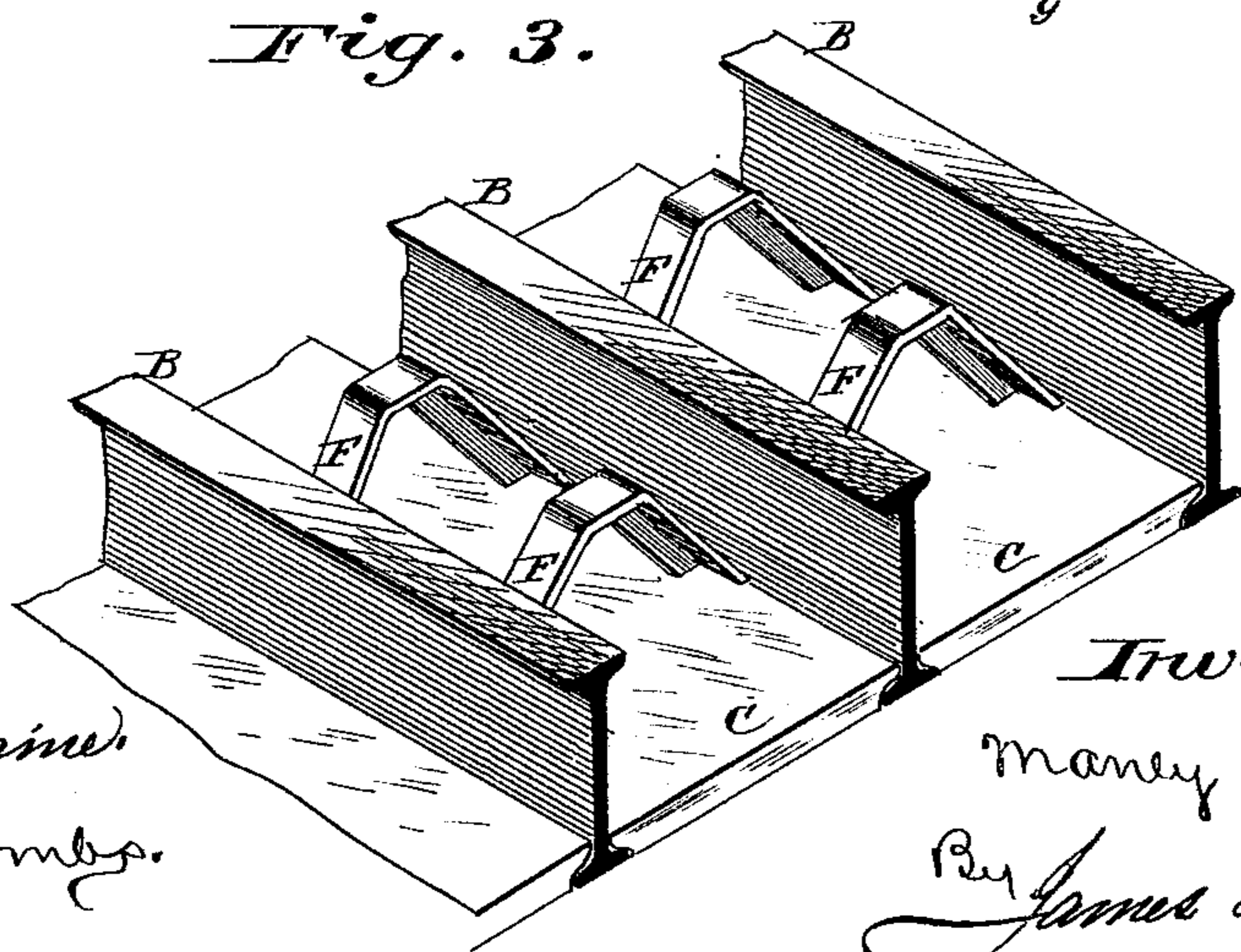
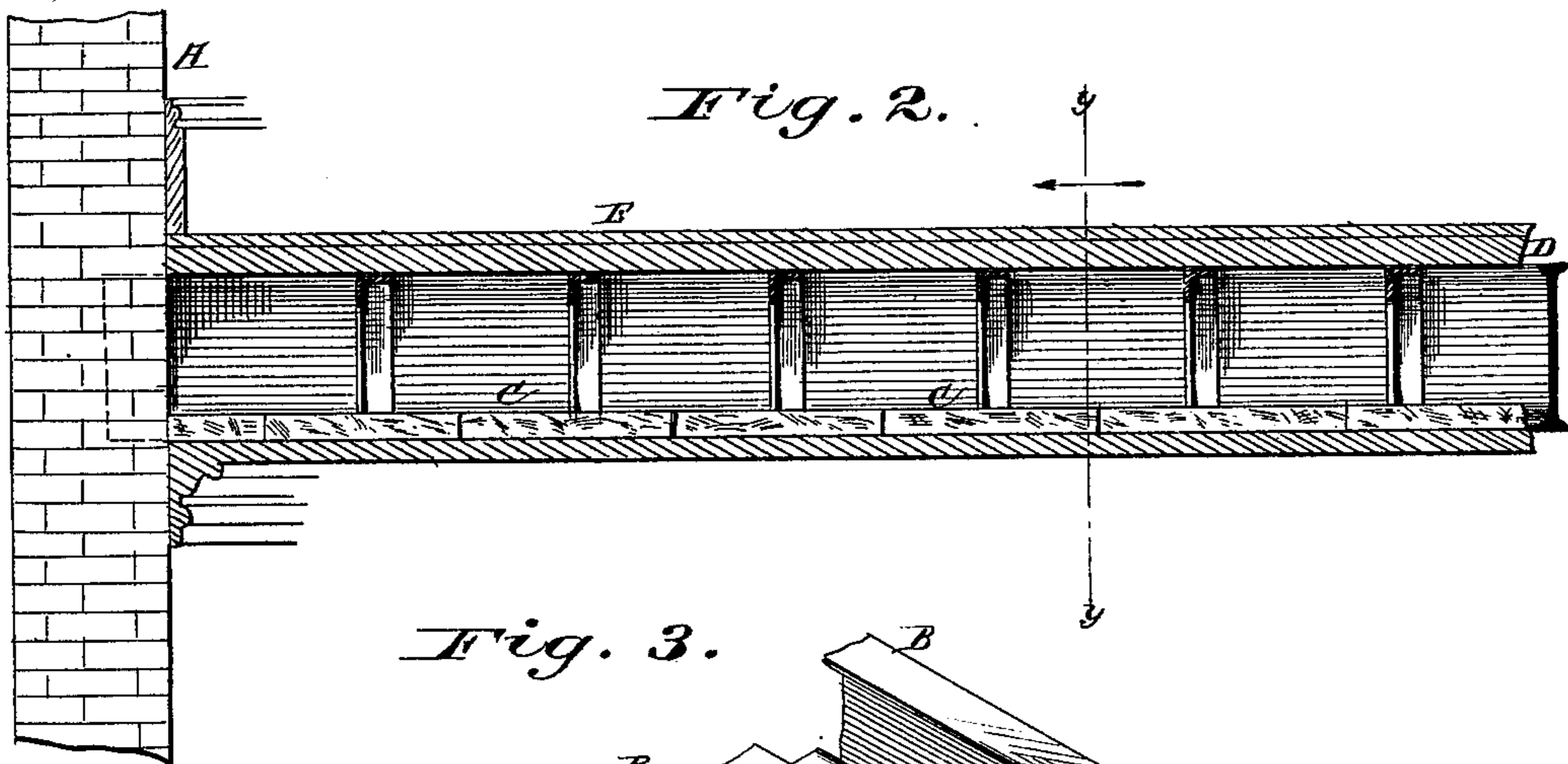
