March 18, 1924. 1,486,894

O. P. HIPPLE

BUILDING MATERIAL

Filed Oct. 6, 1920

Fig. 1.

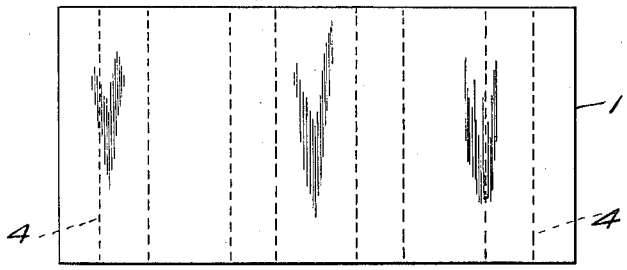
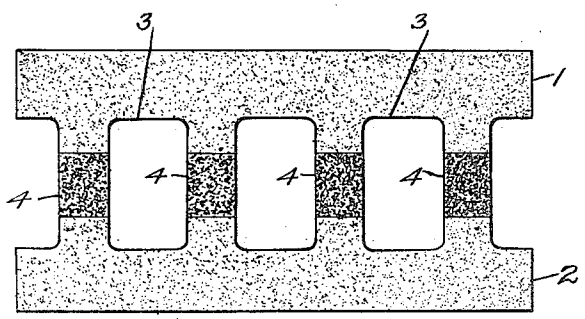



Fig. 2.




WITNESSES:

S. L. Jeffrey.

O. E. Bee.

INVENTOR

Oliver P. Hipple

BY

Wesley G. Carr

ATTORNEY

Patented Mar. 18, 1924. 1,486,894

# UNITED STATES PATENT OFFICE.

OLIVER P. HIPPLE, OF WILKINS TOWNSHIP, ALLEGHENY COUNTY, PENNSYLVANIA.

## BUILDING MATERIAL.

Application filed October 6, 1920. Serial No. 415,132.

*To all whom it may concern:*

Be it known that I, OLIVER P. HIPPLE, a citizen of the United States, and a resident of Wilkins Township, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Building Materials of which the following is a specification.

My invention relates to building material and, more particularly, to building blocks formed of a suitable material, such as sand or gravel concrete, and it has, for its primary object, the construction of a building block which shall prevent moisture condensation upon the interior walls of a house when excessive differences of temperature obtain between the interior and the exterior parts of the building constructed of such material.

It is well known, of course, that, because air is a good thermal insulator, it is desirable, in some instances, to so construct houses that their walls shall be provided with air chambers and such walls have been constructed heretofore in various ways. For example, frequently, double walls have been so constructed as to provide an intervening air space. Such construction, however, is relatively expensive on account of the amount of labor involved.

One object of my invention, therefore, resides in the provision of building blocks having air chambers and of such dimensions that they may be utilized to construct a wall having the thickness of a single block in order to provide the necessary strength and desirable thermal insulating properties.

Walls have also been constructed of building blocks provided with air chambers but such blocks, when formed of a material presenting a desirable appearance, permit of moisture condensation upon the interior surfaces when excessive temperature differences exist between them and the exterior surfaces.

Another object of my invention resides in the provision of a building block which not only provides good thermal insulation but also prevents any moisture condensation upon the interior wall surfaces under adverse temperature conditions.

It will be appreciated, of course, that it is highly desirable to prevent moisture condensation on the interior wall surfaces of houses for various reasons. If, for example, moisture condensation is prevented, the building blocks may have the plaster of the house applied directly thereto without employing the usual lath construction. The more obvious advantage of preventing moisture condensation resides in the maintaining of a dry interior, which is, of course, at all times desirable.

With these and other objects in view, my invention will be more fully described, illustrated in the drawings, in the several views of which corresponding numerals indicate like parts, and then particularly pointed out in claims.

In the drawings Fig. 1 is a side elevation of a building block formed in accordance with my invention and Fig. 2 is a plan view of the block shown in Fig. 1.

A building block may be constructed in accordance with my invention by employing concrete formed of sand or gravel and cement which may be molded to a suitable form to provide a plurality of side walls which are connected together and separated at intervals by air chambers. In accordance with my invention, the two main walls of the building block are connected by portions containing another material, preferably composed of cinder concrete, which may be formed of various relative amounts of cinder and cement.

Substantially the same result may be obtained as with the building block above described, by forming a block composed of a plurality of slabs of ordinary concrete connected by a plurality of spacing members which have their ends molded into the slabs to maintain the slabs in spaced relation. In both of the structures the same principle is involved, which consists in providing an insulator between the main portions of ordinary concrete to prevent moisture condensation when a temperature difference exists between the main wall surfaces of the block.

In order to facilitate a clear understanding of my invention, a building block is shown in Figs. 1 and 2 which comprises a plurality of concrete walls 1 and 2 so formed as to provide air chambers 3 when the walls 1 and 2 are suitably connected together, as indicated at 4. The material employed in the intermediate portion 4 is preferably composed of crushed cinders and cement. The proportions in which the cinders and cement are mixed may be varied to a great extent, but I have found that five

parts of cinders to one part of cement provides a desirable mixture. The concrete walls 1 and 2 may be constructed of any desirable amounts of sand or gravel and cement which have been found to provide the right degree of mechanical strength.

A wall may be constructed of a building block formed as above described by employing a single wall of blocks disposed in a similar manner to that followed in forming brick or tile walls. It will be understood, of course, that the blocks are so placed that the air chambers 3 are in alinement and the concrete portions 1 and 2 of the blocks are in engagement. The block may be made of the thickness desired in the finished wall and the amount of labor required to construct the wall may be thus reduced by necessitating a single operation to form a wall of the desired thickness.

It will be appreciated that, although I have shown and specifically described a building block formed in accordance with my invention, various modifications may be made within the scope of my invention to provide a building block possessing the desirable characteristics above described and I desire, therefore, that no limitations shall be imposed except such as are indicated in the appended claims.

I claim as my invention:—

1. A building block comprising a plurality of concrete portions and a mixture of cinders and cement connecting and secured to the concrete portions to render the block heat insulating.

2. A building block provided with air chambers comprising a plurality of concrete portions and a mixture of substantially five parts of cinders and one part of cement connected to the concrete portions to render the block heat insulating.

3. A building block provided with air chambers comprising a plurality of concrete portions and a mixture of crushed cinders and cement connecting and secured to the concrete portions to render the block heat insulating.

In testimony whereof, I have hereunto subscribed my name this 25th day of September, 1920.

OLIVER P. HIPPLE.