

(No Model.)

J. J. SCHILLINGER.
Fire Proof Building.

No. 233,029.

Patented Oct. 5, 1880.

Fig. 1.

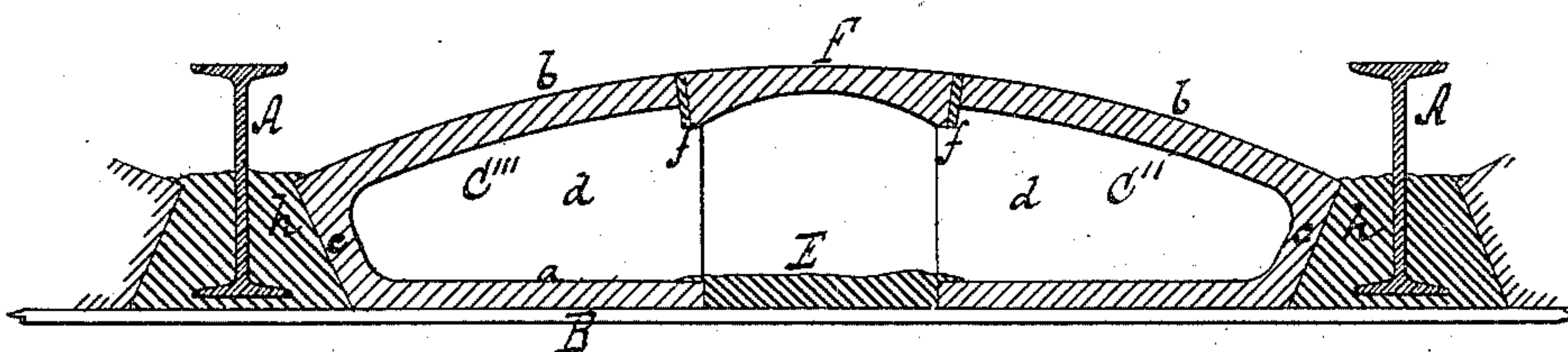


Fig. 2.

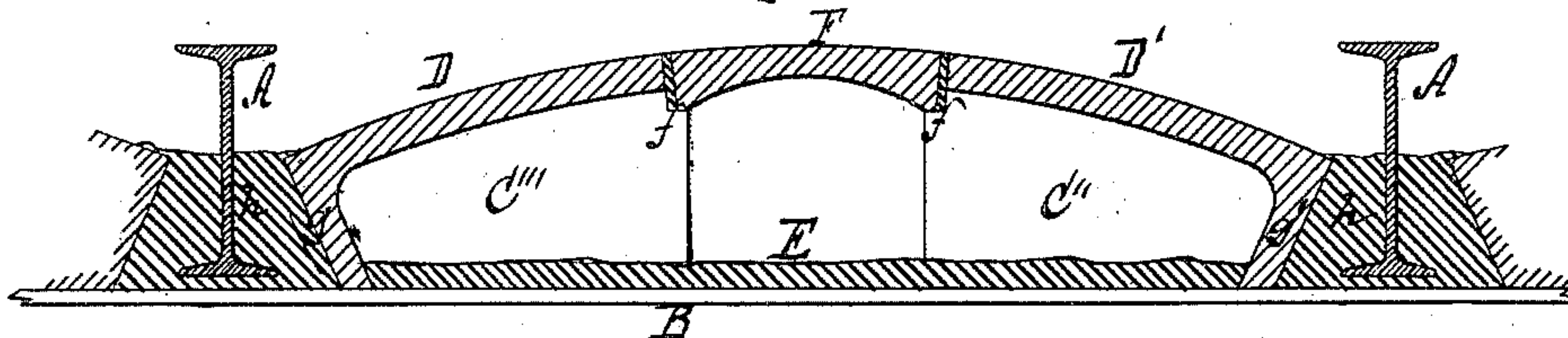


Fig. 3.