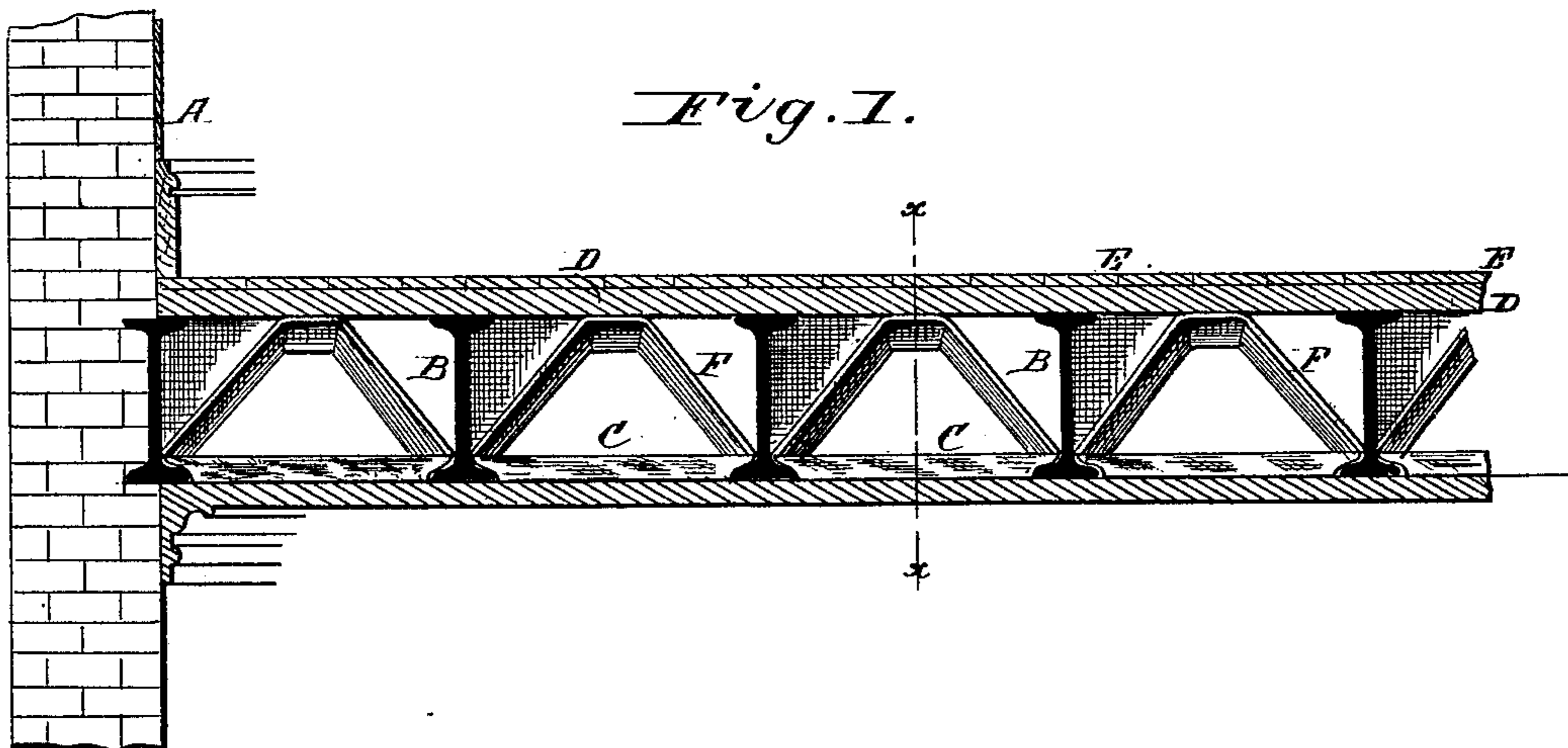


