

(No Model.)

G. W. RADER.
FIRE PROOF BUILDING.

No. 297,449.

Patented Apr. 22, 1884.

fig. 1.

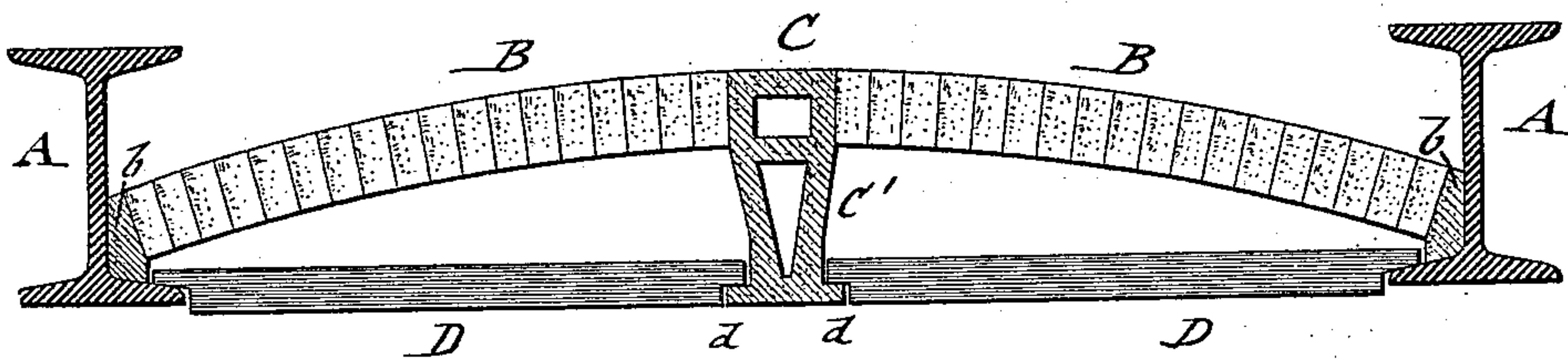
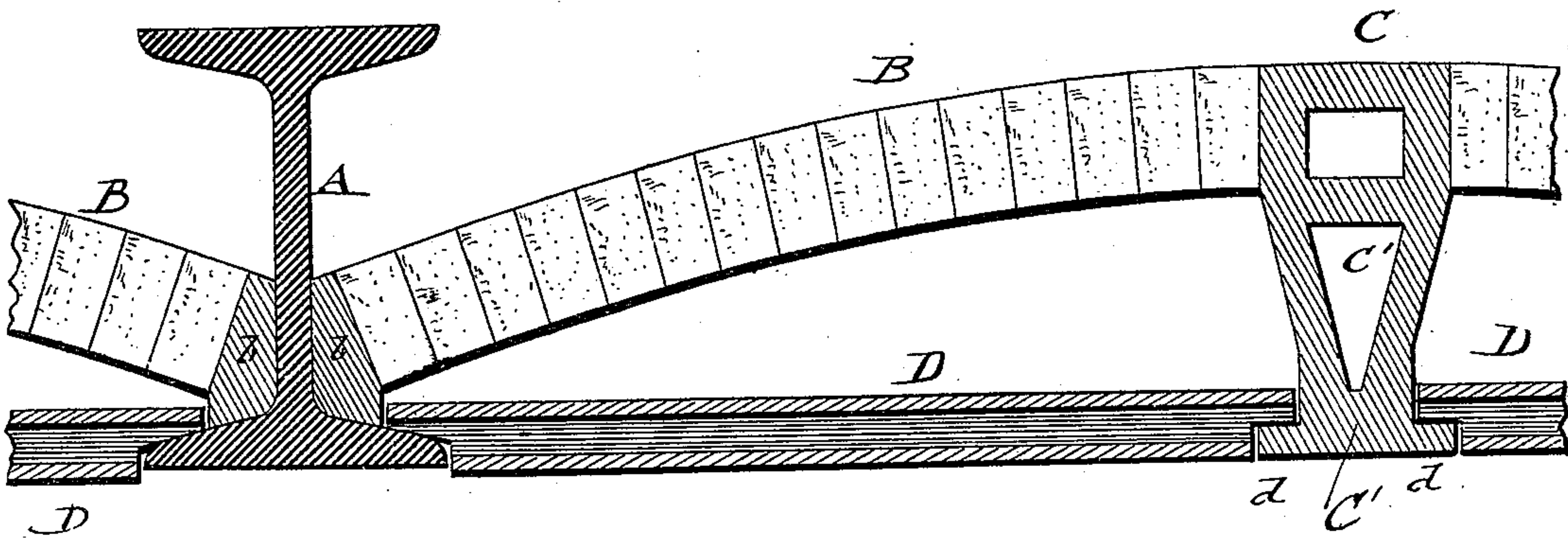


