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AND
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PATENTED JUN 7 1870

Fire Proof Ceiling.

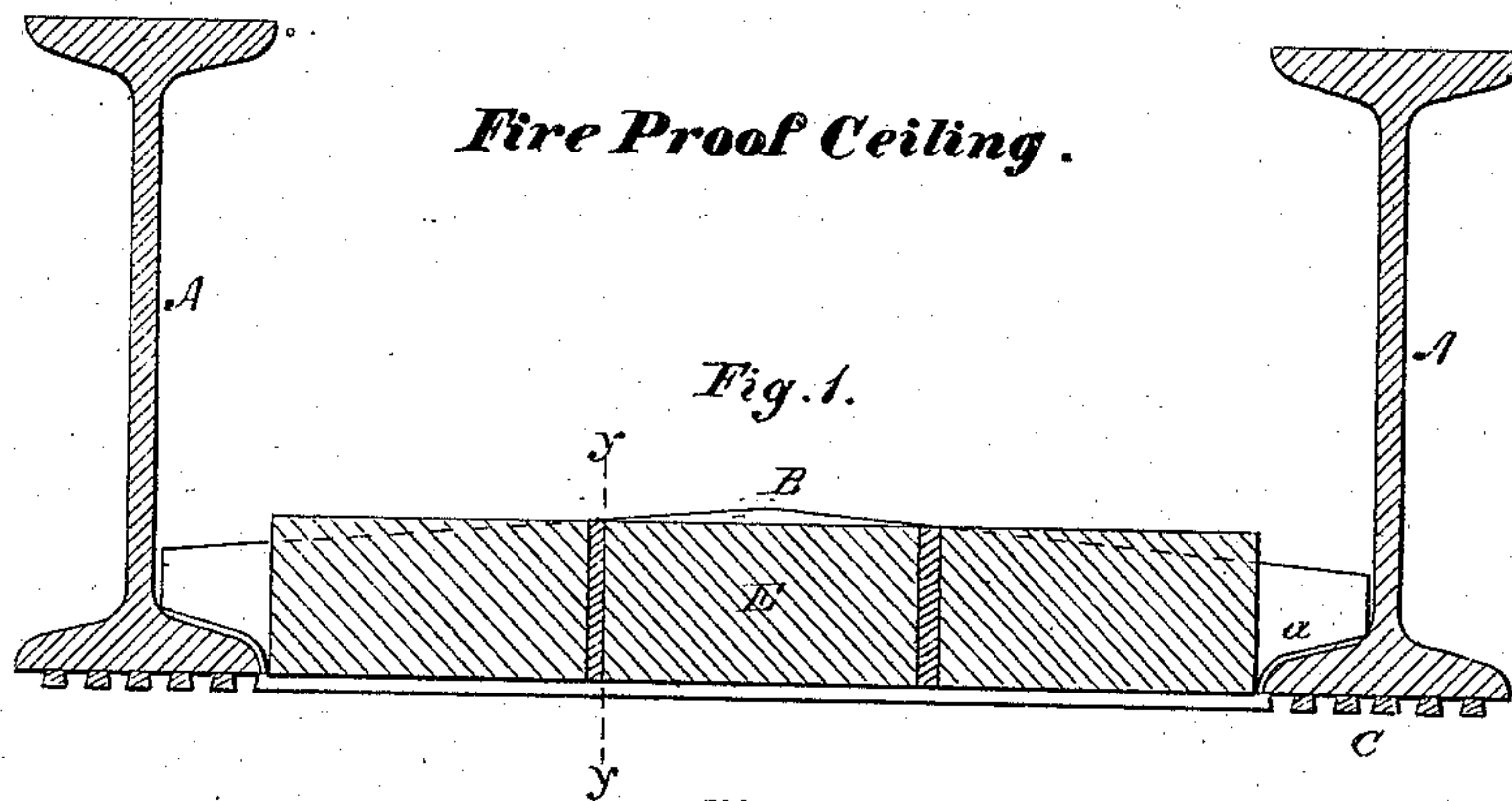


Fig. 1.

