P. B WIGHT

Fire-Proof Ceiling.

No. 202,617. Patented April 16, 1878.

*Fig. 1.*

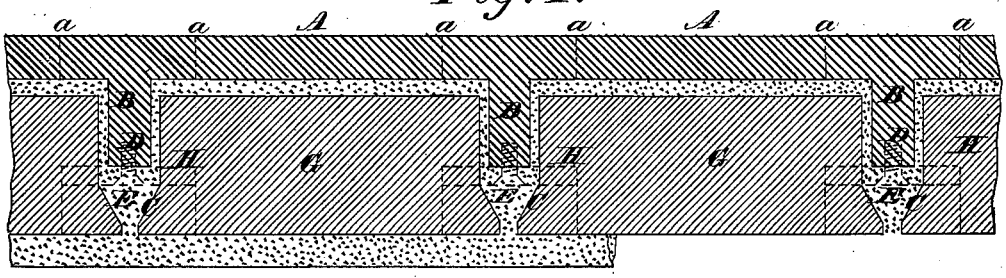
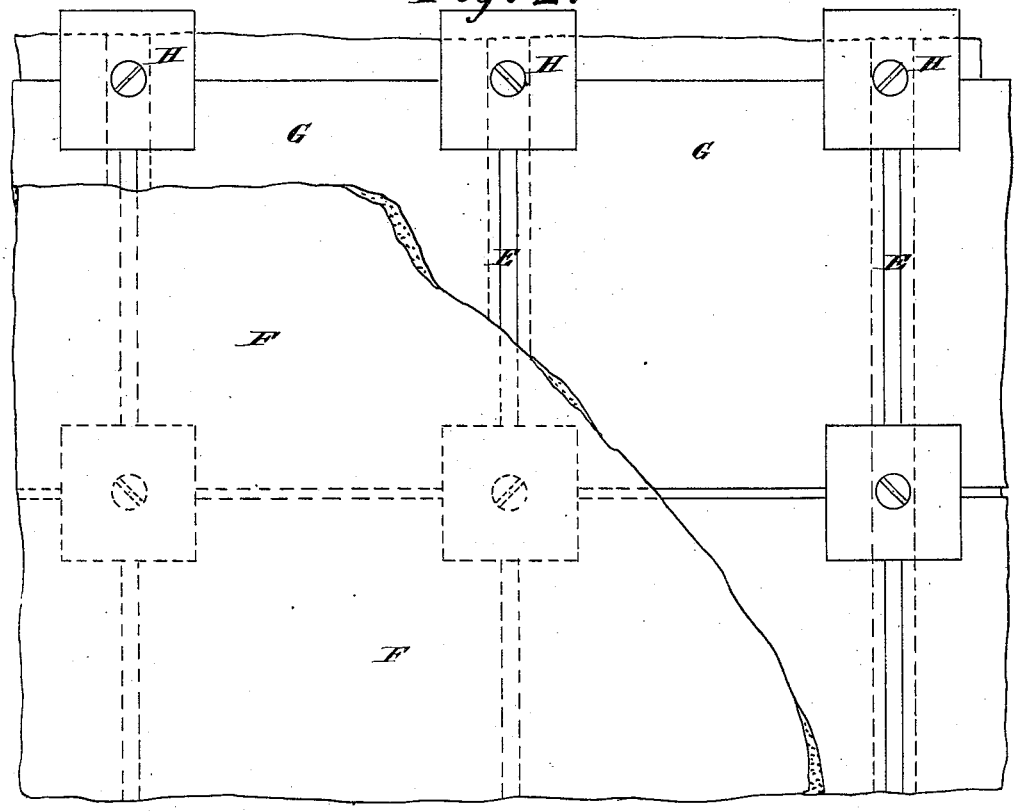



*Fig. 2.*




WITNESSES

J. Wm. McIntyre

Harry King.

INVENTOR

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by Stansbury & Munn

his attys.

# UNITED STATES PATENT OFFICE.

PETER B. WIGHT, OF CHICAGO, ILLINOIS, ASSIGNOR OF ONE-HALF HIS RIGHT TO HARVEY B. MERRELL, OF MORRISTOWN, NEW JERSEY, AND THOMAS FERGUSON, OF DETROIT, MICHIGAN.

## IMPROVEMENT IN FIRE-PROOF CEILINGS.

Specification forming part of Letters Patent No. **202,617**, dated April 16, 1878; application filed December 21, 1877.

*To all whom it may concern:*

Be it known that I, PETER B. WIGHT, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fire-Proof Arches and Ceilings; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

The object of this invention is to protect an arched or flat ceiling, consisting of plates with flanges on the under side, or of T-irons, at intervals, placed with the middle flange pointing downward, from the effects of fire in a burning building.

Figure 1 represents a vertical section, and Fig. 2 represents a ceiling as seen from below.

Corresponding parts in the two figures are denoted by like letters.

The structural part of the ceiling consists of iron plates A, with flanges B at intervals, pointing downward; the flanges may run in any direction, or may cross each other, forming cells between them. Or the said structural part may be in skeleton form, composed of T-irons, as shown by dotted lines at *a*, Fig. 1, secured to the beams which support the floors, the flat sides of the T-irons being upward and the middle flanges pointing downward.

The fire-protecting material consists of blocks of porous terra-cotta, concrete, or other non-conducting or incombustible material or blocks G. The blocks are made of the form shown, the lower surfaces being wider than the upper surfaces, so that their lower portions partially overlap the edges of the iron flanges. The blocks are also provided with countersunk spaces at the lower edges to receive plates or buttons H, used in securing them to the flanges of the ceiling. The thickness of the blocks is greater than the projection of the iron flanges, so that the projecting edges may partially overlap them.

The projecting edges are made sloping, as shown at C, so as to contain the pointing of plaster, mortar, or cement, to be hereinafter described. The blocks may be flat, or curved to follow the lines of the constructive iron-work.

When the blocks are to be secured to the ceiling they are well plastered with mortar or cement on the upper sides or at the joints, so as to fit closely to the structural iron-work. Holes are tapped at intervals in the lower surfaces of the iron flanges at D for screws.

Plates or buttons H, of iron, with holes in the center corresponding with the holes tapped in the flanges, are then placed in the countersunk parts of the protecting-blocks, against the shoulders thus formed in the blocks, and secured with screws to the flanges, the screws passing through the two holes last mentioned. Plaster, mortar, or cement is then crowded in the joints between the sloping or inclined edges of the blocks at E, and is continued over the plates or buttons, thus forming a continuous protection to the edges of the flanges and the countersunk plates or buttons. The surface of the mortar is flush with the lower surfaces of the blocks, thus forming a smooth ceiling. The whole ceiling may then be plastered in the usual way, the plastering F concealing all the joints, the whole forming an effective protection against the effects of fire upon the structural part of the ceiling.

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

In combination with iron plates A, provided with downwardly-extending ribs or flanges B, the fire-resisting blocks G, made with overlapping edges, the countersunk plates or buttons B, and cement filling E, all constructed and arranged as described, and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

PETER B. WIGHT.

Witnesses:

HENRY S. JAFFRAY,

DANIEL P. WIGHT.