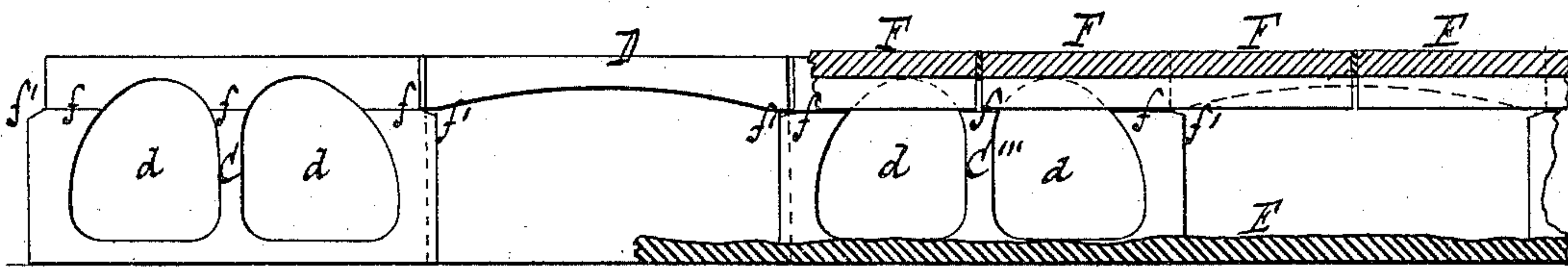


Fig. 4.

