

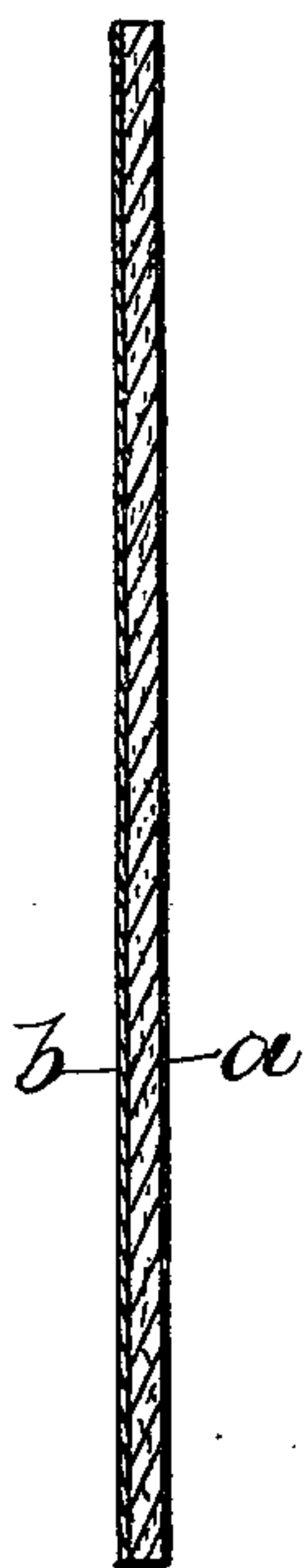
No. 675,238.

Patented May 28, 1901.

W. H. ORR.  
BLACKBOARD.

(Application filed Nov. 6, 1900.)

(No Model.)



Witnesses.  
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# UNITED STATES PATENT OFFICE.

WILLIAM H. ORR, OF LIMA, OHIO.

## BLACKBOARD.

SPECIFICATION forming part of Letters Patent No. 675,238, dated May 28, 1901.

Application filed November 6, 1900. Serial No. 35,652. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. ORR, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have  
5 invented new and useful Improvements in Blackboards, of which the following is a specification.

This invention relates to and has for its principal object the construction of black-  
10 boards from plastic material comprising a flexible and sound-proof base or backing of wood-pulp or wood-fiber plaster cast in sheets or plates of suitable form and dimensions and which after being allowed to set, dry, and harden are finished with a durable, adhesive,  
15 tough, and elastic coating that will not shrink, crack, or check, and which will impart a uniformly colored and roughened working surface, the said coating consisting of the ingredients and compounded in substantially the  
20 manner hereinafter set forth.

In the annexed drawing, showing a vertical section of a blackboard made in accordance with my invention, the reference-letter *a* designates the base or backing, of wood-pulp  
25 plaster or wood-fiber plaster, and the letter *b* designates the working surface or coating of composition material, as herein described.

The wood-pulp or wood-fiber plaster which  
30 I prefer to employ as a base or backing for my improved blackboard is a commercially-known manufactured article or commodity ready for use and is to be made or cast into sheets one-half inch to one inch thick, more  
35 or less, and of any desired form, length, and breadth. These sheets or plates of wood-pulp or wood-fiber plaster are flexible and constitute a very excellent non-conductor of sound, by reason of containing a considerable quantity of wood-pulp or wood-fiber and will therefore furnish a suitable dead-ground for black-  
40 boards. Having been made in the form and dimensions required, they are allowed to set and harden until thoroughly dry. They are  
45 then finished with a coating composition consisting of the following-named ingredients: commercial whiting, new process or ground lime, ground or powdered slate, calcined gypsum, refined, and lampblack or other suitable  
50 coloring-matter. The formula which I prefer, on a basis of one hundred per cent., is as follows, in about the proportions specified:

commercial whiting, fifteen per cent.; new process or ground lime, twenty-five per cent.; ground or powdered slate, ten per cent.; cal- 55  
cined gypsum refined, forty per cent.; lampblack or other color, ten per cent. It is to be understood, however, that I do not confine myself to the above-stated proportions, as they may be varied to some extent and still  
60 answer my purpose.

The whiting I employ is a valuable ingredient in my new composition of matter for the coating or finishing of blackboards, being permanent in the air and insoluble in  
65 water. It is also perfectly adhesive and undergoes no change after the composition has dried.

New-process lime, ground, sometimes known as "recarbonated" lime, is used in my com- 70  
position to prevent shrinkage or cracking otherwise likely to occur and is preferable to quicklime or water-slaked lime.

Ground slate is employed to give the required uniformly gritty or roughened sur- 75  
face, and besides this it imparts also a desirable toughness and elasticity and helps to prevent checking.

Calcined gypsum, by reason of its cheapness and ability to impart strength, durability of texture, and extreme surface hardness, is a very valuable and important ingredient for constituting the body or main portion of the covering or coating composition. When  
80 combined with the other ingredients named, it permits the production of a very desirable and comparatively inexpensive blackboard.

As a coloring-matter the lampblack becomes an important factor. It being a fast color easily soluble in liquid it adheres well  
90 to the other ingredients of the composition and produces therewith an even uniformly-distributed color, from jet black to gray, according to the proportion in which it is used. However, as lampblack is employed only as  
95 a coloring-matter it may be omitted, or it may be combined with or be replaced by any other color material. In many cases mortar-stains or other colors will suit the required purpose, and therefore I do not confine my-  
100 self to any particular kind or shade of color.

All the materials employed in my composition for coating or finishing blackboards are in harmony with each other for the produc-



tion of a cheap and efficient article, and when mixed with the proper quantity of water to make ready for use they will undergo chemical and physical changes that result in producing a practical, hard, elastic, and gritty surface perfectly suitable for the purposes intended.

A blackboard of the construction described, having a flexible base or backing of wood-pulp or wood-fiber plaster and coated or finished with the described composition of matter, furnishes a nearly-perfect non-conductor of sound, and hence when chalk or crayon is used thereon the desired marks or delineations can be easily and distinctly made in a practically - noiseless manner without the

usual annoyances incident to the use of blackboards of ordinary construction.

What I claim as my invention is—

A blackboard having a base or backing of wood-pulp or wood-fiber plaster, and a surface coating of whiting, new-process or ground lime, powdered slate, calcined gypsum and coloring-matter, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILLIAM H. ORR.

Witnesses:

T. B. DUFFIELD,

J. E. CREMEAN.