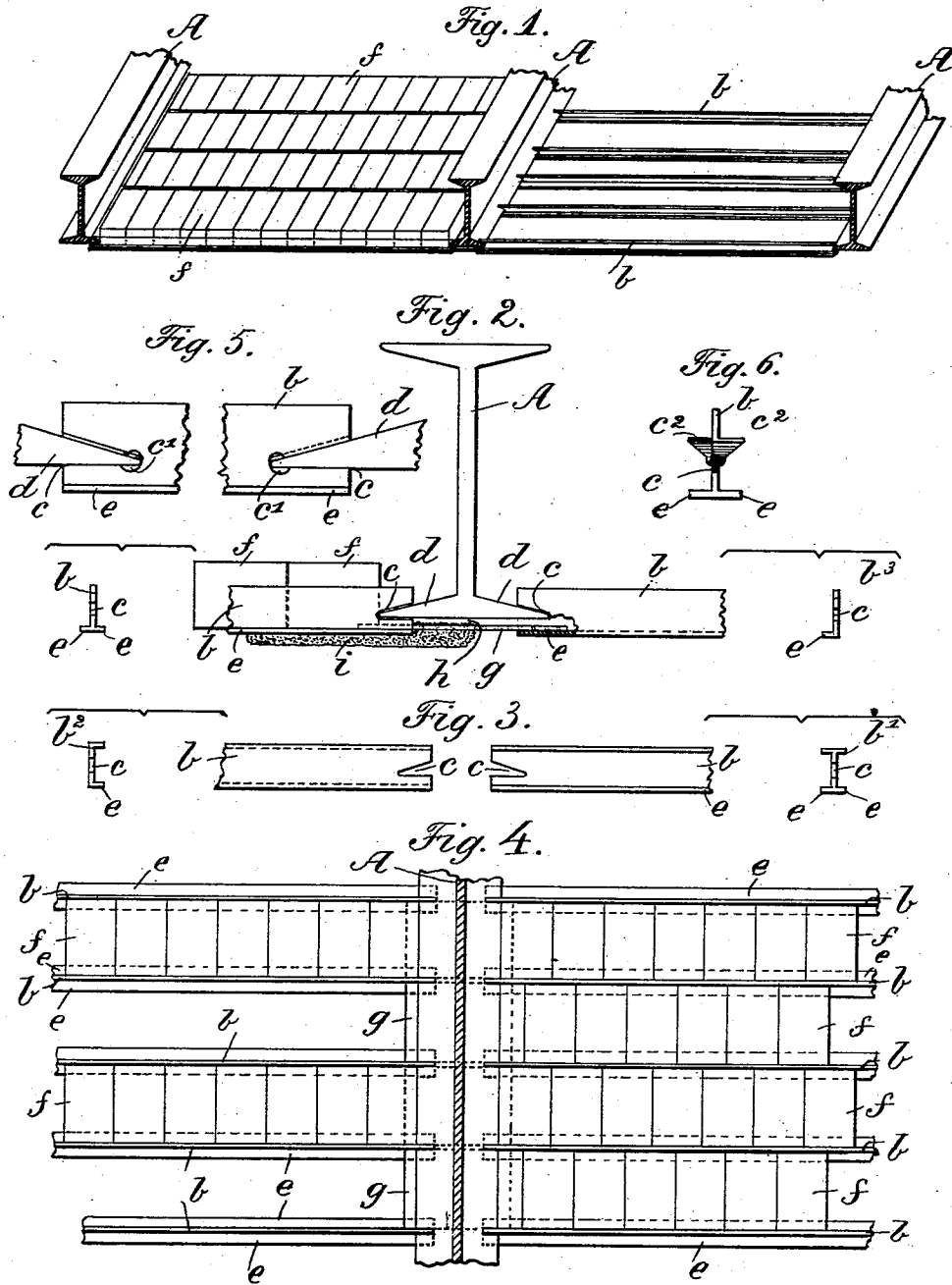


(No Model.)

T. BAILEY.
FIREPROOF FLOOR.

No. 570,863.

Patented Nov. 3, 1896.



WITNESSES.

Einst, Lundgren

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UNITED STATES PATENT OFFICE.

THOMAS BAILEY, OF NEW YORK, N. Y.

FIREPROOF FLOOR.

SPECIFICATION forming part of Letters Patent No. 570,863, dated November 3, 1896.

Application filed December 12, 1895. Serial No. 571,865. (No model.)

