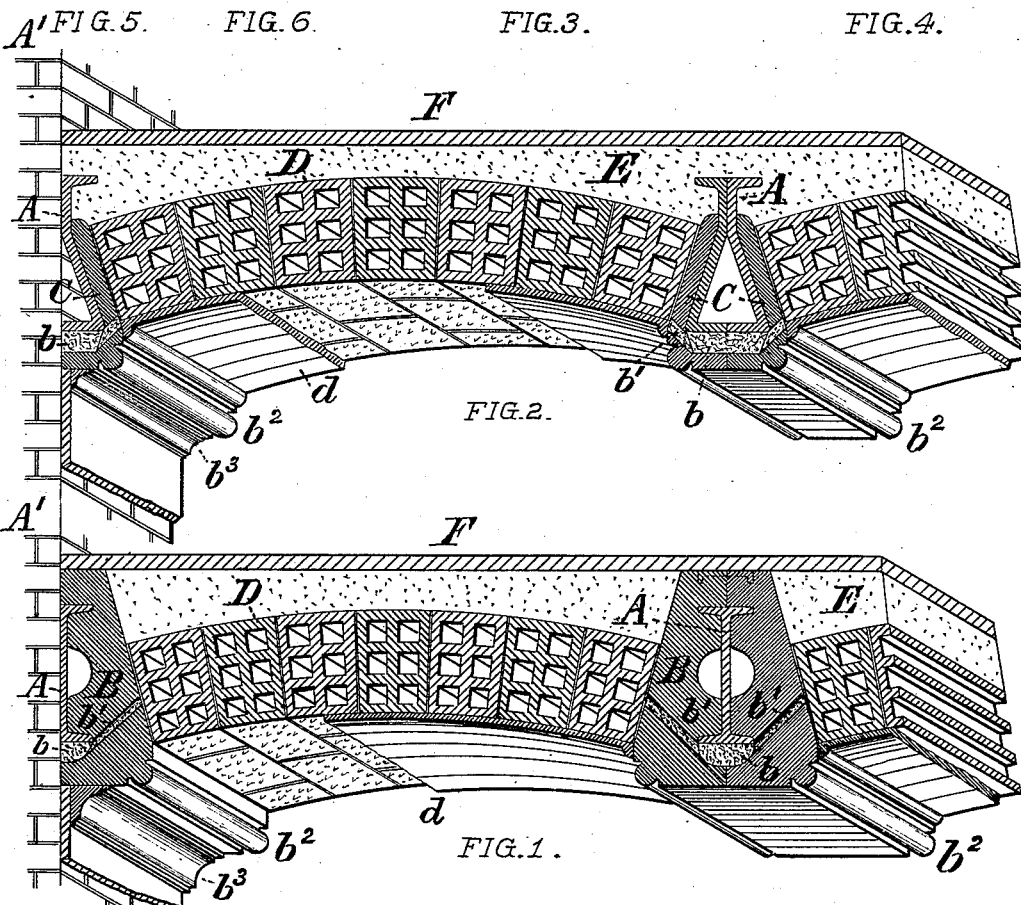
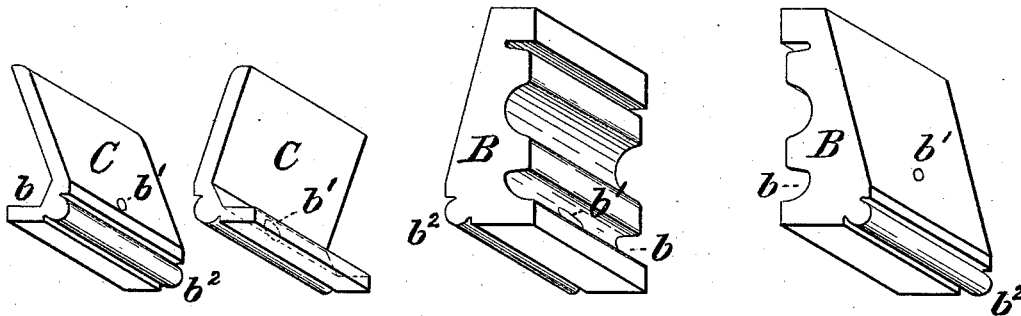


(No Model.)

E. M. BUTZ.
FIRE PROOF BUILDING.

No. 304,796.

Patented Sept. 9, 1884.



WITNESSES:

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EDWARD M. BUTZ, OF ALLEGHENY, PENNSYLVANIA.

FIRE-PROOF BUILDING.

