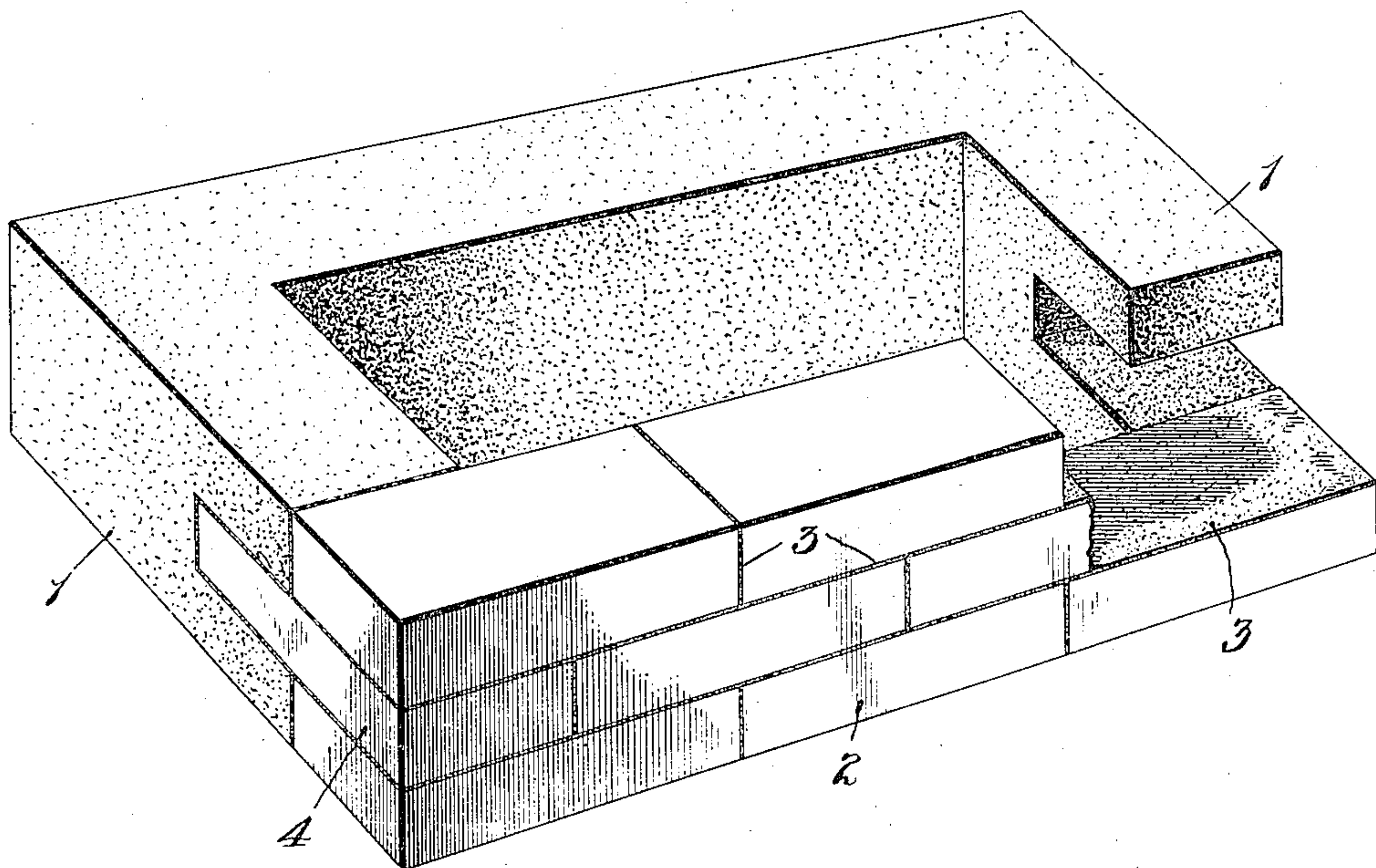


No. 841,415.

PATENTED JAN. 15, 1907.

S. D. MERTON.  
CONCRETE BLOCK.

APPLICATION FILED JULY 30, 1906.



Witnesses:

Geo. R. Ladson.  
Wells L. Church.

Inventor,  
Seth D. Merton.  
By Bakerwell & Cornwall  
attys.



