

No. 890,974.

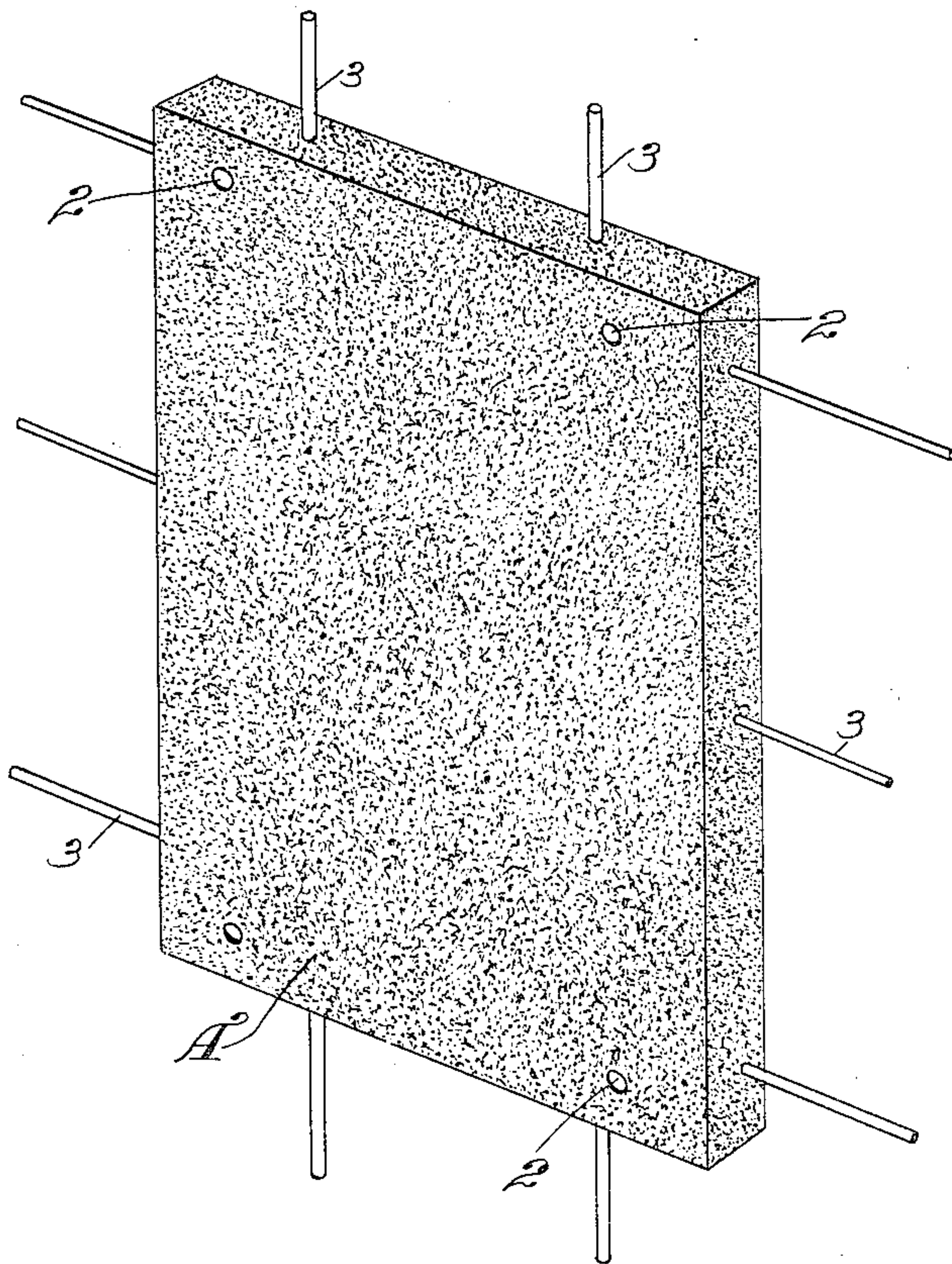
PATENTED JUNE 16, 1908.

J. C. FITZSIMMONS & J. V. CHOWN.

BUILDING MATERIAL.

SPECIMENS.

APPLICATION FILED MAY 7, 1907.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

JAMES C. FITZSIMMONS AND JAMES V. CHOWN, OF OAKLAND, CALIFORNIA.

## BUILDING MATERIAL.

No. 890,974.

Specification of Letters Patent.

Patented June 16, 1908.

Application filed May 7, 1907. Serial No. 372,345. (Specimens.)

*To all whom it may concern:*

Be it known that we, JAMES C. FITZSIMMONS and JAMES V. CHOWN, citizens of the United States, residing at Oakland, in the county of Alameda and State of California, have invented new and useful Improvements in Building Materials, of which the following is a specification.

Our invention relates to an improved article of manufacture, for use in building construction. Its object is to provide a cheap, practical, fireproof slab, brick or building block, which shall be very light, which shall have a surface suitable for receiving a finishing coat of plaster, or the like, which is especially applicable for molding into a plaster-board, and which can be nailed on to the studding like an ordinary board.

The figure is illustrative of one form of the invention.

In carrying out the invention we employ diatomaceous earth, lime, and sawdust, and may or may not embed a metal reinforce in the article made from this mixture.

Preferably a large percentage of diatomaceous earth is used, varying from 70% to 80%, more or less, according to conditions. To this is added from 5% to 10%, more or less of lime, calcined, to form a binder; and from 20 to 25% more or less of a granular, fibrous material, such as sawdust for instance to give a suitable roughened surface to the finished product without increasing the weight.

A favorite formula is as follows:

Diatomaceous earth	75%
Lime	5% and
Sawdust (preferably coarse)	20%
	100%

This mixture is put in a suitable pug mill, sufficient water added to make a paste, and the whole thoroughly mixed to coat the granules of fiber to render them substantially fire-proof at all ordinary temperatures. This mixture is then molded into any desired shape, such as plaster boards, slabs, tiles, bricks or blocks, and dried slowly in the air. When thoroughly dried the articles made from the foregoing mixture are ready for use.

The form in which we have turned the product out heretofore has principally been that of a plaster-board as A, having the appearance of an ordinary board, which can be nailed direct on to the studding and then plastered over to give the smooth finishing surface without the use of any lathing or the like.

If it were not for the sawdust or equivalent employed, the board would have such a smooth and slippery surface that it would be difficult to make it take a finishing coat of material without further treatment.

When these boards are molded and while still in a soft, plastic condition, they are suitably perforated as shown in the figure at 2, for the purpose of allowing nails to be driven through them into the studding without danger of breaking or injuring the board.

If desired the strength of the board can be materially increased by embedding a suitable wire mesh or metal reinforce as shown at 3. These boards when dried are extremely light in weight and it has been found that they will withstand a very high degree of temperature; also it is found that they are practically impervious to heat or cold or sound.

Having thus described our invention, what we claim and desire to secure by Letters Patent, is—

1. A building material consisting in combination of approximately 75% of diatomaceous earth, 5% of lime and 20% of sawdust, mixed into a paste to coat the granules of fiber, and molded into any desired shape.

2. A plaster-board made of approximately 75% of diatomaceous earth, 5% of lime and 20% of sawdust mixed with water, shaped into board form and dried at ordinary temperatures, and having holes punched through it so it can be nailed to the wall or to studding, said board having a roughened surface.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

JAMES C. FITZSIMMONS.  
JAMES V. CHOWN.

Witnesses:

S. H. NOURSE,  
JESSIE C. BRODIE.