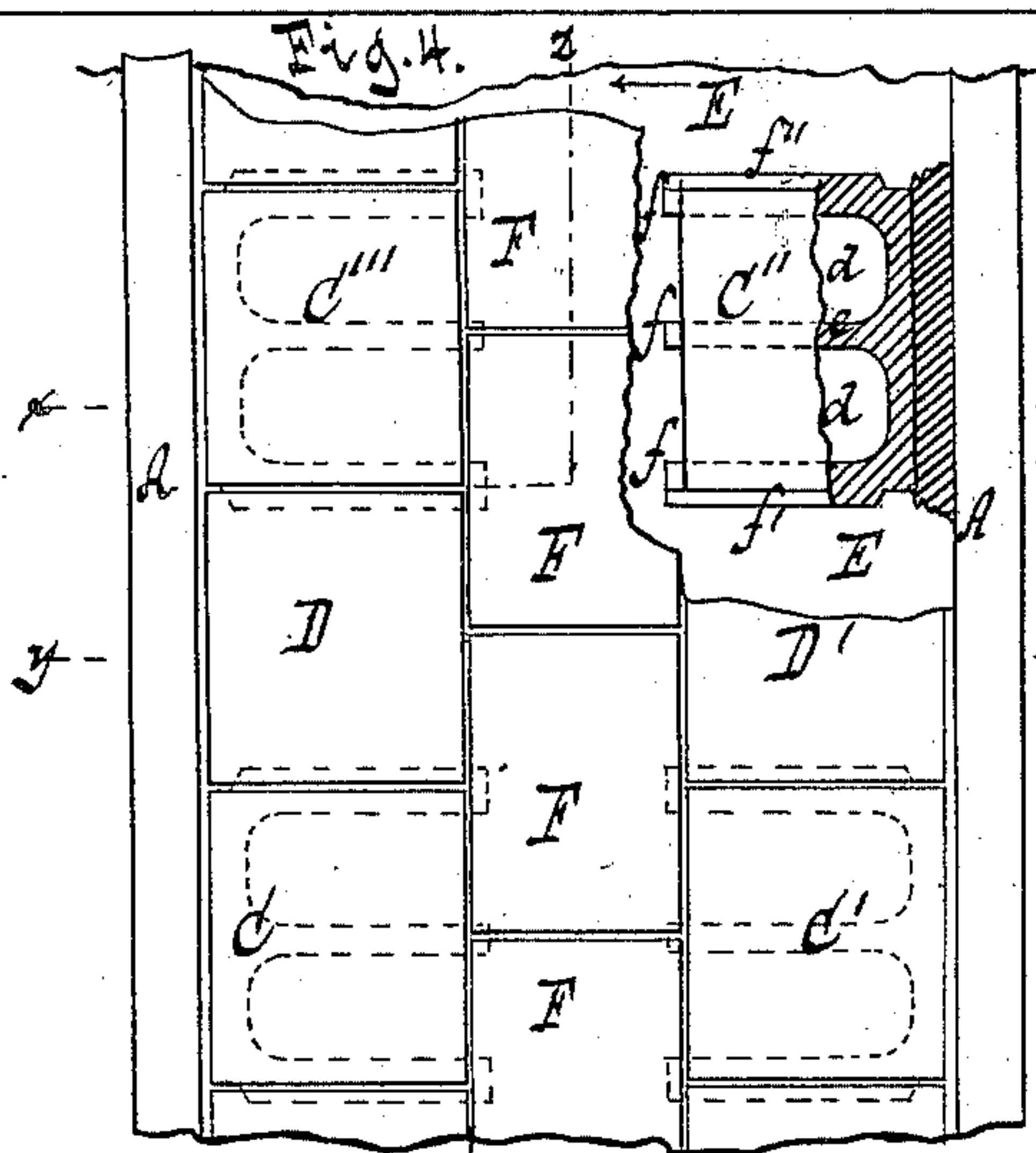
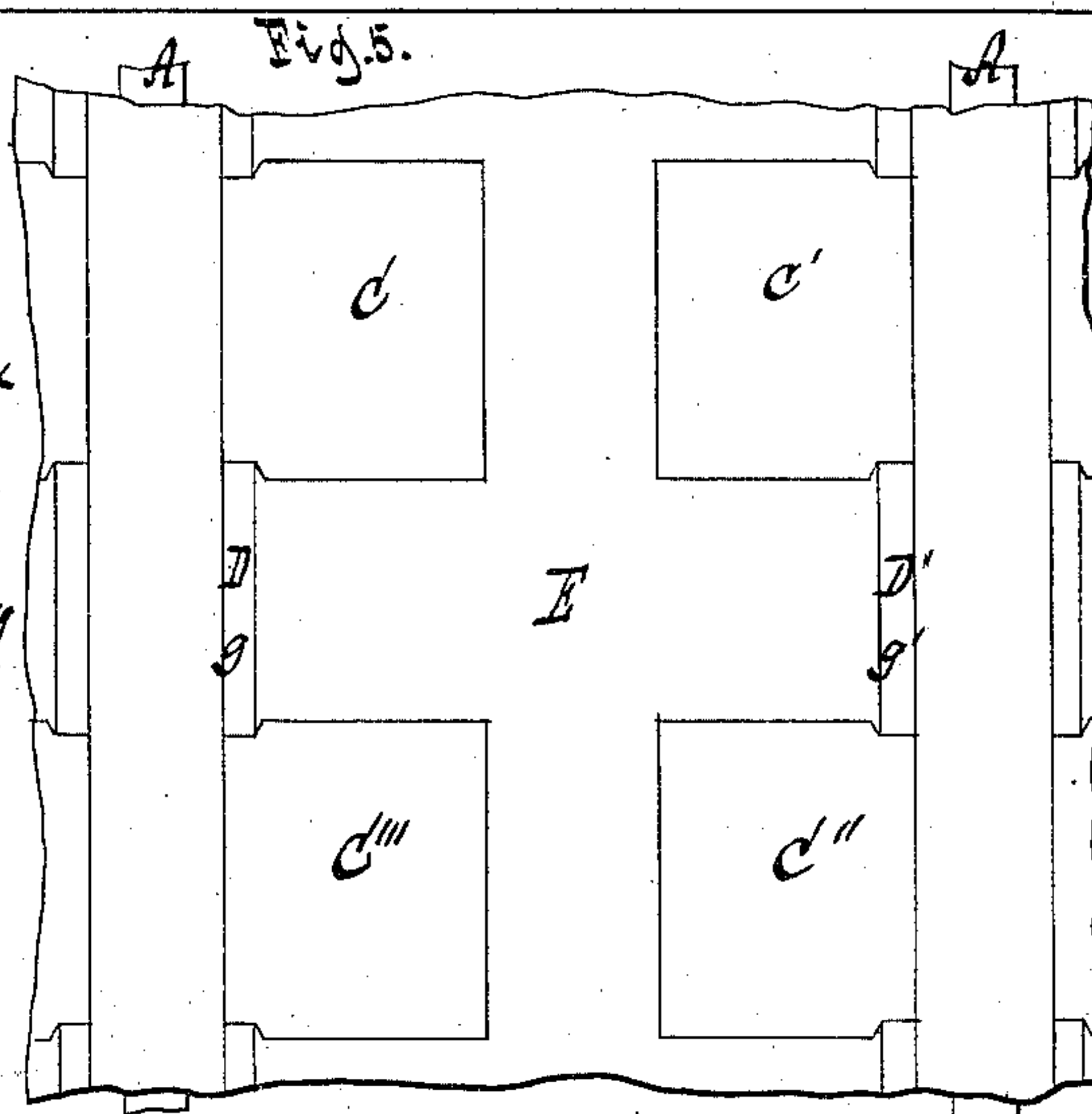


Fig. 5.



Witnesses
Otto Dufeland
William Miller

Inventor John J. Schillinger. by
Van Santvoord & Hauck
his attys

UNITED STATES PATENT OFFICE.

JOHN J. SCHILLINGER, OF NEW YORK, N. Y.

FIRE-PROOF BUILDING.

