

P. McCABE.
CONSTRUCTION OF FIREPROOF BUILDINGS.

No. 573,476.

Patented Dec. 22, 1896.

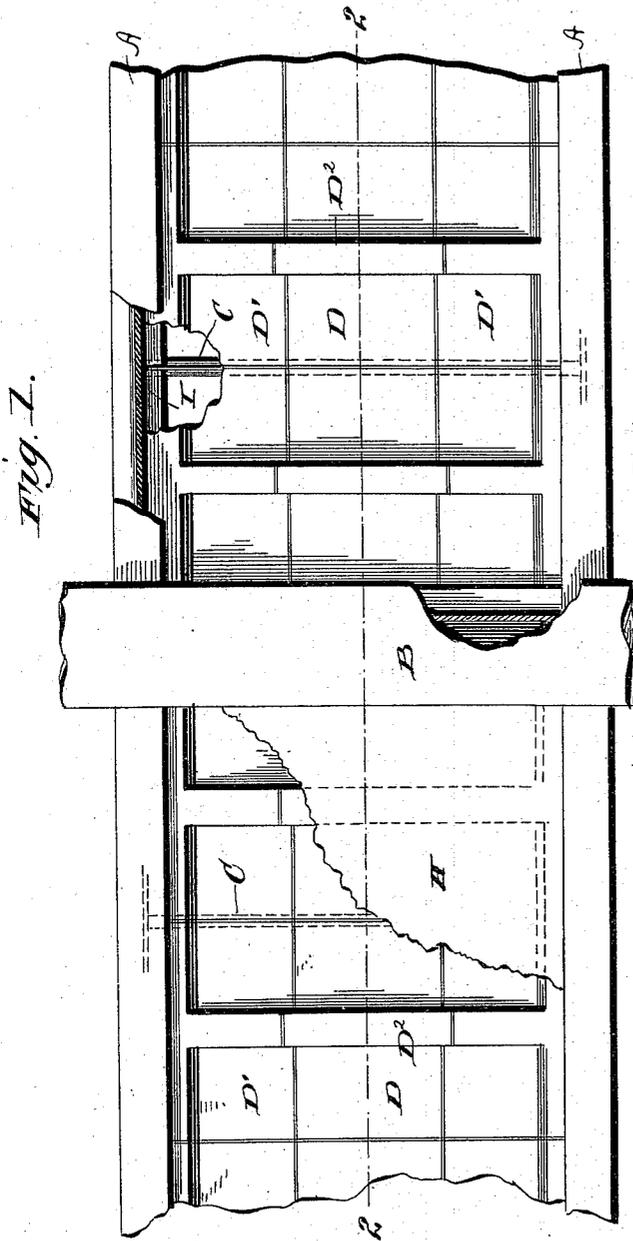


Fig. 1.

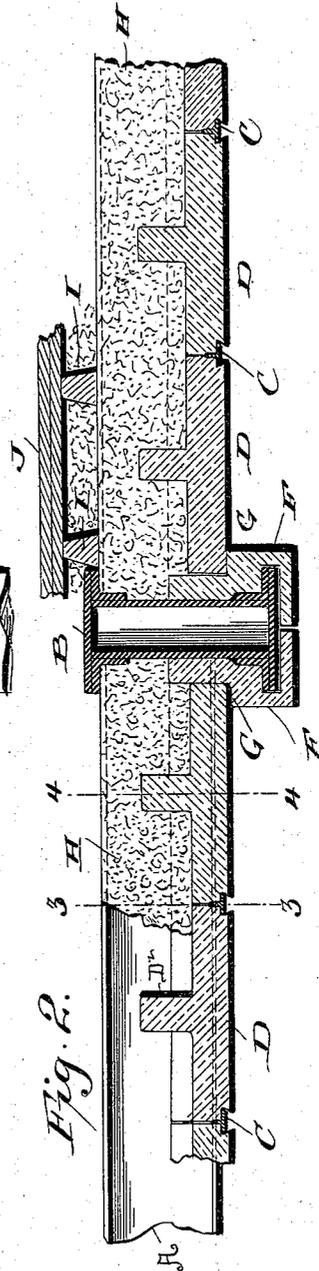


Fig. 2.

Witnesses:
L. C. Hills
A. R. Hough

Inventor:
Peter McCabe,
 by *Franklin H. Hough*
 Atty.

