

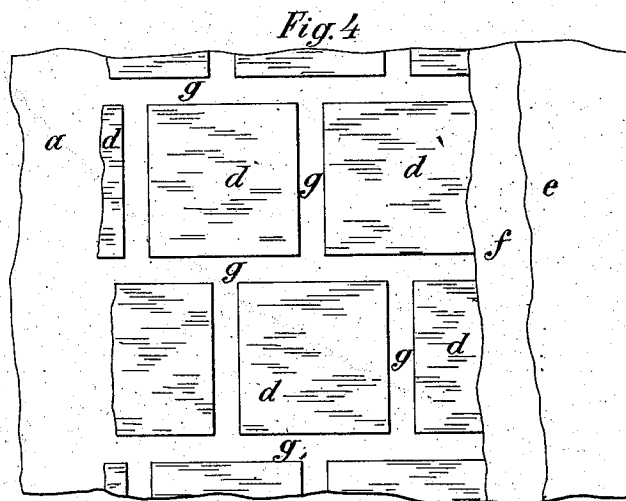
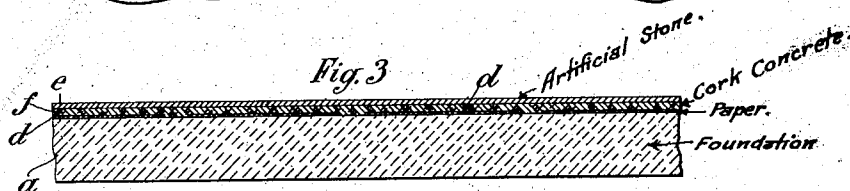
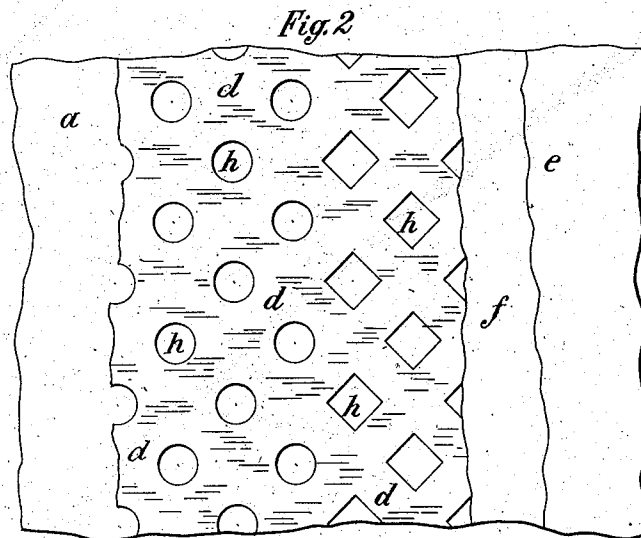
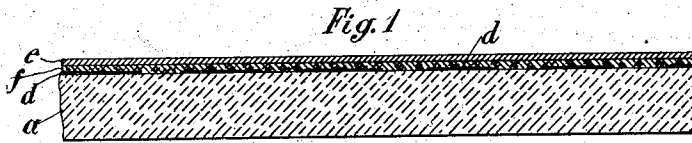
No. 823,950.

PATENTED JUNE 19, 1906.

P. LANGGUTH.
FLOOR OF ARTIFICIAL STONE.

APPLICATION FILED OCT. 14, 1905.

2 SHEETS—SHEET 1.



Witnesses:
J. Sprigg Poolo
R. G. Cressel

Inventor.
Paul Langguth,
by Herbert W. Gerner
Attorney.

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2 SHEETS—SHEET 2.