M. A. BURNHAM.  
FIRE-PROOF BUILDING.

No. 180,752.

Patented Aug. 8, 1876.



Attest:  
H. S. Perrine,  
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By James L. Norris,  
Atty.

# UNITED STATES PATENT OFFICE.

MANLY A. BURNHAM, OF NEW YORK, N. Y.

## IMPROVEMENT IN FIRE-PROOF BUILDINGS.

Specification forming part of Letters Patent No. **180,752**, dated August 8, 1876; application filed July 8, 1876.

*To all whom it may concern:*

Be it known that I, MANLY A. BURNHAM, of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Fire-Proof Flooring and Ceiling on Iron Beams, of which the following is a specification:

This invention relates to certain improvements in the construction of fire-proof floorings and ceilings for buildings.

Such floors and ceilings have heretofore been usually constructed of a series of parallel girders or beams, having an arch of brickwork or masonry and a filling of concrete built in between each pair.

The object of my invention is to provide a flat fire-proof ceiling and a strong, light, and fire-proof floor by dispensing with filling entirely; and to this end it consists in the combination, with the parallel beams or girders, of a flooring composed of stone, metal, or other slabs secured to the upper sides of the beams or girders, and supported between said beams or girders by means of truss-braces resting upon the lower flanges of the beams or girders, as more fully hereinafter set forth.

In the drawing, Figure 1 represents a longitudinal vertical section of my invention; Fig. 2, a transverse vertical section on line *x* of Fig. 1, and Fig. 3 a perspective view of the same.

The letter A represents the walls of the building, constructed in any convenient manner; and B, the ordinary metallic I-shaped beams or girders, constructed and laid in the ordinary or any convenient manner at suitable distances apart. C represents the slabs of which the ceiling is composed. These slabs are preferably composed of stone, but may be made of metal or any other fire-proof material or composition. Two of the edges of each slab are grooved on the under side, to correspond to the conformation of the lower flanges of the beams or girders in such manner that when in place they will be supported with

their lower faces flush with or below the lower sides of the beams or girders, so as to form a continuous and flat ceiling. The letter D represents the flooring, which is composed of a series of flat rectangular slabs, of such width as to reach from the center of one girder to the center of the other, and of any convenient length; but I usually have the length equal to the width. Upon the foundation thus formed may be laid a series of ornamental tiles, E, if desired. The letter F represents a series of angular trusses or braces, constructed of cast-iron or other fire-proof material. Said trusses are made in the shape of an inverted V, of such size that the lower edges will rest against and be supported upon the lower flanges of the beams or girders, the upper part lying directly under the slabs of the flooring, serving to support the same, and give the flooring additional strength.

As thus constructed it will be perceived that a continuous flat ceiling is produced, which can be readily constructed at slight expense, as compared with the ordinary arched filling commonly employed between the girders, and which will be perfectly fire-proof and much lighter than such arched filling, and the flooring, by reason of the supporting-trusses, will combine lightness with the greatest possible strength, and will also be perfectly fire-proof.

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

In combination with the parallel girders and the stone slabs composing the floor, the supporting-trusses resting upon the lower flanges of the girders, substantially as described.

In testimony that I claim the foregoing I have hereunto set my hand in the presence of the subscribing witnesses.

MANLY A. BURNHAM.

Witnesses:

JOS. L. COOMBS,  
JAMES L. NORRIS.