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PROVISIONAL SPECIFICATION.

Improvements in the Construction of Fireproof Floors.

I, GUSTAV LILIENTHAL, of Gross Lichterfelde bei Berlin, Martha Strasse 9, Builder, do hereby declare the nature of this invention to be as follows:—

This invention relates to a simple construction of fire proof floors which is of the following description.

Over the beams are spread webs of paper or such like material along with wire gauze or netting of which there may be several layers when the span between the beams or the load which the floor has to carry is considerably. The paper or the like and the gauze or netting are not tightly strained but allowed to hang in catenary form between the beams, being temporarily held by nailing or otherwise fastening them on the beams. On the catenaries thus formed concrete is laid to the desired thickness its upper surface being levelled to receive flooring, floor cloth or the like.

Dated this 2nd day of May 1898.

ABEL & IMRAY,
Agents for the Applicant.

COMPLETE SPECIFICATION.

Improvements in the Construction of Fireproof Floors.

I, GUSTAV LILIENTHAL, of Gross Lichterfelde bei Berlin, Martha Strasse 9, Builder, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to a simple construction of fire proof floors which is of the following description.:

Over the beams are spread webs of paper or such like material along with wire gauze or netting of which there may be several layers when the span between the beams or the load which the floor has to carry is considerable. The paper or the like and the gauze or netting are not tightly strained but allowed to hang in catenary form between the beams, being temporarily held by nailing or otherwise fastening them on the beams. On the catenaries thus formed concrete is laid to the desired thickness its upper surface being levelled to receive flooring, floor cloth or the like.

The accompanying drawings shew floor constructions according to this invention.

Figs. 1 and 2 are cross sections through a floor between two beams and Fig. 3 is a part section to an enlarged scale shewing how the constituents cooperate to form a strong and durable flooring.

The same letters of reference denote the same parts in all the figures.

[*Price* 8*d*.]

B B are two of the floor beams.

P is a layer of paper or any suitable fabric sufficiently impermeable to allow concrete to be poured upon it.

W in Fig. 1 and W^1 W^2 in Fig. 2 are layers of wire netting loosely spread over the beams B B and provisionally fastened in their position by nails N N.

C is a thick layer of concrete poured over the covering thus formed and allowed to set.

L is a layer of linoleum or any other suitable covering spread over the concrete.

In constructing my improved ceiling I proceed as follows:—

A layer of paper or any pliable fabric is first loosely spread over the beams, care being taken to allow a considerable amount of slack. Over this a layer of wire gauze is then spread with approximately the same amount of slack.

By driving nails into the beams this covering is provisionally held in position, to prevent displacement during the following operations.

Concrete is then poured upon the network and paper to the desired depth finishing with an even surface. When the concrete has set, the floor is finished and can be completed by simply laying down linoleum on the concrete and finishing the ceiling as desired.

This improved ceiling possesses a very considerable strength, because the wire strands lying across the beams take up all the tensile strains and it is found that when a flooring made according to this invention is ever so heavily weighted the carrying wires will never be drawn out at the edge of the gauze, because by their being embedded in the concrete, there is so much friction that even when the flooring is weighted until breakage takes place, the wires rather snap in the middle than draw out at the ends.

In order to obtain this result, I prefer to put down the paper first so that the concrete settling down upon it will surround and firmly hold in position the wire gauze. However I have also found that almost as good a result is obtained, if the paper is placed over the wire gauze. This mode of proceeding is illustrated on an enlarged scale in Fig. 3. What happens is that the paper is softened by the damp contained in the liquid concrete and bulges out into every single mesh of the wire netting thus forming a surface similar to that of a tabbed cushion and thus the single strands of the wire netting are held as firmly as if they were bodily embedded in the concrete.

If special strength is required, I prefer not to use stronger wire netting but rather to put down two or even more layers because it is well known that two wires are more reliable than a single one having the double section. In such cases I employ the construction shewn in Fig. 2, where one layer of wire netting is placed below the paper and one layer above the same.

Having now particularly described and ascertained the nature of this invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A floor consisting of a layer or layers of paper or fabric with wire gauze or netting spread over the floor beams with certain slack, and of concrete poured on the top of these layers, substantially as and for the purpose set forth.

2. A method of constructing floors by spreading over the floor beams successive layers of paper or fabric and of wire gauze or netting allowing these layers a considerable amount of slack, pouring concrete on them until an even surface is obtained and finally allowing the whole to set when in position, substantially as and for the purpose set forth.

Dated this 13th day of January 1898.

ABEL & IMRAY,
Agents for the Applicant.

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LILIENTHAL'S Complete Specification. (1 SHEET)

Fig. 1.

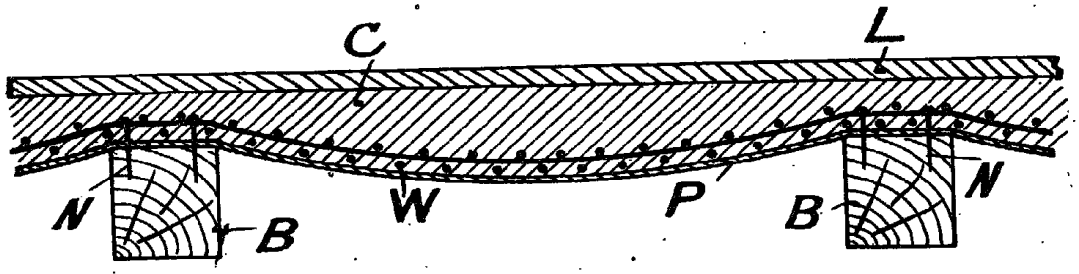

Fig. 2.

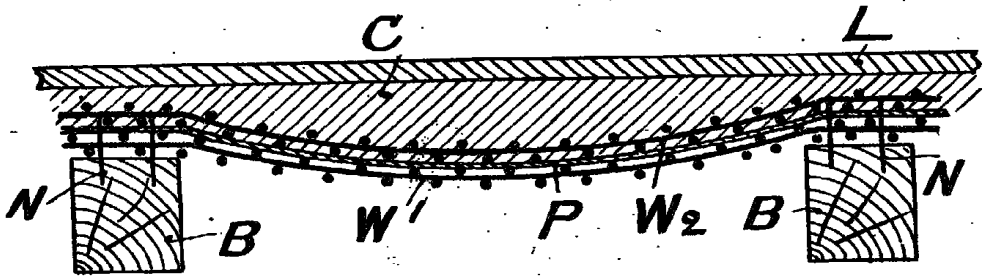

Fig. 3.

[This Drawing is a full-size reproduction of the Original.]

Malby&Sons, Photo-Litho.