# UNITED STATES PATENT OFFICE.

SETH D. MERTON, OF ST. LOUIS, MISSOURI.

## CONCRETE BLOCK.

No. 841,415.

Specification of Letters Patent.

Patented Jan. 15, 1907.

Application filed July 30, 1906. Serial No. 328,390.

*To all whom it may concern:*

Be it known that I, SETH D. MERTON, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Concrete Blocks, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawing, forming part of this specification.

The figure is a perspective view of a hollow concrete block constructed in accordance with my invention.

This invention relates to concrete blocks; and the main object of my invention is to provide a concrete block which can be used in the construction of furnace-walls, thereby dispensing with the necessity of employing skilled labor for erecting walls of this character and accordingly reducing the cost of same.

Another object of my invention is to provide a concrete block having one face formed of refractory material and which is so constructed that it can be transported and handled without liability of dislocating the refractory material; and still another object of my invention is to provide a concrete block having one face formed of refractory material and which is so constructed that the refractory face or portions thereof can be repaired easily after the block has been set in the wall.

To this end I have devised a hollow concrete block having one wall formed of a plurality of fire-bricks, which are held together by a bonding agent possessing a great degree of adhesive strength and means for tying or permanently connecting the fire-brick wall to the concrete portion of the block.

Referring to the drawing, which represents the preferred form of my invention, 1 designates the end walls of a hollow concrete block, and 2 designates a plurality of fire-bricks, which form one wall or face of the block, said bricks being laid in courses and held securely together by some substance 3, which possesses enough tensile strength to prevent the bricks from being dislocated when the block is jarred or jolted—as, for example, when it is being transported from the place of manufacture to the place where it is to be used.

The fire-brick facing or wall may be held in place in any suitable manner; but I pre-

fer to accomplish this by means of headers 4, which are embedded in the concrete end walls 1 of the block during the process of molding the block. Preferably Portland-cement mortar is used as the bonding agent for holding the fire-bricks together, as I have found that such material is sufficiently refractory to withstand the heat to which the fire-brick facing of the block is commonly subjected and also possesses sufficient tensile strength to hold the bricks together when the block is being transported. If desired, however, asbestos cement or any other binding adhesive material which is refractory and possesses a great degree of strength could be used as a bonding agent for withstanding higher temperatures, and accordingly I do not wish it to be understood that my invention is limited to the use of any particular kind of cement. If necessary, the concrete block could be reinforced at its corners to prevent it from cracking in case the expansion and contraction of the fire-brick wall or facing is very great. Fire-clay, however, which is generally used for holding fire-bricks together, could not be used in my construction as the bonding agent, as it does not possess sufficient tensile strength to prevent the fire-bricks from being dislocated during the transportation of the block.

As the fireproof facing or wall of the block is made up of a number of bricks preferably of standard size, said facing can be repaired easily, if this should become necessary after the block had been set in the wall, by any mechanic or person of ordinary skill, and the material with which to repair the fireproof facing is always at hand, so that no delay is caused by sending to the manufacturer of the block, as would be necessary if the fireproof facing of the block consisted of a single fireproof tile or number of tiles of peculiar construction.

While I have stated that my improved block is to be used in the construction of furnace-walls, it will of course be understood that it could be used for a number of other purposes.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A hollow building-block consisting of a side and end walls formed of concrete, a side wall consisting of a plurality of courses of fire-brick which are held together by material possessing sufficient adhesive strength to



prevent said bricks from being dislocated during transportation, and means connected to the fire-brick wall and embedded in the concrete walls during the process of molding same for securely tying said fire-brick wall and concrete walls together; substantially as described.

2. A hollow building-block consisting of a side wall and end walls formed of concrete, a side wall consisting of a plurality of courses of fire-brick of standard size, and cement between said bricks for firmly holding them together, some of said bricks being arranged

transversely of the fire-brick wall and being embedded in the concrete end walls during the process of molding the same, to tie said brick wall to the concrete walls; substantially as described.

In testimony whereof I hereunto affix my signature, in the presence of two witnesses, this 27th day of July, 1906.

SETH D. MERTON.

Witnesses:

WELLS L. CHURCH,  
CORA BADGER.