fig. 2.



WITNESSES:

Ed. H. Rosenbaum.
Carl Karp

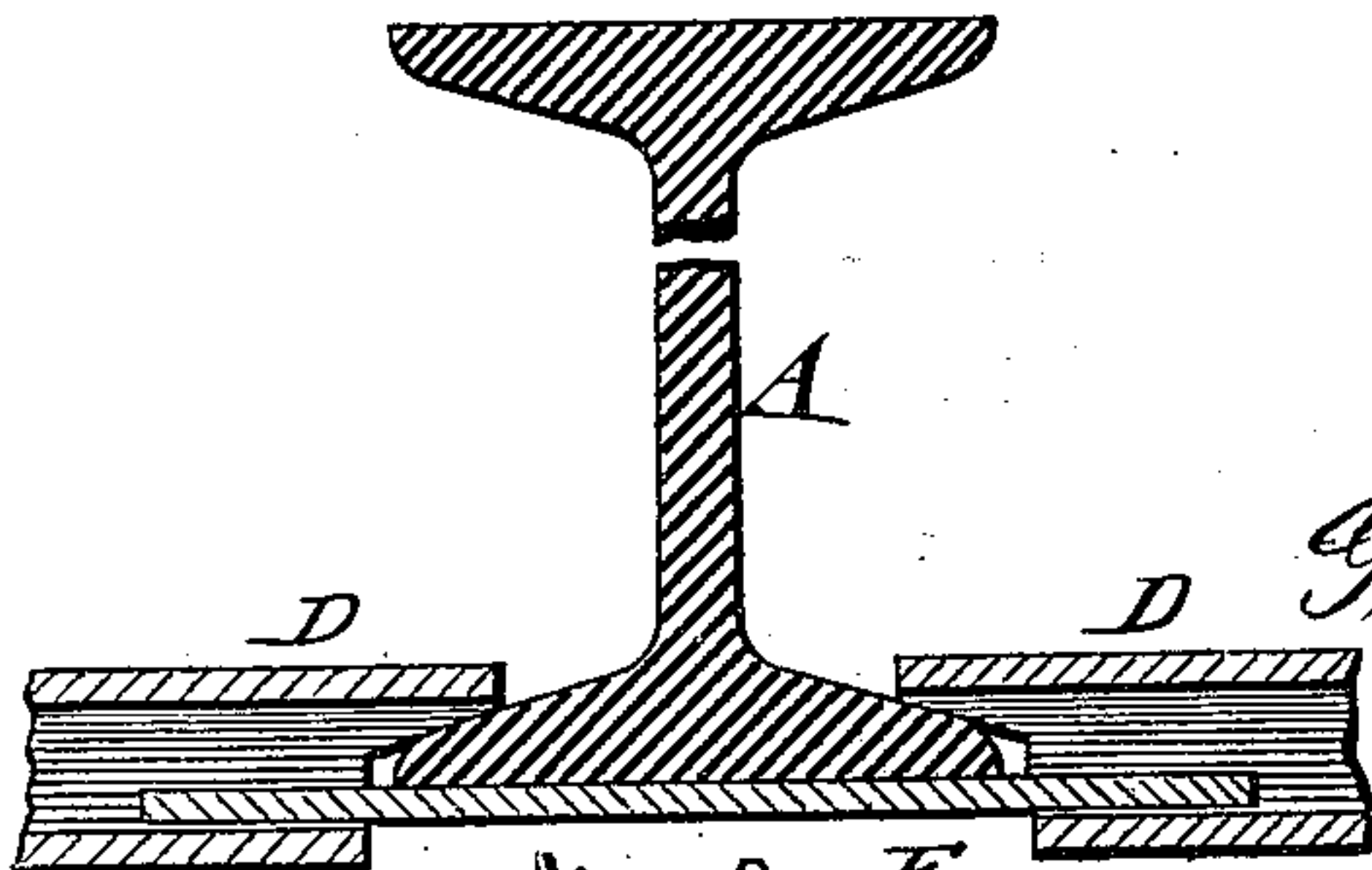


fig. 3.

INVENTOR

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FIRE-PROOF BUILDING.

SPECIFICATION forming part of Letters Patent No. 297,449, dated April 22, 1884.

Application filed January 18, 1884. (No model.)

To all whom it may concern:

Be it known that I, GUSTAVUS W. RADER, of the city, county, and State of New York, have invented certain new and useful Improvements in Fire-Proof Ceilings, of which the following is a specification.

Fire-proof ceilings have been made heretofore of large tiles or plates of fire-clay, each made large enough to span the space between the beams. The large size of these tiles or plates rendered their manufacture difficult, as they were liable to warp and crack, and caused loss by breakage while in transit.

The object of this invention is to furnish an improved fire-proof ceiling in which fire-clay tiles or plates of smaller size can be employed; and the invention consists of a brick arch supported on skewbacks of the iron beams, said brick arch having a fire-clay keystone that is extended downward to a point below the level of the base of the beams and provided with offsets or shoulders, which support, in connection with the base of the beams, hollow fire-proof tiles or plates, that form, with the bottom of the keystone-extension and the beams, a continuous fire-proof ceiling.

In the accompanying drawings, Figure 1 represents a vertical transverse section of my improved fire-proof floor or ceiling. Fig. 2 is a vertical transverse section of the same on a larger scale; and Fig. 3 is a detail transverse section of the beam, having a protecting bottom tile.

Similar letters of reference indicate corresponding parts.

In the drawings, A A represent iron beams of a building, between which an arch, B, of common bricks, is erected. The ends of the arch B are supported on skewbacks b b, that rest against the web and base of the beam. The arch B is provided with a hollow keystone, C, made of fire-clay or other suitable material, that is extended downwardly below the arch to a point somewhat below the level of the bottom of the beams A. The keystone-extension C' is provided with lateral offsets or shoulders d d. On these shoulders and the base of the beams A are supported hollow tiles or plates, of fire-clay or other suitable material, which are recessed at the ends, so that their under side is at a level with the

