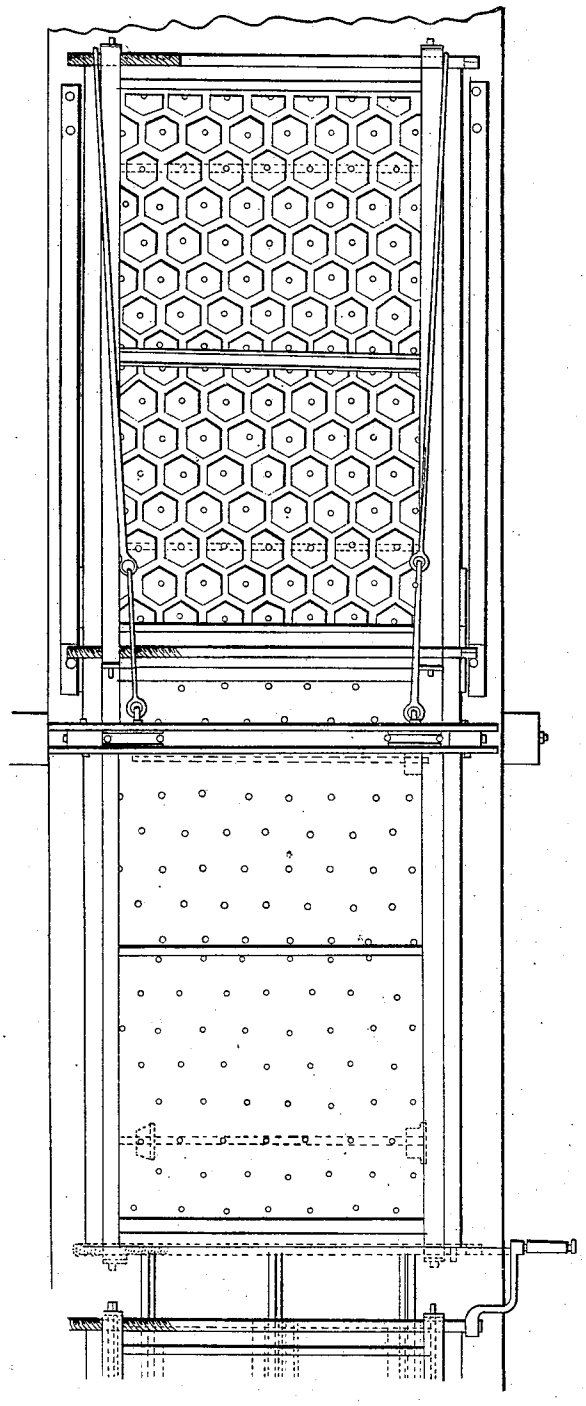
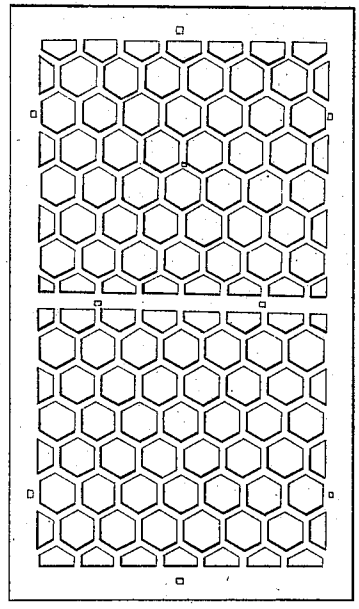
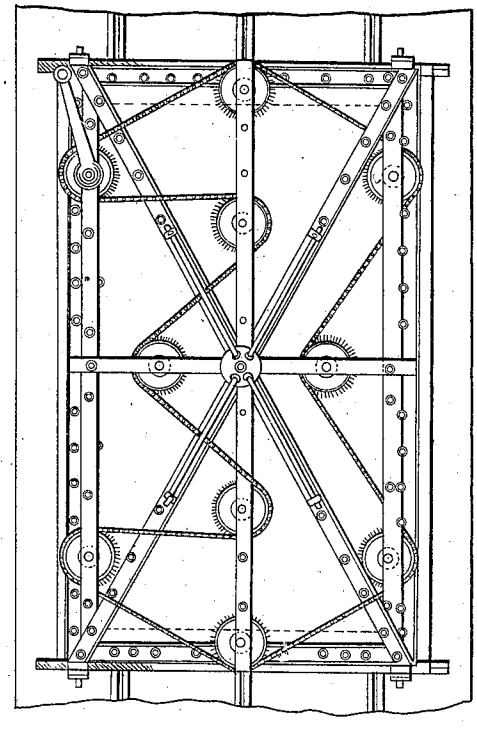
G. C. Bouziat.

Making Tile.

No. 103,553. Patented May 31, 1870.







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UNITED STATES PATENT OFFICE.

GABRIEL CHARLES BOUZIAT, OF VINCENNES, FRANCE.

IMPROVED MODE AND MATERIAL FOR CONSTRUCTING FLOORS, CEILINGS, ROOFS, &c.

Specification forming part of Letters Patent No. **103,553**, dated May 31, 1870.

To all whom it may concern:

Be it known that I, GABRIEL CHARLES BOUZIAT, of Vincennes, in the Empire of France, have invented a new and Improved Process of and Material for Constructing Ceilings, Floors, Roofs, &c.; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Like letters denote like parts in all the figures.