SPECIFICATION forming part of Letters Patent No. 304,796, dated September 9, 1884.

Application filed April 4, 1884. (No model.)

To all whom it may concern:

Be it known that I, EDWARD M. BUTZ, a citizen of the United States, residing at Allegheny, in the county of Allegheny and State of Pennsylvania, have invented or discovered a certain new and useful Improvement in Fire-Proof Buildings, of which improvement the following is a specification.

In the accompanying drawings, which make part of this specification, Figure 1 is a section in perspective through portion of a floor and ceiling of a fire-proof building, illustrating the application of my invention; Fig. 2, a similar section through a construction in which a girder of different form is employed; Figs. 3 and 4, views in perspective of a pair of the tiles which inclose the girders of Fig. 1; and Figs. 5 and 6, similar views of a pair of the skewback tile facings of Fig. 2.

Letters Patent of the United States No. 223,275, granted and issued to me under date of January 6, 1880, set forth an improved fire-proof construction in which the supporting members are completely inclosed in incombustible material which is not a good conductor of heat, in order to protect them from distortion and displacement in the event of a conflagration in the building of which they form part, and other improvements to the same end constitute the subject-matter of an application for Letters Patent by me filed December 13, 1883, Serial No. 114,427.

My present invention is an improvement upon those above recited; and its object is to further protect the metallic supporting members of fire-proof floors and ceilings from injury by excessive heat, as well as to provide additional ceiling ornamentation.

The improvements claimed are hereinafter fully set forth.

In the practice of my invention a series of metallic beams or girders, A, is employed as the sustaining members of a fire-proof floor and ceiling, the ends of said girders being supported in the walls of the building in the usual manner. The girders A, intermediate between the side walls of the building, are inclosed either by tiles B, Figs. 1, 3, and 4, which surround both their webs and their upper and lower flanges, or by skewback tile facings C, Figs. 2, 5, and 6, which do not ex-

tend around their upper flanges. The girders adjacent to the side walls, A', are similarly inclosed on one side only, abutting on their opposite sides against the side walls. The tiles B or facings C, as the case may be, are inclined on their outer faces, and constitute the abutments of the arches D, upon which is laid a bed of concrete, E, which incloses the upper flanges of the girders where facings C are employed, and upon which the flooring F is laid.

The construction, so far as above described, accords substantially with those of my patent and application before referred to, and under my present invention I afford additional protection to the girders A by forming on the inner side of each tile B or facing C, near the lower portion thereof, a trough or recess, *b*, from which an upwardly-inclined passage, *b'*, extends to the outer side of the tile or facing. The inner faces of each pair of tiles or facings abut below the recesses *b*, thereby forming inclosed spaces below the bottoms of the girders throughout the lengths thereof. The girders and tiles or facings being placed in position, said spaces are filled with any suitable material—such as plaster-of-paris, Tiel lime, or the like—which possesses the qualities of being fire-proof and of solidifying from a semi-liquid state, in which condition it is poured into the passages *b'*, and, filling the recesses *b*, forms, when solidified, a protecting casing for the lower flanges of the girders A, above and additional to the lower portions of the tiles B or facings C.

The inner faces of the sections of the arches D may be nicked or recessed, as indicated in Figs. 1 and 2, or may be grooved or channeled, as shown in my application aforesaid, to facilitate the attachment of the plastering *d* of the ceiling; and to provide additional ceiling ornamentation I form upon the outer lower angles of the tiles B and facings C relieved moldings *b''*, of any suitable and desired design, said moldings serving to neatly finish the spaces between the arches, and being supplemented by moldings *b'''* on the side walls.

I claim herein as my invention—

1. In a fire-proof construction, the combination of a beam or girder, a tile or facing fitting against one side of and below the bottom

thereof, and a filling of solidifiable fire-proof material inserted in a trough or recess in the tile or facing between the same and the bottom of the girder, substantially as set forth.

5 2. A tile or facing for girders in fire-proof constructions, having an inclined outer face, an inner face adapted to fit against the side of a beam or girder, and a trough or recess located in said inner face below the portion
10 which is designed to fit against the girder, and communicating by a passage with the outer face, substantially as set forth.

3. A tile or facing for girders in fire-proof constructions, having an inclined outer face, an inner face adapted to fit against the side of 15 a beam or girder, and a relieved molding formed at the junction of its outer and lower faces, substantially as set forth.

In testimony whereof I have hereunto set my hand.

EDWARD M. BUTZ.

Witnesses:

J. SNOWDEN BELL,
R. H. WHITTLESEY.