bottom of the keystone-extension C'. The bottom of the beams A is protected by a fire-proof plate, E, which is inserted into the ends of the hollow tiles or plates D D, as shown in Fig. 3. By the interposition of the keystone centrally between the beams the size of the plates D D is reduced to less than one-half of the span between the beams, so that they can be manufactured without difficulty, being less liable to crack and break in handling than the large-sized plates heretofore in use. The body of air inclosed between the arch and the tiles acts at the same time as a deafening, while the expense of the floor or ceiling itself is considerably diminished. The arch B and beams A A are protected by the fire-clay tiles, and thereby an effective fire-proof ceiling is obtained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The combination of the beams, a transverse brick arch extending between the beams, a keystone having a downward extension, and horizontal tiles or plates that are supported on the keystone-extension and the beams, substantially as set forth.

2. The combination of the beams A, a transverse brick arch, B, extending between the beams, a keystone, C, having a downward extension, C', provided with lateral shoulders d d, and hollow fire-proof tiles or plates D D, that rest by their recessed ends on the keystone-extension and the base of the beams, substantially as set forth.

3. The combination of the beams A A, brick arch B, extending between the beams, keystone C, having a downward extension, C', fire-proof tiles or plates D D, supported by the beams A and extensions C', and fire-proof plates E, extending across the bottom of the beams and supported by the tiles, substantially as specified.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

GUSTAVUS W. RADER.

Witnesses:

PAUL GOEPEL,
SIDNEY MANN,