

(No Model.)

C. A. BALPH & E. P. S. WRIGHT.
FIREPROOF FLOOR AND CEILING.

No. 582,385.

Patented May 11, 1897.

Fig. 1.

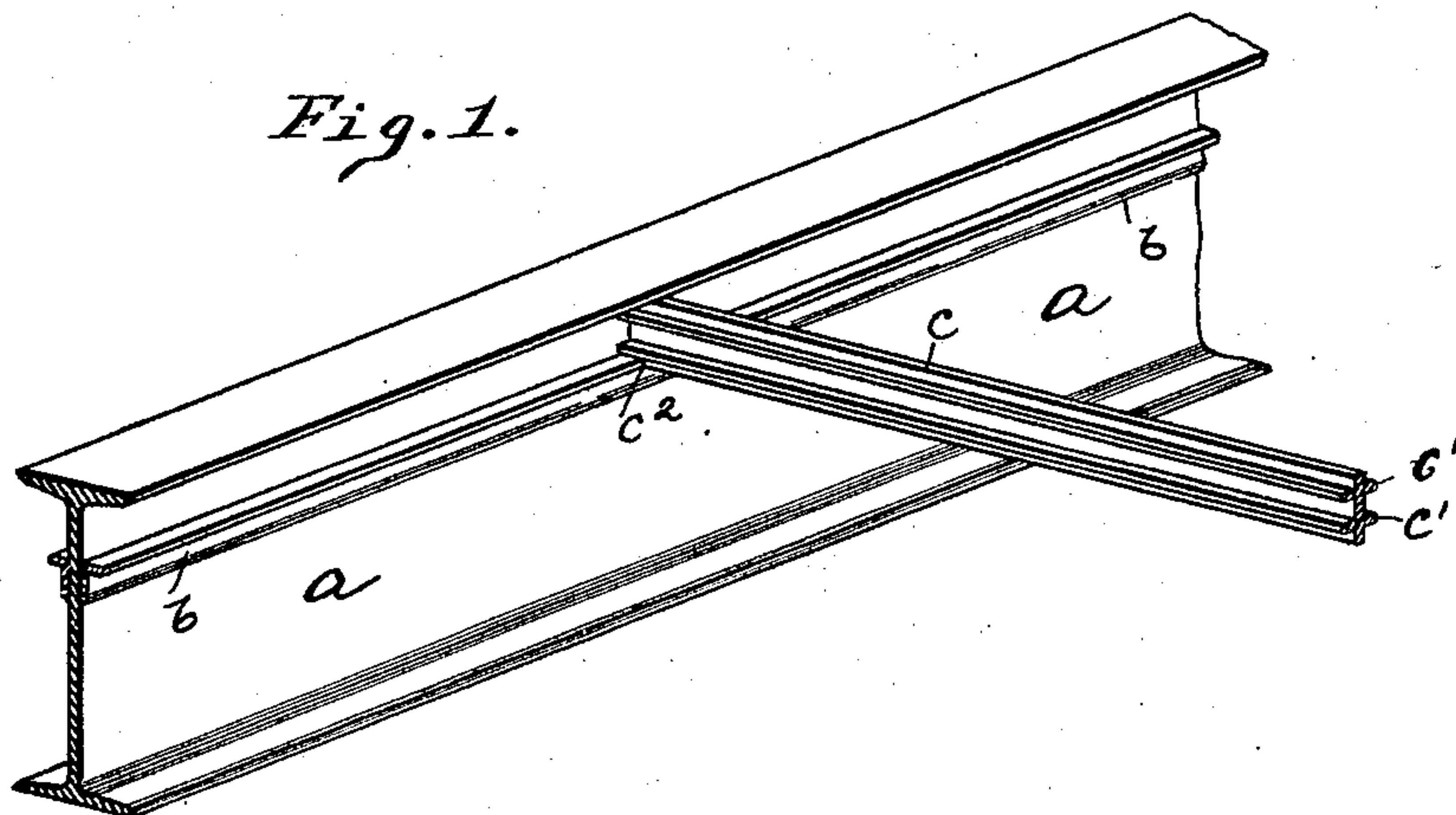
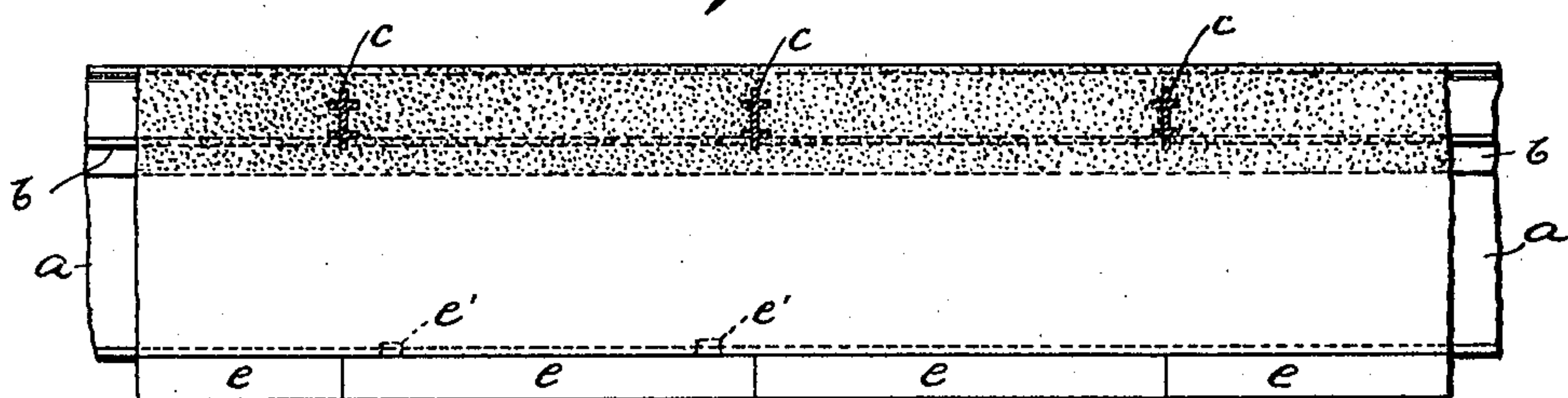


