

UNITED STATES PATENT OFFICE.

CARL FRIEDRICH WILHELM DOEHRING, OF LEIPSIC, GERMANY.

PROCESS OF PRODUCING FIRE-PROOF COVERINGS FOR WALLS AND CEILINGS.

SPECIFICATION forming part of Letters Patent No. 413,437, dated October 22, 1889.

Application filed November 27, 1888. Serial No. 292,012. (No specimens.)

To all whom it may concern:

Be it known that I, CARL FRIEDRICH WILHELM DOEHRING, a citizen of Saxony, residing at Leipsic, in the Kingdom of Saxony, Germany, have invented a new and Improved Process of Producing a Fire-Proof Covering for Ceilings and Walls, of which the following is a specification.

This invention relates to an improved process of producing a fire-proof covering for ceilings and walls, said covering being bodily united to the ceiling or wall upon its entire inner face. Thus the covering will not be apt to crack, owing to unequal expansion, as is the case with those coverings that are united only at intervals by mechanical means. So, also, by a direct covering of the laths with the composition no empty spaces are left in the walls which would facilitate the spreading of fire.

My invention has for its object to intimately connect the laths with the composition by means of a chemical union.

In carrying out my invention I steep the ordinary laths or similar strips or boards in a mixture of chloride of calcium and water-glass, either in a vacuum or otherwise. The thus saturated laths are covered by a mixture composed of water-glass, baryta, and zinc powder. This renders the laths fire-proof, as silicate of lime is produced, and also adapts their surface to unite chemically with an inner covering of mineral sand or silex, which is spread over the same. This inner covering has a rough surface, which will form a chemical union with the ordinary top plaster covering, and will thus retain the entire body of the latter permanently in place.

In lieu of the mixture of water-glass, baryta,

and zinc, and of the inner covering, the laths may, after being saturated, as described, be provided with a covering consisting of chalk, hydraulic lime, infusorial earth, oxide of zinc, magnesia, powdered flint, powdered fire-brick, sharp sand, and water-glass. This mixture forms a rough coating, to which the plaster adheres readily, and with which it unites chemically. The sand may, if desired, be pressed into or be thrown upon the covering after the latter has been applied to the laths.

The gist of my invention lies in the fact that I dispense with all mechanical means for attaching the covering to the laths and substitute therefor the chemical means, as described.

What I claim is—

1. The improved process of producing a fire-proof covering for ceilings and walls, which consists in steeping laths in chloride of calcium and water-glass and then covering them with a plaster-retaining mixture, substantially as specified.

2. The improved process of producing a fire-proof covering for ceilings and walls, which consists in steeping laths in chloride of calcium and water-glass, then coating them with water-glass, baryta, and zinc powder, and finally covering them with sand, substantially as specified.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CARL FRIEDRICH WILHELM DOEHRING.

Witnesses:

EDMUND BACH,
MAX MATTHAI.