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Fig. 3.

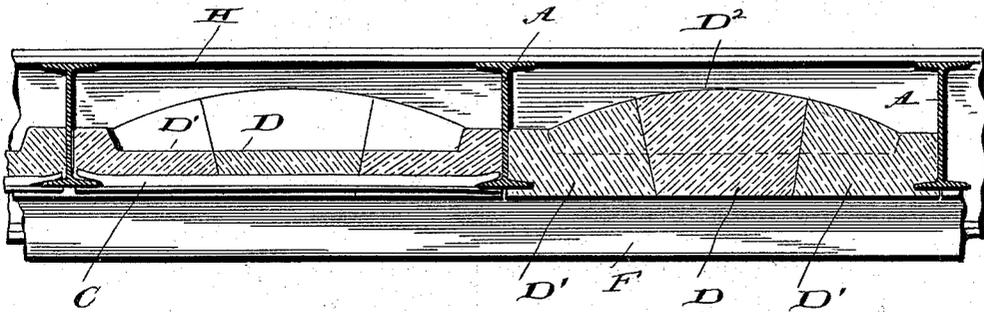


Fig. 4.

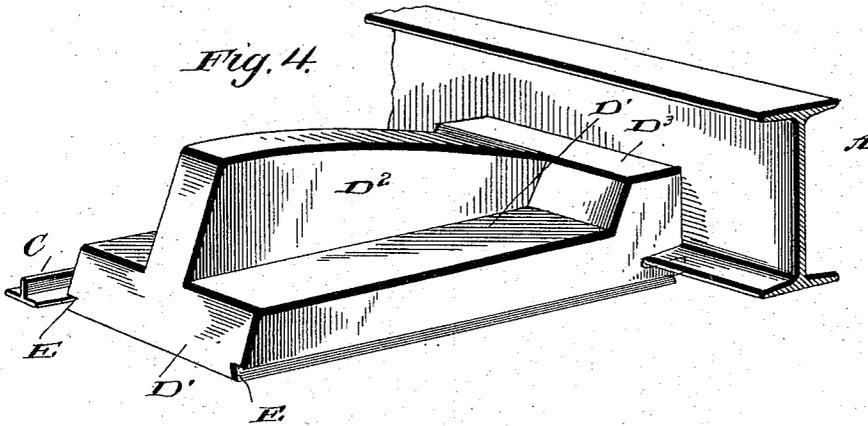
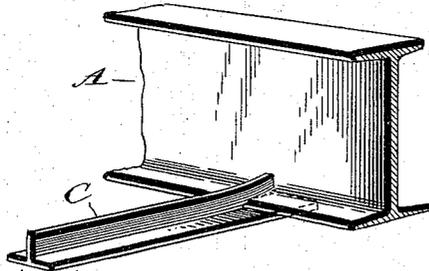


Fig. 5.



Witnesses:

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A. L. Hough

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UNITED STATES PATENT OFFICE.

PETER McCABE, OF NEW YORK, N. Y.

CONSTRUCTION OF FIREPROOF BUILDINGS.

SPECIFICATION forming part of Letters Patent No. 573,476, dated December 22, 1896.

Application filed March 12, 1896. Serial No. 582,927. (No model.)

To all whom it may concern:

Be it known that I, PETER McCABE, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in the Construction of Fireproof Buildings; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to certain new and useful improvements in the construction of fireproof buildings; and it has for its object the provision of means whereby a building may be rendered absolutely fireproof and at the same time proof against the ingress of rats, mice, insects, or vermin of any kind.

The invention has for a further object the provision of a fireproof construction which will insure a flat or level ceiling with dovetailed spaces for the reception of steel or iron T-rails, the said T-rails acting as temporary supports while the construction is being placed in position without materially increasing the distance between the ceiling of an apartment and the floor of the story above.

A further and essential object of the invention consists in the provision of a fireproof construction which can be readily and easily put together by ordinary workmen without requiring the use of stagings or of any of the various temporary supporting devices which have heretofore been commonly employed in carrying on the construction of this character of work.

To these ends and to such others as the invention may pertain the same consists in the peculiar construction and in the novel combination, arrangement, and adaptation of parts, all as more fully hereinafter described, shown in the accompanying drawings, and then specifically defined in the appended claim.