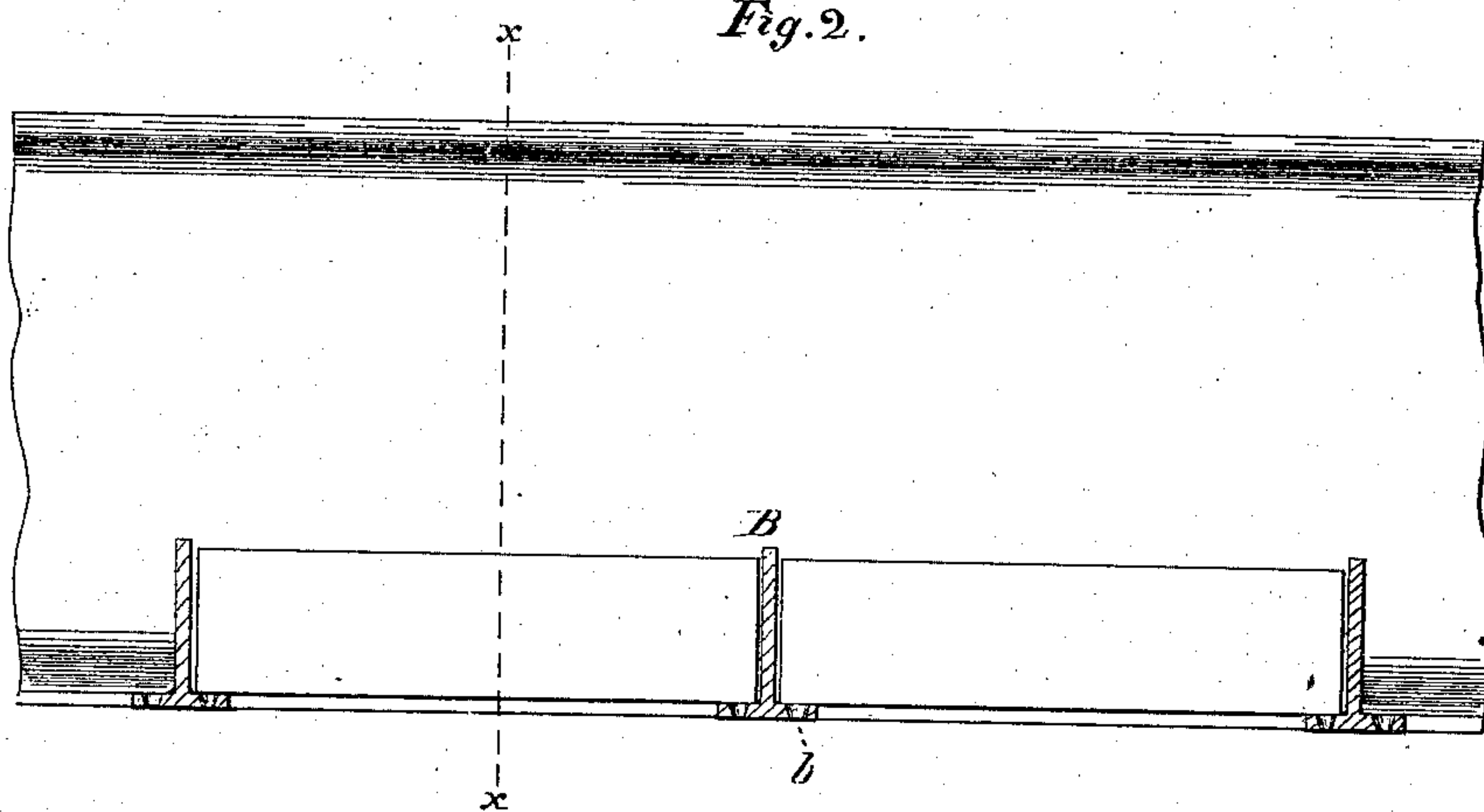


Fig. 2.

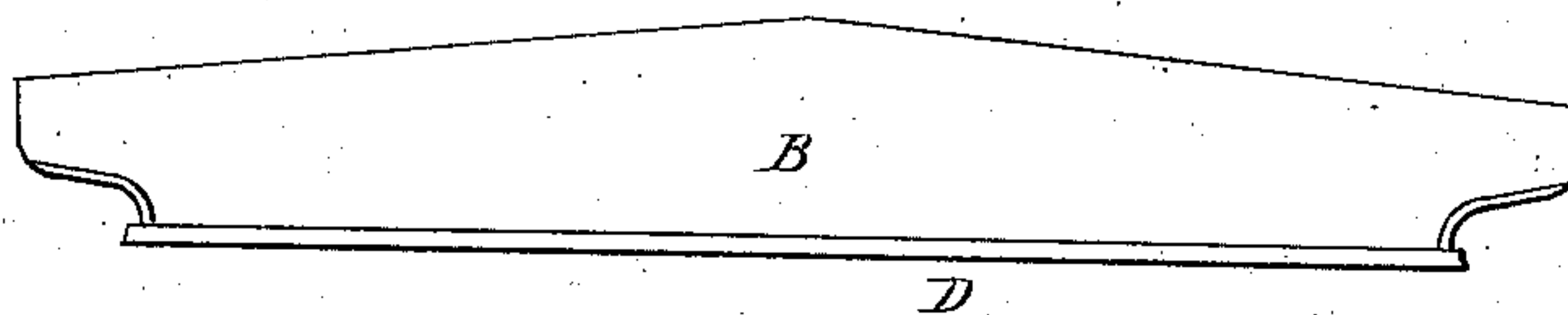


Fig. 3.

