoke-flues of a furnace, recuperator, gas-furnace, gas-retorts, and wherever it is desirous to abstract and utilize the otherwise waste heat of the outgoing mass.

In Fig. 3 we show a single tile A, having projections b at one of its ends extending somewhat beyond the length of the tile, leaving a recess c between such projections, which recess we fill with cement when we join each projecting end against the end of its neighbor tile.

In Fig. 4 we show a single tile embodying our hollow feature and our interior ribs in each of its three holes or spaces and having at one of its ends projections b and recess c, this tile, its projections, and recess being all integral.

In Fig. 5 we illustrate a top view showing a series of our blocks, shorter or longer, as the case may be, each and all embodying our structure as above set forth.

The air to be heated passes upward and impinges upon the many heated ribs or points of the hollow tiles, and these ribs materially strengthen these tiles and act as absorbers to gather heat from any smoke-flues and give it out again to the air on its way upward. By these means we get an effective heat-absorbing surface and recuperate or regenerate the heat and can use it more completely than by any means known to us.

What we claim is as follows:

1. Hollow tile, made in a single piece and having integral with it internal ribs projecting from its opposite side walls, the space between the ribs being continuous through the block and supplying large heat-radiating surface from such inside walls as set forth.

2. Hollow tiling having inside projections the space between them being continuous through the block as set forth for presenting large heating-surface to the air and for conducting the waste heat from the smoke-flues to the ingoing air for complete combustion of

furnace-gases, and having external projections at the end for joining tile against its adjacent tile and with fire-cement filled between such projections.

3. Hollow tile, having three compartment-passages through it, and having inside of each passage and integral with its side walls radial heating-ribs projecting centrally from such side walls, and having at one end of the tile an external recess for cement for the purpose as set forth.

In testimony whereof we have signed our names to this specification in the presence of the subscribing witnesses.

KERR MURRAY MITCHELL.
JNO. DELL.

Witnesses as to the signature of Kerr Murray Mitchell:
HENRY B. LYSAGHT,
WILL E. WOODSON.
Witnesses as to the signature of John Dell:
EDW. H. FUNKE,
W. N. THOMAS.