Fig. 2.



Witnesses:

Wm. Farnish
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UNITED STATES PATENT OFFICE.

CHARLES A. BALPH, OF PITTSBURG, PENNSYLVANIA, AND ELISHA P. S. WRIGHT, OF NEW YORK, N. Y.

FIREPROOF FLOOR AND CEILING.

SPECIFICATION forming part of Letters Patent No. 582,385, dated May 11, 1897.

Application filed August 12, 1896. Serial No. 602,478. (No model.)

To all whom it may concern:

Be it known that we, CHARLES A. BALPH, a resident of Pittsburg, in the county of Allegheny and State of Pennsylvania, and ELISHA P. S. WRIGHT, a resident of New York, county and State of New York, have invented a new and useful Improvement in Fireproof Floors and Ceilings; and we do hereby declare the following to be a full, clear, and exact description thereof.

Our invention relates to the construction of fireproof floors and ceilings, and more particularly to a certain form of such floors and ceilings as is set forth in Letters Patent of the United States No. 527,042, granted to us on the 9th day of October, 1894. In that patent there are metal bars of a length corresponding to the space between the beams and extending transversely of and connected to the beams, said bars being supported on their edges, and a filling of concrete completely embedding said bars. The present invention relates to a novel means of connecting said bars to said beams, so that said bars will be supported on their edges.

The invention comprises certain novel features, all of which will be fully hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a beam, showing the ends of bars supported thereon in the manner of the invention. Fig. 2 is a like view with the concrete in position and partly broken away to expose a portion of the bars.

The letter *a* designates a suitable metal I-beam such as employed in fireproof structures. Formed integral with the web of the beam *a* during rolling, or riveted thereto, if desired, are the ledges *b*, extending along said web on opposite sides thereof. The ledges *b* support the bars *c*, which extend transversely of the beams. The bars *c* have the ribs *c'* formed along their sides, which act to hold and bind more securely the concrete which surrounds said bars. In order to give greater

strength and rigidity to the construction, we support the bars *c* on their edges. The lower edges of the bars *c*, at the ends thereof, are slightly cut away, as at *c²*, to permit the lower rib to rest upon the ledge *b*, whereby a firmer support is given to said bars. The bars are located at the upper portion of the beam, as in the case illustrated. The floor and ceiling are formed of one body of concrete. It is apparent, however, that by using another set of bars the floor and ceiling can be formed separately, leaving an air-space between them.

The bottom flange of the beam has the tiles *e* attached thereto, said tiles having the pliable clips *e'* projecting therefrom and engaging said flange. This tile is set forth and claimed in an application filed by us on the 21st day of January, 1896, Serial No. 576,290. Concrete *f* may then be used to cover the remainder of the beam. The upper ledges *b* are arranged at such distance from the flanges of the beam that the ends of the bars will fit snugly between said flanges and said ledges. In this manner we support the bars securely on their edges, so that they will remain immovably fixed while the concrete to form the floor and ceiling is packed in around said bars.

What we claim as our invention, and desire to secure by Letters Patent, is—

In fireproof floors and ceilings, the combination with the I-beams, of ledges on the webs thereof, cross-bars having ribs on the side faces, the lower edges of said bars being cut off at the ends thereof as far as said ribs, said ribs resting on said ledges, and concrete completely embedding said bars, substantially as set forth.

In testimony whereof we, the said CHARLES A. BALPH and ELISHA P. S. WRIGHT, have hereunto set our hands.

CHARLES A. BALPH.
ELISHA P. S. WRIGHT.

Witnesses:

ROBT. D. TOTTEN,
ROBERT C. TOTTEN.