To all whom it may concern:

Be it known that I, THOMAS BAILEY, a citizen of the United States, and a resident of New York city, in the county and State of New York, have invented certain new and useful Improvements in Fireproof Floors, of which the following is a specification.

My invention relates to the filling of fireproof material between the metal floor-beams; and it consists, essentially, in the improved construction of the supporting part of said filling, as hereinafter described, reference being made to the accompanying drawings, in which—

Figure 1 is a perspective view of parts of a fireproof floor constructed according to my invention. Fig. 2 represents details partly in side view and partly in end view with a part in section and on an enlarged scale. Fig. 3 represents modifications of some of the parts in side and end views. Fig. 4 represents a plan view of parts of the floor with one of the beams in horizontal section. Fig. 5 is a side view of a filling-supporting bar and end views of the parts of floor-beams, showing details of the invention; and Fig. 6 is an end view of the filling-supporting bar as in Fig. 5.

A represents the metallic floor-beams of usual form, between which I arrange transverse metallic angle or other flanged bars *b* for supporting the filling by making a notch *c* in the main web at each end adapted to engage edges of the flanges *d* of the beams to be connected and supported thereon, the length of the bars and the depth of the notches being such that by presenting the bars diagonally to the beams and engaging one notched end with the flange of one beam and then shifting them to the direct line at right angles to the beams the other notched end will engage the flange of the other beam and pinch and bind securely thereon and retain the bars in position.

T-bars, as *b*, or I-bars, as *b'*, having a flange *e* on each side of the main web will be used, the bars being placed the length of a brick apart with bricks *f* placed thereon for the lower part of the filling, or the entire filling may consist of bricks, if desired, but concrete or other like material may be used above

the supporting-layer of bricks, or corrugated sheet-iron may be used in lieu of bricks for supporting the rest of the filling.

At the ends of the spaces between the beams A and next to the walls of the building where only one flange *e* is required for supporting the filling-bricks channel-bars, as *b*², or L-bars *b*³ may be used instead of T- or I-bars, if desired, but intermediately of these the T or I form is necessary, the I-bars being preferable because the top flanges afford better support for wood floor-beams, which it is sometimes desired to lay between the beams A.

It is to be noted that the notches *c* are located in the ends of the bars at a suitable height from their lower edges to allow sheets or plates *g* of any suitable kind to be supported on the flanges *e* under the lower edges of the beams A with air-spaces *h* between them and the beams, said plates being to receive the ceiling-plaster *i* to cover the gap between the ends of the bars and inclose the air-space *h* under the beams for their protection from heat in case of fire under them. Perforated metal plates, woven-wire sheets, or any suitable material may be employed for this purpose. They will be confined in position prior to the application of the plaster *i* by the bricks *f* next the beams A being laid on them.

To avoid splitting the bars in case of wedging hard on the beam-flanges, I cut the notches with a terminal enlargement of circular or approximately circular form *c'* to distribute the stresses and thereby protect the bars against the wedging effect of the beam-flanges; and for providing practicable bearing-surfaces of the bars on the beam flanges and for securely maintaining the bars with the main webs erect I only cut the notches along the lower lines of the parts *c*² to be displaced and bend them out on the upper line at right angles to the main web, thus making bearing-flanges equal in width to the width of the notches, and I arrange the two flanges of each bar on opposite sides, respectively, as shown in Figs. 5 and 6. Thus the bars have more strength at the ends for supporting weight, and they are held upright more securely.

It is designed that the filling-supporting bars shall bear at the bottoms of the notches

against the edges of the beam-flanges suitably for staying the beams laterally, as shown in Fig. 5.

I claim—

- 5 1. The combination with the flanged floor-supporting beams, of flanged filling-supporting bars notched in the ends of the main web and secured to the lower flanges of the beams by the notched ends, said notches formed with
10 the enlarged circular inner terminals substantially as described.
2. The combination with the flanged floor-supporting beams, and the flanged filling-supporting bars secured on the lower flanges of
15 the beams, with the flanges of said bars pendent below the lower edges of the beams, of the plaster-holding plates supported on the flanges of the bars below the beams and an

air-space between said plates and beams substantially as described. 20

3. The improved article of manufacture consisting of a supporting-bar having notches in the ends of the main web adapted to embrace the edges of flanged beams for its support, said notches formed with the enlarged
25 inner terminals and the material displaced to form the notches disposed for bearing-flanges substantially as described.

Signed at New York city, in the county and State of New York, this 8th day of November, 30
A. D. 1895.

THOMAS BAILEY.

Witnesses:

W. J. MORGAN,
EMORY CUMMINGS.