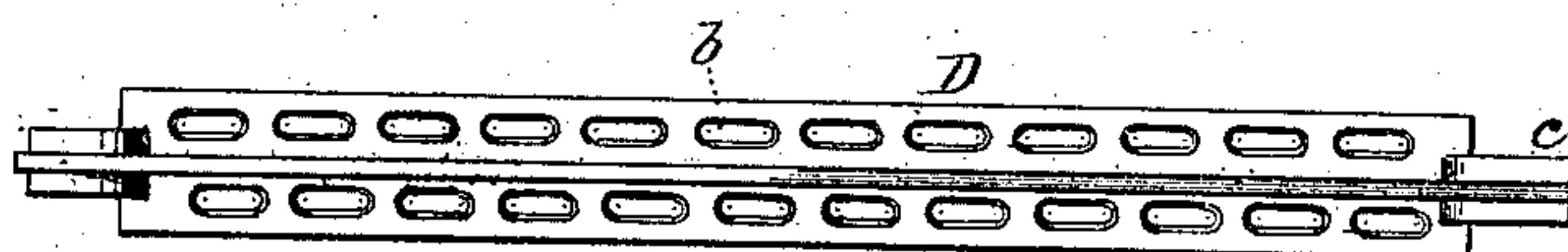


Fig. 4.

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UNITED STATES PATENT OFFICE.

F. BAUMANN AND GEORGE F. LETZ, OF CHICAGO, ILLINOIS.

IMPROVEMENT IN FIRE-PROOF CEILINGS.

Specification forming part of Letters Patent No. 103,963, dated June 7, 1870.

To all whom it may concern:

Be it known that we, F. BAUMANN and GEORGE F. LETZ, of the city of Chicago, in the county of Cook and State of Illinois, have invented certain Improvements in Fire-Proof Ceilings, of which the following is a specification, reference being had to the accompanying drawings.

Our invention relates to fire-proof ceilings; and it consists in the novel construction and arrangement of the transverse beams between the ordinary I-beams usually employed, and also in providing the under or bottom face of the I-beams with dovetailed or \perp grating, as hereinafter explained.

In the drawings, Figure 1 is a cross-section on the line $x x$ of Fig. 2. Fig. 2 is a cross-section on the line $y y$ of Fig. 1. Fig. 3 is a side view of a transverse beam detached, and Fig. 4 is a bottom view of the same.

In constructing our fire-proof ceiling we take the ordinary iron I-beams, A, generally employed for the purpose, and arrange them in the usual manner, placing them at distances apart suitable for the strength required, and provide their bottom faces with dovetailed or \perp grating, as clearly shown in Fig. 1. The beams A may be provided with this grating before or after they are arranged in position, and it may form an integral part of the beam or be attached to it, as desired. Between these beams A we place transversely metallic beams B, as shown in Fig. 1. These beams B are shaped as shown in Fig. 3, and have on their under side flanges D, provided with perforations b , as shown in Fig. 4. Their ends are also provided on their under side with narrower flanges c , and are shaped to fit the contour of the flanges of the beams A, as shown in Fig. 1, and also to allow the face of the flanges D to be flush with the face of the dovetailed grating C. The ends of the flanges D, when the beams are in position, are parallel with the dovetailed grating C, and form with

the nearest line of grating a dovetail, as shown in Fig. 1. After the beams A and B are thus arranged, we place between the latter, and so as to rest upon their flanges, brick E or tile, or light metallic grates or other suitable material. When brick or tile are used, their under surfaces may be suitably prepared to secure the adhesion of plaster, and they may be connected with plaster or other material fitted for the purpose of securing their adhesion. Plaster can now be applied to the ceiling, and when applied it will key fast to the dovetailed grating on the bottom of the beams A and to the flanges of the beams B, and also adhere to the brick, tile, metallic grating, or other articles used to fill up the spaces between the transverse beams.

It is obvious that any desired strength may be given to a ceiling constructed in this manner by making the beams of requisite size and arranging them so as to secure the object in view. In this way we are able to combine all the elements desirable in a fire-proof ceiling. It is simple, strong, and durable in its structure. The plastering will adhere securely to it, and it is entirely fire-proof.

Having thus described our invention, what we claim is—

1. A fire-proof ceiling consisting of the metallic girder-beams A, with their dovetailed-shaped grating C, and the metallic transverse beams B, provided with perforated flanges D, when constructed and arranged substantially as described.

2. The transverse metallic beams B, provided with perforated flanges, when constructed in the manner substantially as herein described, and for the purpose set forth.

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Witnesses:

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