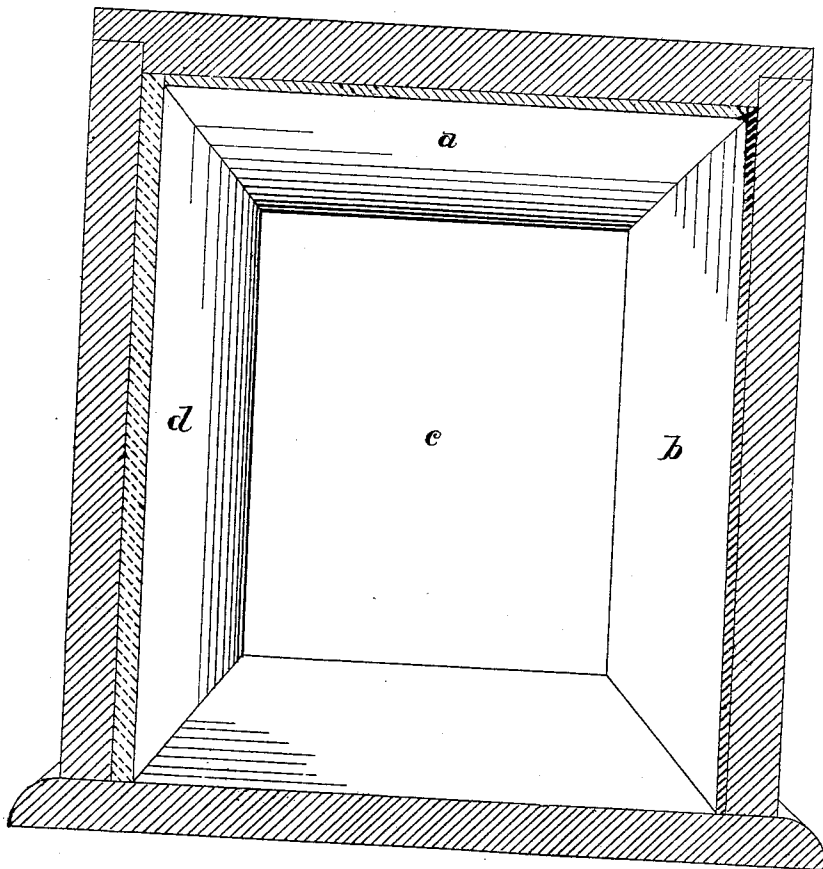


T. BOYD.
Elastic Linings for Walls.

No. 230,228.

Patented July 20, 1880.



Witnesses

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UNITED STATES PATENT OFFICE.

THOMAS BOYD, OF PITTSBURG, PENNSYLVANIA.

ELASTIC LINING FOR WALLS.

SPECIFICATION forming part of Letters Patent No. 230,228, dated July 20, 1880.

Application filed February 20, 1880.

To all whom it may concern:

Be it known that I, THOMAS BOYD, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Elastic Lining for Walls and Ceilings of Buildings; and I do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawing, forming a part of this specification, which is a view designed to illustrate a room provided with elastic or resilient surfaces on the walls and ceiling and integral therewith.

It is a well-known fact that many halls and rooms are acoustically defective, producing echoes and reverberations to sounds therein, and that in many cases such halls and rooms are entirely useless for lecture, theater, church, and musical purposes. Many efforts have been made to cure this defect, such as changing the form of the hall or room, or stretching wires across it, or erecting sounding boards or walls across it. These expedients have in some cases been successful in decreasing the volume or force of the echo, and in a very few instances they have cured the defect entirely; but in the great majority of such cases they have failed. All such expedients are attended with greater or less expense, and in some cases the expense is enormous. This defect is generally due to the throwing back or reflex action of the waves of sound from the hard surface of the walls and ceilings.

I have discovered that if the walls and ceilings are provided with an elastic or resilient surface integral with the walls and ceiling the sound-waves are absorbed, instead of being thrown back, and consequently that no echo or reverberation is produced.

My invention, therefore, may be briefly stated as consisting in providing the walls and ceilings of buildings with an elastic resilient surface or lining integral with said wall and ceiling, and I propose to apply it to new buildings as well as to defective ones already constructed.

The drawing illustrates the use of four different materials for this purpose.

The ceiling *a* is covered with sheets of fine cork which is sufficiently elastic for the purpose. These sheets are fastened to the beams or rafters, preferably by staple-headed nail.

The sheets may be of any desired size and thickness.

The side *b* is covered with sheets of gelatine, which may be fastened to the scantlings in the way described with reference to the cork. The side *c* is covered with sheets of caoutchouc fastened securely to the scantlings in any desired way. The side *d* is covered with a composition of cork and animal hair mixed with a glutinous liquid and applied in a plastic state, in the same manner as plaster, to a plain surface of boards, stone, paper, or plaster. This composition forms the subject-matter of an application for Letters Patent of even date herewith filed by David B. Morris and myself, and is the substance which I consider best adapted for this purpose.

Other substances possessing the required degree of elasticity or resiliency and otherwise suited for the purpose might be named; but the above are sufficient to illustrate the invention.

The effect of such a lining applied to the walls and ceilings of a room is the complete absorption of the waves of sound when they strike them, and the prevention of echoes, reverberation, and similar reactions.

The lining or surface for curing acoustic defects in buildings may be applied to one or more sides and to the ceiling, if necessary.

In many cases in halls it will be found only necessary to line the ceiling, or in some cases the side opposite to the speaker's desk or stage.

The wall thus lined may be papered, painted, frescoed, or otherwise decorated in the usual way.

I am aware that hangings and draperies have been heretofore employed, and will in a measure have a like effect, and do not claim the same, as they are objectionable in that they collect dust and dirt and materially interfere with the architectural finish of the building.

What I claim as my invention, and desire to secure by Letters Patent, is—

An auditorium or hall having the walls or ceiling, or both, provided with an elastic or resilient surface integral with the wall or ceiling, substantially as and for the purposes described.

In testimony whereof I, the said THOMAS BOYD, have hereunto set my hand.

THOMAS BOYD.

Witnesses:

T. B. KEER,
JAMES H. PORTE.