J. J. SCHILLINGER.

FIRE PROOF BUILDING.

No. 182,717. Patented Sept. 26, 1876.

Fig. 1.

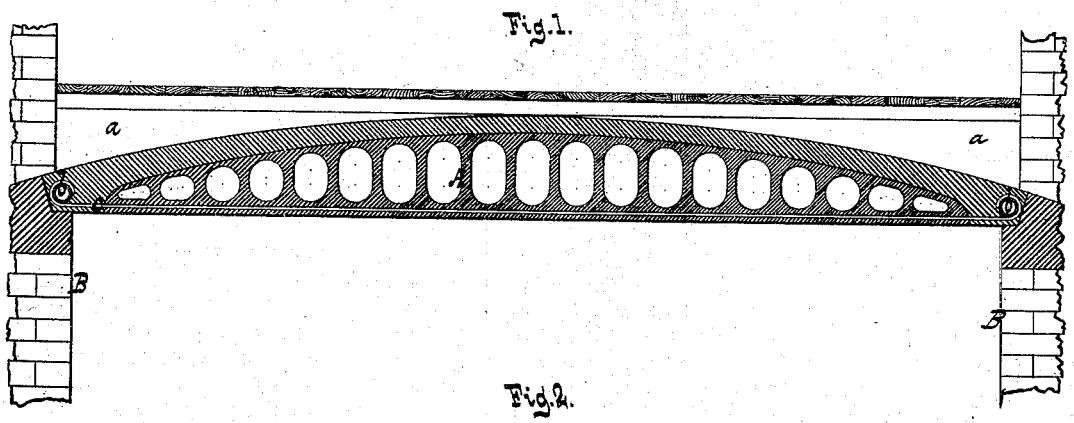


Fig. 2.

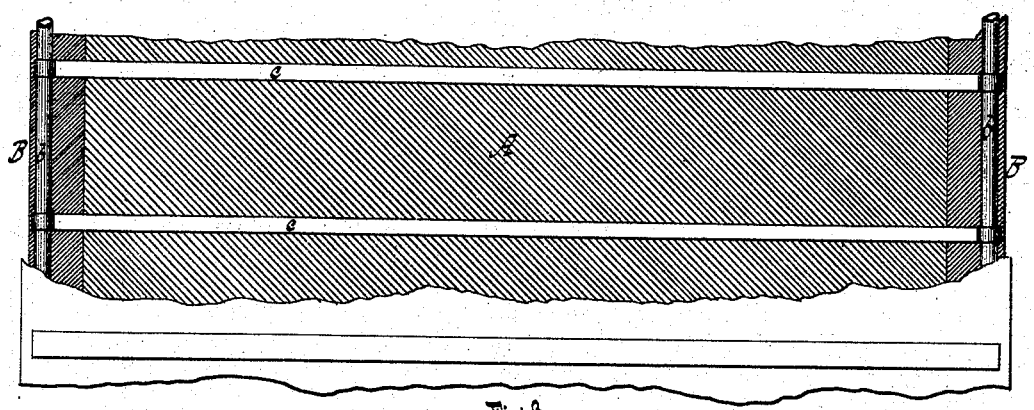
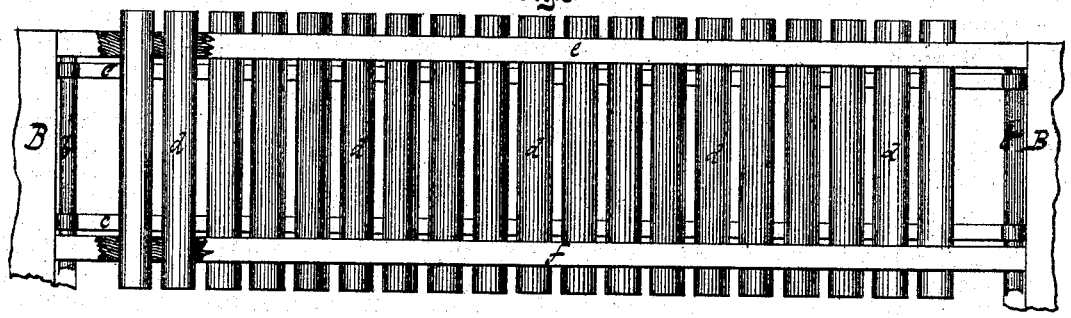


Fig. 3.