The object of my invention is to produce an article to be used in the construction of ceilings, roofs, floors, walls, &c., which article should offer and combine within itself the following advantages, to wit: lightness, cheapness, neatness, and protection against fire, dampness, and the conveyance of sound; and for these and similar purposes I make of plaster, cement, or similar non-conducting materials, blocks or plates of desirable forms, shapes, and weights, and press or otherwise make them so as to have only one side or part of their thickness solid, while the other side or remaining part is hollow, and yet strong enough for the purpose. I also make these blocks or plates with such edges or ends as to fit them into iron or other beams, rafters, joists, posts, scantlings, and similar contrivances, should such fitting for any given purpose prove desirable. The purer and finer the quality of the plaster, cement, &c., used for such blocks or plates the greater will be their power to sustain any given pressure.

Quite a variety of contrivances could easily be devised for making or preparing those blocks or plates. Color, form, shape, and thickness could thus be given to the material of which they are to be composed; and one of the modes which I have adopted for making said blocks or plates I will now proceed to describe more fully, so as to give to those skilled in the art a chance to adopt or modify the same. I first cut a suitable number of wooden blocks, *a*, of hexagonal or other shape, from one inch upward, long and thick, and I put a projecting metal point or piercer, *c*, into the center of each such wooden block. I thereupon screw or fasten these wooden blocks into an iron plate, *e*, put another pierced iron plate, *f*, over and between those wooden blocks, so as to keep the latter a desirable distance apart from each other, and thus I construct the mold or form represented by Figure 1. After this I prepare in a vat the plaster or cement, so as to have it in a semi-liquid or pliable form. I also attach a lifting or lowering gear, Fig. 4, to the back of the plate or mold-frame *e*, Fig. 1, and I then fasten the whole into a frame above the vat that contains the plaster. By now lowering or pressing the mold, Fig. 1, into the pliable plaster or cement in the vat, the form, Fig. 2, is pressed into the plaster, leaving at the bottom of the vat a solid stratum of plaster, pierced only by the piercers *c*, as in Fig. 3.

The plate or block of plaster or cement, as now in the vat, and as far as its thickness is concerned, contains, so to say, two parts—*i. e.*, about three-quarters of that thickness contain hexagonally-shaped holes *b*, of about one inch diameter, separated from each other by corresponding solid interstices, *g*, in Fig. 2, while the remaining one-quarter thickness is nearly solid, being pierced only by small holes *c* in Fig. 3. This plate of plaster or cement soon dries, and can be removed from the vat by overturning the latter, or by letting down its hinged sides. This dry plate of cement or plaster, with its hexagonally-pierced side downward, is thereupon lowered or pressed into another vat containing a desirable depth of similar pliable plaster or cement, which latter attaches itself and adheres to the dry plate, closing in the latter all the hexagonal holes left by the wooden blocks *a*, and thus it forms itself into a solid side of the plate, constituting, at option, one-quarter or more of the whole thickness of the plate. This plate of cement or plaster, when thus made, has one side solid and one side perforated by the holes *c*, and the inner part, or about one-half of the thickness of the plate, is nearly all hollow, for it contains only the hexagonal solid interstices *g*, made by and retained in consequence of separating from each other the wooden blocks *a*. These solid interstices also serve as connecting-pipes between the solid and the perforated side of the plate. Where particularly great strength is required, the plate, Fig. 2, could be made of iron, similar to those used for vault-lights, and one or both sides of such iron plates could then be covered with plaster or cement in a similar manner as the plate of plaster, Fig. 2, just described. The solid as

well as the perforated sides of all such plates could easily be smoothed and polished on a polishing or rubbing table in a manner similar to that of polishing marble. These blocks or plates of plaster, cement, &c., could be made of such shapes and sizes as to have any given number of them fill any desirable space in the construction of a ceiling, roof, floor, or wall, and they could also be pressed into such forms and figures as to have the whole of them, or any given number of them, form particular figures or designs when finished or in use. Coloring-matter could easily be mixed into that plaster or cement, and the thin lines or narrow hollow spaces formed by placing together two such blocks or plates of plaster or cement could easily be filled up and smoothed by calcimining.

These blocks or plates of plaster or cement can, when dry, easily be transported and handled, and the mode and manner of making and using them could be modified in numerous ways, according to circumstances.

Floors made of such blocks or plates, and the parts necessary to hold them together, could easily be covered with boards, and whenever such blocks or plates are to be used vertically they require no frame or other holdfast, but can be laid or used like bricks or stones, and thus they constitute at once or are quickly turned into a finished wall.

Having now described it so as to enable others to make and use it, I claim as my invention and desire to secure by Letters Patent the following, to wit:

1. Making blocks or plates of plaster, cement, or similar materials in such a manner as to fit them for use for any or all of the purposes hereinbefore indicated and specified.

2. Making in any desirable manner blocks or plates of plaster, cement, or other similar materials, either all solid or all hollow, or partly hollow and partly solid, substantially for the purposes hereinbefore described.

3. Constructing ceilings, floors, roofs, walls, partitions, and similar articles, in whole or in part, of blocks or plates made of plaster, cement, or similar materials, substantially as described.

4. Constructing molds, frames, or presses for making hollow or partly hollow blocks or plates of plaster, cement, or similar materials, substantially for any of the purposes or in the manner hereinbefore described.

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