The invention is clearly illustrated in the accompanying drawings, which, with the letters of reference marked thereon, form a part of this specification, like letters of reference

indicating the same parts throughout the several views, and in which drawings—

Figure 1 is a top plan view of a portion of a floor embodying my invention, parts being broken away in order to better illustrate features of construction. Fig. 2 is a section upon the line 2 2 of Fig. 1. Fig. 3 is a sectional view in which I have shown in the single view sections upon the lines 3 3 and 4 4, respectively, of Fig. 2. Fig. 4 is an enlarged detail in perspective in which the form of the skewback and the means of securing the same in place are illustrated. Fig. 5 is a like view showing the attachment of the T-rail to the base portion of an I-beam or girder.

Reference now being had to the details of the drawings by letter, A A represent the I-beams or girders, and B B box-girders, such as are commonly employed in the construction of modern iron or steel frame buildings.

Having first ascertained by measurement the distance between the I-beams or girders A A, I provide T-rails C C, which are cut into lengths corresponding with the distances between the webs of the I-beams. The ends of the said T-rails are split inward for a distance corresponding with the width of the base-plate of the I-beams A, and the said base-plate of the I-beam is engaged by the bifurcations of the ends of the T-rails, as is clearly shown in Fig. 5 of the drawings. It will be observed that in thus attaching the T-rail to the I-beam the parts are not riveted, bolted, or otherwise fixedly secured, the rail being held in place only by the engagement of its split end with the base-plate of the I-beam, thus rendering it possible to readily move the T-rail laterally when such movement may be required during the process of fixing in place the fireproof construction which will be presently more particularly described.

The T-rails having been inserted in the manner indicated between the I-beams or girders they are adjusted at sufficient distances apart to permit the placing of the blocks D, of fireproof material, and the skewback blocks D'. These blocks may be composed of terra-cotta or of any of the other well-known fireproof materials which may be found to be best adapted to the purpose or which for any reason may be preferred. The

lower side edges of the blocks are provided with undercut or dovetailed grooves E, which extend the entire length of the block and are designed to engage the edges of the base-plate of the T-rails, as shown clearly in Fig. 4 of the drawings.

All of the blocks D, as well as the skewbacks D', are provided upon their upper faces with webs D², which webs extend longitudinally of the blocks, and the skewbacks are at their outer ends provided with enlarged portions D³, which have a broad and secure bearing against the side faces of the web of the I-beams, as seen in Figs. 3 and 4 of the drawings. In placing the blocks D in position I first place the blocks F in position upon the box-girder B. These blocks F, of fireproof material, are molded to conform to the shape of the girder which they are designed to protect or cover, and it will be observed upon reference to Fig. 2 of the drawings the block D, which next adjoins the block F, will rest directly upon the shoulder which is provided for the purpose upon the said block F, and it will also be seen that when the parts are thus united any weight or strain from above will be communicated at an angle against the lower portion of the box-girder and the base-plate of the same, the said blocks D serving, when in place, to securely lock the blocks F in position. The space between the I-beams and above the blocks D is then packed with fireproof material, such as, for instance, cinders, to the top of the webs D², thus forming a center for concrete arch, the top surface of which is level with top of the I-beams, as indicated in the drawings, and above this filled space is provided a surface of concrete, within which is seated furring-strips I I, to

which the floor is attached. It will be seen that by this construction a perfect fireproofing is secured and that the parts are so disposed as to insure the greatest possible strength. A perfect and uniformly even or level ceiling is obtained, having dovetail recesses, which are filled with plaster-of-paris and lime putty or other fireproof material, leaving the ceiling ready to receive the finish of plaster, cabinet, or other kind of finish, as may be desired.

The strength which is afforded by arches is secured without the waste of space which ordinarily accompanies the use of arches, and the necessity of using stagings or other temporary supports in construction is entirely dispensed with.

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

In a fireproof construction for buildings, the combination with the I-beams, T-rails connecting the base-plates of the same, of the skewback and ceiling blocks interposed between the webs of the I-beams, the said skewback blocks having longitudinal webs D², a filling of light fireproof material in the spaces between the said webs D², the upper surfaces of the said webs and the fireproof filling forming a vaulted surface, of a concrete arch centered over said vaulted surface, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

PETER McCABE.

Witnesses:

ISAAC R. HITT,
FRANKLIN H. HOUGH.