Witnesses.
Otto Schulands
James L. Norris

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his attorneys.

UNITED STATES PATENT OFFICE.

JOHN J. SCHILLINGER, OF NEW YORK, N. Y.

IMPROVEMENT IN FIRE-PROOF BUILDINGS.

Specification forming part of Letters Patent No. **182,717**, dated September 26, 1876; application filed September 8, 1876.

To all whom it may concern:

Be it known that I, JOHN J. SCHILLINGER, of the city, county, and State of New York, have invented a new and useful Improvement in Fire-Proof Buildings, which improvement is fully set forth in the accompanying drawing, in which—

Figure 1 represents a transverse vertical section. Fig. 2 is a plan or top view, partly in section. Fig. 3 is a similar view, showing the manner of forming my ceiling on the spot.

Similar letters indicate corresponding parts.

This invention consists in a hollow arched tile, the upper part of which is made of cement and the lower part of plaster-of-paris or other light material; further, in a hollow arched tile, the upper part of which is made of cement and the lower part of plaster-of-paris or other light material, and provided with ribs projecting from its back, for the purpose of supporting the flooring above; also, in a hollow arched tile, provided with anchors cast in its body to increase its strength; further, in a ceiling made in one continuous mass of cement or other suitable material, with a flat surface below and an arched top, the mass being perforated throughout to reduce its weight.

In the drawing, the letter A designates a hollow tile, which is flat at its under surface and arched on its back, and the lower portion of which is made of plaster-of-paris or any other suitable light and fire-proof material, while its top part is made of hydraulic cement, which imparts to the article the requisite strength.

From the back of the tile project ribs *a*, which materially increase the strength of the article, and serve as supports for the floor-boards above when my tile is used in the construction of a ceiling.

In the edges of my tile are secured bars or anchors *b* of metal, which are connected by wires or tie-rods *c*, said anchors being, by preference, cast into the body of the tile during the process of formation.

The tie-rods *c* are concealed in the lower portion of the body of the tile, and they, together with the anchors *b*, impart to my tile additional strength.

My tiles can be made of any desirable size, and they can either be made in the yard, and after they have become hard they are set between the floor-beams of a building in the usual manner, or I can form my tile on the spot where the same is to be used, and in this case the entire ceiling of a building, or those portions of a ceiling situated between the successive floor-beams, may be made each in one continuous mass by the following process: Between the walls or the beams B B, which are to support the ceiling or the section of a ceiling, I erect a scaffolding, which supports a platform at the proper height for the formation of the ceiling. On this platform I first place the anchors and the tie-rods, and then I put on two boards, *e f*, cut out in the form of the cross-section of the ceiling to be formed. These boards are placed edgewise, at a suitable distance apart, and they are provided with holes to receive the cores *d d*. After the cores have been adjusted, the space between the boards is filled up with plaster-of-paris, or a compound of plaster-of-paris and coke-dust or ashes; and when this material has set the board *f* is moved out to form a new section of the ceiling, which is cast against the first section, and so on. On this ceiling I then cast a layer of cement, and finally I form the ribs *a*, and after the whole has become sufficiently hard, I remove the platform and the scaffolding, and the ceiling is ready for use.

By these means I am enabled to dispense with the floor-beams entirely, or to reduce their number, and the cost of the building is materially lessened.

Furthermore, a ceiling produced as above described is fire-proof, and it combines superior lightness with great strength.

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

1. A ceiling consisting of a hollow arched tile constructed in one piece, in position, with a flat bottom and arched top, the flat bottom being composed of plaster-of-paris and the

arched top of cement, the mass being perforated throughout, substantially as and for the purpose set forth.

2. A hollow arched tile, the upper part of which is made of cement and the lower part of plaster-of-paris or other light material, and provided with tie projecting from its arched back, substantially as set forth.

3. A hollow arched tile, provided with anchors connected by tie-rods, both cast in the body of the tile, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand and seal this 5th day of September, 1876.

JOHN J. SCHILLINGER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.