Fig. 5

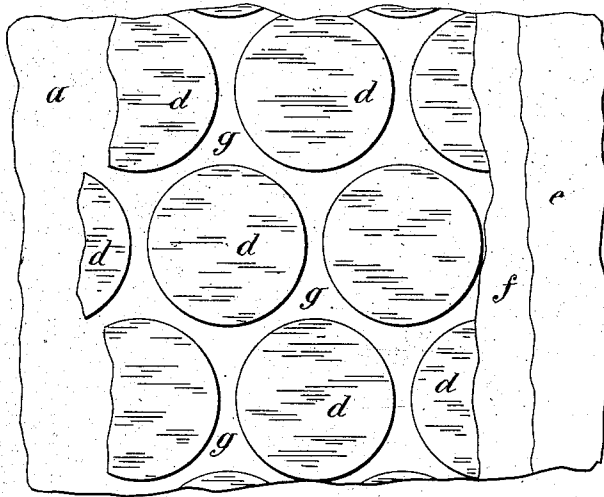
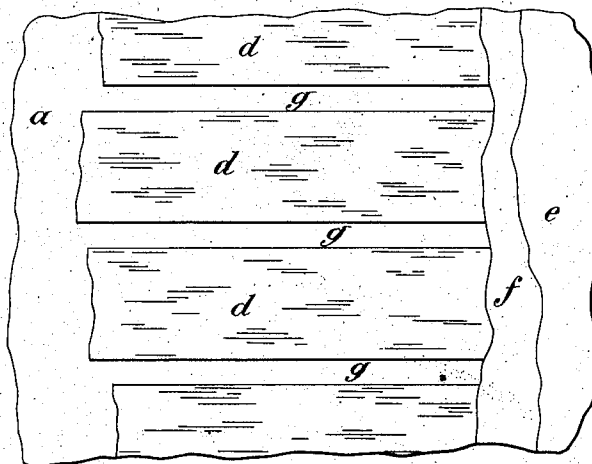


Fig. 6



Witnesses.

J. Sprigg Poole
Robert A. Cassel

Inventor.

Paul Langguth
by Herbert W. Jen
Attorney

UNITED STATES PATENT OFFICE.

PAUL LANGGUTH, OF CHARLOTTENBURG, GERMANY.

FLOOR OF ARTIFICIAL STONE.

No. 823,950.

Specification of Letters Patent.

Patented June 19, 1906.

Application filed October 14, 1905. Serial No. 282,842.

To all whom it may concern:

Be it known that I, PAUL LANGGUTH, a citizen of the German Empire, residing at Charlottenburg, in the Province of Brandenburg, Germany, have invented certain new and useful Improvements in Floors of Artificial Stone; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to and has for its object a jointless composite artificial-stone floor made out of a combination of wood-dust or the like, asbestos, magnesite, and a binding-lye of certain salts, such as chlorid of magnesium or the like.

In order to avoid the disadvantages of artificial stone or cement floors previously in use, which always are laid on a cement or concrete foundation and which have the disadvantages that the racks which form in the concrete foundation are continued or transmitted through to the artificial-stone floor, I make my new floor out of three layers of different materials. The uppermost layer consists of the said artificial stone. The layer under this which joins the uppermost layer with the concrete foundation is very similar to the well-known heat-insulating material and is an elastic material containing cork chips or cuttings. In the manufacture of this cork concrete, chips or cuttings of cork are mixed with any suitable binding material, so that the mass may be formed into a layer of light and cheap elastic material which will stretch to a limited extent longitudinally. The third layer consists of tarpaper or the like and lies directly on the concrete foundation. This last layer is not a continuous layer, but is discontinued and broken at many places, and at these breaks the elastic intermediate so-called "cork concrete" comes into immediate contact with the concrete foundation.

I illustrate different possible ways of making such a floor in the accompanying drawings, in which—

Figure 1 is a vertical section through the floor, which is composed of three layers and the concrete foundation. Fig. 2 is a plan of the same in which the different layers are broken away at different points, so that all are shown. Figs. 3 and 4 are likewise a section through and plan of a second method of arrangement in the same manner of represen-

tation. Fig. 5 is a plan of a third method of arrangement. Fig. 6 is a plan of a fourth method of arrangement. In both these last plans, just as in the foregoing plans, the different layers are shown broken away at different points.