SPECIFICATION forming part of Letters Patent No. 233,029, dated October 5, 1880.

Application filed March 4, 1880. (No model.)

To all whom it may concern:

Be it known that I, JOHN J. SCHILLINGER, a citizen of the United States, residing at New York, in the county and State of New York, have invented new and useful Improvements in Fire-Proof Buildings, of which the following is a specification.

This invention relates to the construction of ceilings in a fire-proof building, which are made of a layer of cement cast against and serving to unite a series of hollow tiles which are supported by the floor-beams, and which are made in sections united together, as hereinafter more fully explained.

This invention is illustrated in the accompanying drawings, in which—

Figure 1 represents a vertical section in the plane xx , Fig. 4. Fig. 2 is a similar section in the plane yy , Fig. 4. Fig. 3 is a similar section in the plane zz , Fig. 4. Fig. 4 is a plan or top view on a smaller scale than the previous figures. Fig. 5 is an inverted plan on the same scale as Fig. 4.

Similar letters indicate corresponding parts.

In the example shown in the drawings, the letters $A A$ designate the floor-beams, which serve to support the floors and ceilings in the building.

In forming my improved ceiling I proceed as follows: Beneath the floor-beams $A A$, at a distance of about an inch (more or less) from their lower surfaces, I place a board or platform, B , and on this platform I adjust the four hollow tiles $C C' C'' C'''$, the form of which is fully illustrated in the drawings, Fig. 1 showing longitudinal sections of two of said tiles, Fig. 3 showing end views, Fig. 4 showing top views of four such tiles, one being shown partly in section; and Fig. 5, bottom views or inverted plans of four such tiles. From these figures it will be seen that each of these tiles has a flat bottom, a , and a convex top, b , an inclined closed edge, c , two cavities, $d d$, which open on the inside and are separated from each other by a partition, e , Fig. 4, and shoulders $f f'$, the object of which will be presently more fully explained.

The inclined edges c of the several tiles C

$C' C'' C'''$ are placed at a distance of about four inches (more or less) from the beams A A ; and between the tiles $C C'''$, and also between the tiles $C' C''$, are placed concave shells $D D'$, respectively, (see Figs. 2 and 4,) which rest upon the shoulders $f' f'$ of the tiles, and are provided with inclined flanges $g g'$, corresponding to the inclined edges c of the tiles, and of such a depth that their bottom edges rest upon the platform B , as shown in Fig. 2.

After the tiles $C C' C'' C'''$ and the shells $D D'$ have been thus adjusted I cast upon the platform B , and between edges $c g$ of the tiles and the beams $A A$, a layer, E , of cement, which fills the spaces between the inner edges of the tiles $C C' C'' C'''$ and between the flanges $g g'$ of the shells $D D'$, (see Fig. 5,) and which is increased in depth between the beams and the tiles, as shown in Figs. 1 and 2, to form the skewbacks $h h$.

After the layer E has been cast in I place between the tiles $C C' C'' C'''$ and the shells $D D'$ curved tiles F , Figs. 1, 2, 3, and 4, which rest upon the shoulders $f f'$ of the hollow tiles $C C' C'' C'''$; and in order to complete the arch between the beams $A A$ the spaces between the curved tiles F and the hollow tiles $C C' C'' C'''$ and the shells $D D'$, respectively, are filled out with cement, lead, or other suitable material, as shown in Figs. 1 and 2.

After the layer E has set the platform B is removed and the ceiling is ready. At the same time the arches formed by the combination of the hollow tiles $C C' C'' C'''$, the shells $D D'$, the curved tiles F , and the layer E form a firm support for the floor above. Furthermore, the arches produced by this combination have a continuous air-space, so that the floor above can be conveniently and uniformly heated by introducing into the air-spaces of the several arches heated air or any other equivalent heating medium.

The cement which I use, by preference, for the layer E consists of gypsum, lime, and cinders, or hydraulic cement and sand; or any other composition of a similar nature may be used; or the layer E may be formed of flat plates made of clay and burned, which are

placed between the tiles. The tiles may also be made of clay and burned, or of cement, as above stated.

What I claim as new, and desire to secure
5 by Letters Patent, is—

The combination of the layer E, tiles C C' C'' C''', D D' F, and beams A A, substantially as and for the purpose described.

In testimony whereof I have hereunto set my hand and seal in the presence of two sub- 10 scribing witnesses.

JOHN J. SCHILLINGER. [L. S.]

Witnesses:

W. HAUFF,

E. F. KASTENHUBER.