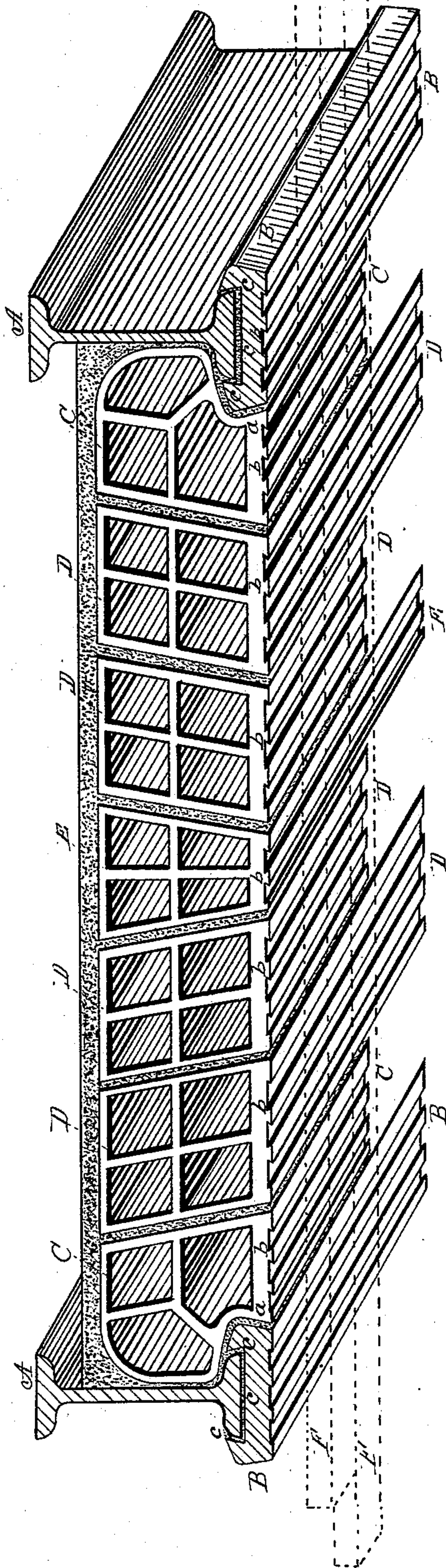


(No Model.)

P. B. WIGHT.  
HOLLOW TILE ARCH FOR CEILINGS.

No. 285,452.

Patented Sept. 25, 1883.



WITNESSES:

*Wm. Heile*  
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# UNITED STATES PATENT OFFICE.

PETER B. WIGHT, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WIGHT FIRE PROOFING COMPANY, OF ILLINOIS.

## HOLLOW-TILE ARCH FOR CEILINGS.

SPECIFICATION forming part of Letters Patent No. 285,452, dated September 25, 1883.

Application filed March 29, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, PETER B. WIGHT, of Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Hollow-Tile Arches for the Construction of Continuous Flat Ceilings, of which the following is a specification, reference being had to the accompanying drawing, illustrating the improvement, in which the figure is an isometrical view of a portion of a ceiling embodying my improvement and invention.

Hollow and porous tiles for the construction of flat arches between the iron beams of fire-proof buildings are in common use. Such arches as are usually constructed for the purpose of making continuous flat ceilings in the rooms below the beams do not afford any protection to the under sides of the beams; and in order to cover those parts of the beams and make a continuous flat ceiling on a line with the under sides of the arches, preparatory to plastering, it is necessary to fill the space between any two adjacent flat arches with mortar or cement. Other methods have been employed for this purpose, in which wires have been introduced to hold the mortar or cement in place. I am, however, not aware that a continuous tile ceiling has ever been constructed in the manner herein described.

My invention consists in a continuous tile ceiling, made by first placing tiles under the beams, throughout their entire length, of such construction, by dovetail recesses on their upper sides, that when the recesses are filled with mortar or cement, and the tiles pressed upward against the under sides of the beams, they will adhere to the beams sufficiently to sustain their own weight, or more, until the flat temporary centering used to sustain the arch-tiles while being set is placed up against them. These tiles, which I denominate "soffit-tiles," are so shaped on their outside edges that skewbacks of the arches adjoining the soffits will sufficiently further hold them in position. To attain this end the outside edges of the soffit-tiles are inclined outward and upward, and the lower portions of the adjoining skewbacks are inclined inward and downward, whereby the beam support the skewbacks, and

the soffit-tiles are dovetailed in between the skewbacks. To accomplish this the skewbacks are made with wider bearings than usual, wide enough to form full bearings on the flanges of the iron beams, and continuing thence outward beyond the edges of the flanges and past the upper edges of the soffit-tiles. The outlines of the skewbacks are then downward and toward the beam, forming between the skewbacks on opposite sides of the beam the dovetail mentioned. Dovetail grooves formed at proper intervals on the under side of the soffits and skewbacks form a good clinch for the plaster to the ceiling. If found desirable, the soffits may have air-chambers formed in them between their lower sides and the beams. The objects accomplished by this construction are the protection of the beams from fire and a superior quality of plastering, by reason of its being applied to a straight surface, of a uniform material and density, which is provided with the uniform dovetail-shaped grooves, the equal density being important in preventing an unequal accumulation of soot. In practice the soffit-tiles are first set in position along the undersides of the beams. Then the temporary centerings, made of planks or movable frames of any suitable kind, are fastened up without blocking off, so as to bear directly against the soffit-tiles, which are the true line of the ceiling. Then the skewbacks are properly bedded in mortar or cement, filling the whole joint between the skewbacks, the beams, and the soffit-tiles. In setting them each tile is shoved along the centering in the direction of the beam, so as to crowd the mortar up against the outer sides of the soffit-tiles, thus giving them the additional support desired.

In the drawing, which shows, besides the isometrical perspective, a section of two iron beams and the arch, A A represent I-beams. B B represent the soffit-tiles. C C C represent skewbacks. D D D D represent voussoirs, and E the keystone. The mortar is represented by dotted sections. Planks forming the temporary centering are shown by dotted lines F F F F. The sides of the skewbacks, where they give support to the soffits, are shown at *a*, and the dovetail recesses on the upper sides of the



soffit-tiles are shown at *c c c*. The dovetailed grooves on the under sides of the soffits, skewbacks, voussoirs, and keystone are shown at *b b*.

5 I am aware that hollow tiles between the floor-beams, in combination with a tile to cover the under side of the beams, have been used in the construction of continuous fire-proof ceilings; but I believe that in the construction  
10 of ceilings where iron **I**-beams and hollow-tile arches are used, a soffit-tile of the form described has never been used in combination with a supporting-skewback, which bears on the lower flange of the **I**-beam.

15 Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

In a system of ceiling construction for fire-proof buildings in which iron **I**-beams and hollow-tile arches are used, the soffit-tile B, 20 with dovetail-shaped recess *c* on top, and outer extremities extending beyond the edges of the beam, and beveled and used in combination with the skewback of the arch C, which is so shaped as to form a support to the 25 soffit-tile in the manner shown, and to bear directly on the flange of the **I**-beam at the same time, thus giving the soffit-tile the same integrity as the arch.

March 27, 1883.

PETER B. WIGHT.

Witnesses:

G. L. CHAPIN,  
JAMES KNOX.