Similar letters of reference refer to similar parts in all views.

a is the concrete or cement foundation.

d is the layer consisting of paper.

f is the intermediate connecting layer, which is an elastic cork concrete, and *e* is the uppermost artificial stone.

As is seen from Fig. 2, the paper layer *d* has a great number of perforations or holes *h*, which have very different shapes, some, for example, being represented circular and some square. As is readily perceptible, the intermediate layer *f*, which the paper directly covers, comes into contact at these places where the holes are with the concrete foundation and unites fast with it. At those places, however, where the paper is such a union is prevented, and in consequence of this a union of the artificial-stone layer with the concrete foundation *a* only takes place through the agency of the intermediate cork-concrete layer at those places where the holes are. In consequence, the possibility arises that the concrete foundation can shift or move in a certain degree relatively to the artificial-stone layer, or, contrariwise, the latter can move relatively to the foundation, since the intermediate layer is elastic and a union does not take place over the whole surface, but only at single places.

It is not necessary for the paper to be laid out in one continuous or perforated sheet; but, on the other hand, it is advantageous for a large number of pieces of paper to be distributed on the foundation, so that definite intervening spaces are left clear between them, which suffice for the union of the intermediate layer with the foundation. Figs. 3 and 4 show such a floor in which separate sheets of paper *d* of square shape are employed, which are so arranged on the foundation *a* that a net-like system of strips *g* is formed between the sheets of paper, in which places the union takes place.

In the method of erection shown in Fig. 5 paper sheets of circular form are employed, while in the method shown in Fig. 6 the paper sheets are arranged in long strips *d*, so that equally long strips *g* are left clear between them. The distance between the separate

holes and the distance between the strips which are not covered by the paper, respectively, as well as the size of the holes and the breadth of the strips, respectively, must be so chosen that the artificial-stone layer is joined sufficiently securely with the foundation. Both the distance between the separate holes or strips and the area of the places not covered by paper stand in an interdependent relationship toward one another, as with a definite distance a corresponding area must be observed.

The advantage of my new floor is that the said elastic intermediate connecting-layer deadens the sound in each place, and although the layer extends from end to end the union only takes place at single places, and to have the union at separate definitely-arranged places need only arrange the paper in a definite manner; but only layers of quite uniform pattern need be traced out.

What I claim is—

1. A flooring comprising a foundation, a thin separating-sheet resting on the said foundation and provided with interruptions, a superposed layer of elastic concrete adhering to the said foundation only where in direct contact with its surface at the said interruptions, and a top layer of hard surface material.

2. Jointless floor of artificial stone consisting of three layers lying on a concrete foundation of which one is continuous artificial stone, another is an equally continuous elastic intermediate layer of cork concrete and another is a frequently-interrupted layer of isolating-paper which lies directly on the

foundation and which allows the intermediate layer to join with the concrete foundation in those intervals which occur in it.

3. Jointless floor of artificial stone consisting of three layers lying on a concrete foundation of which one is continuous artificial stone, another is an equally continuous elastic intermediate layer of cork concrete and another is a layer of isolating-paper which lies directly on the foundation forming a continuous layer in which interruptions of optional form occur at intervals.

4. Jointless floor of artificial stone consisting of three layers lying on a concrete foundation of which one is continuous artificial stone, another is an equally continuous elastic intermediate layer of cork concrete and another is a layer of isolating-paper which lies directly on the foundation and which consists of separate sheets of optional form which are not joined to one another.

5. Jointless floor of artificial stone consisting of three layers lying on a concrete foundation of which one is a continuous artificial stone, another is an equally continuous elastic intermediate layer of cork concrete and another is a layer of isolating-paper which lies directly on the foundation and which consists of separate strips with intervening interruptions left free between them.

In testimony whereof I affix my signature in presence of two witnesses.

PAUL LANGGUTH.

Witnesses:

HENRY HASPER,
WOLDEMAR HAUPT.