

T. SHARP.

CONSTRUCTION OF FIRE-PROOF BUILDINGS.

No. 169,852.

Patented Nov. 9, 1875.

Fig. 1.

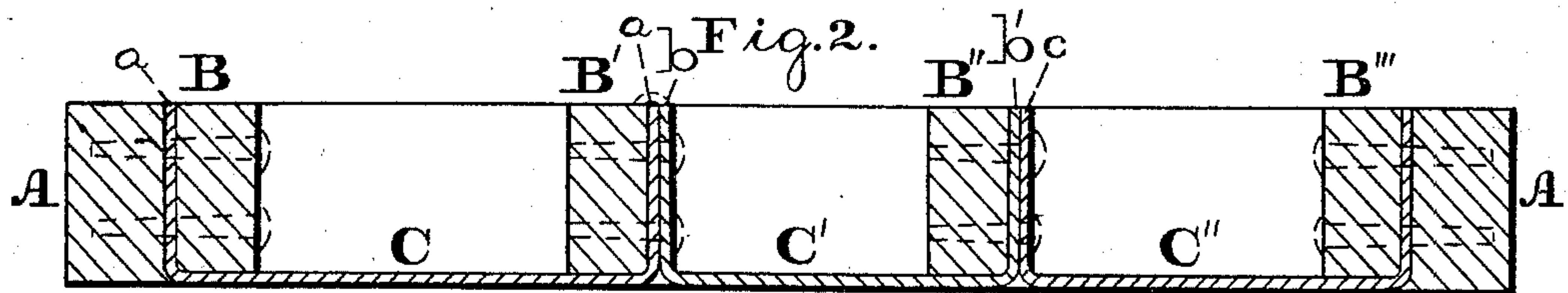
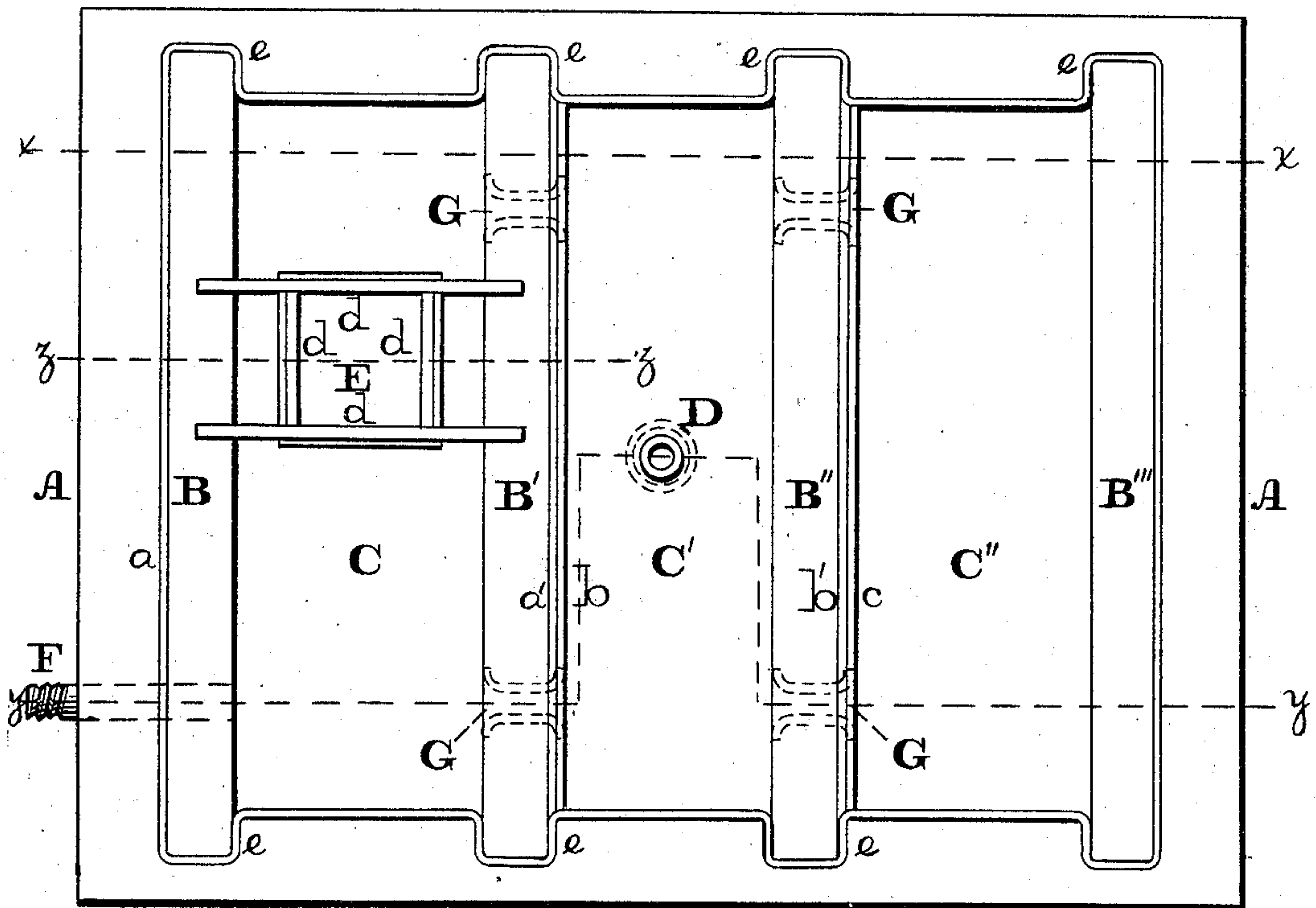
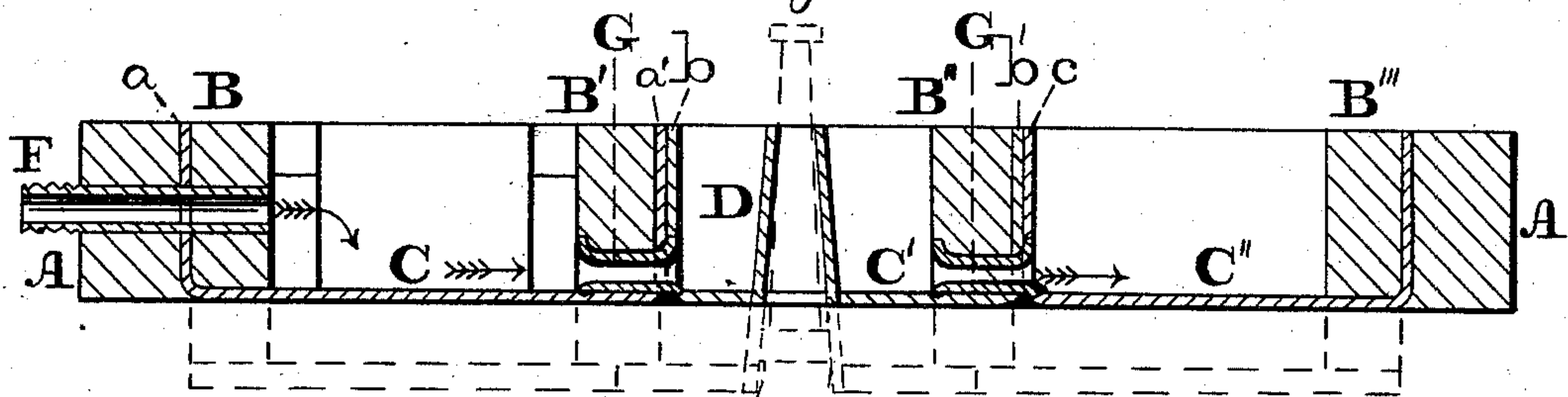


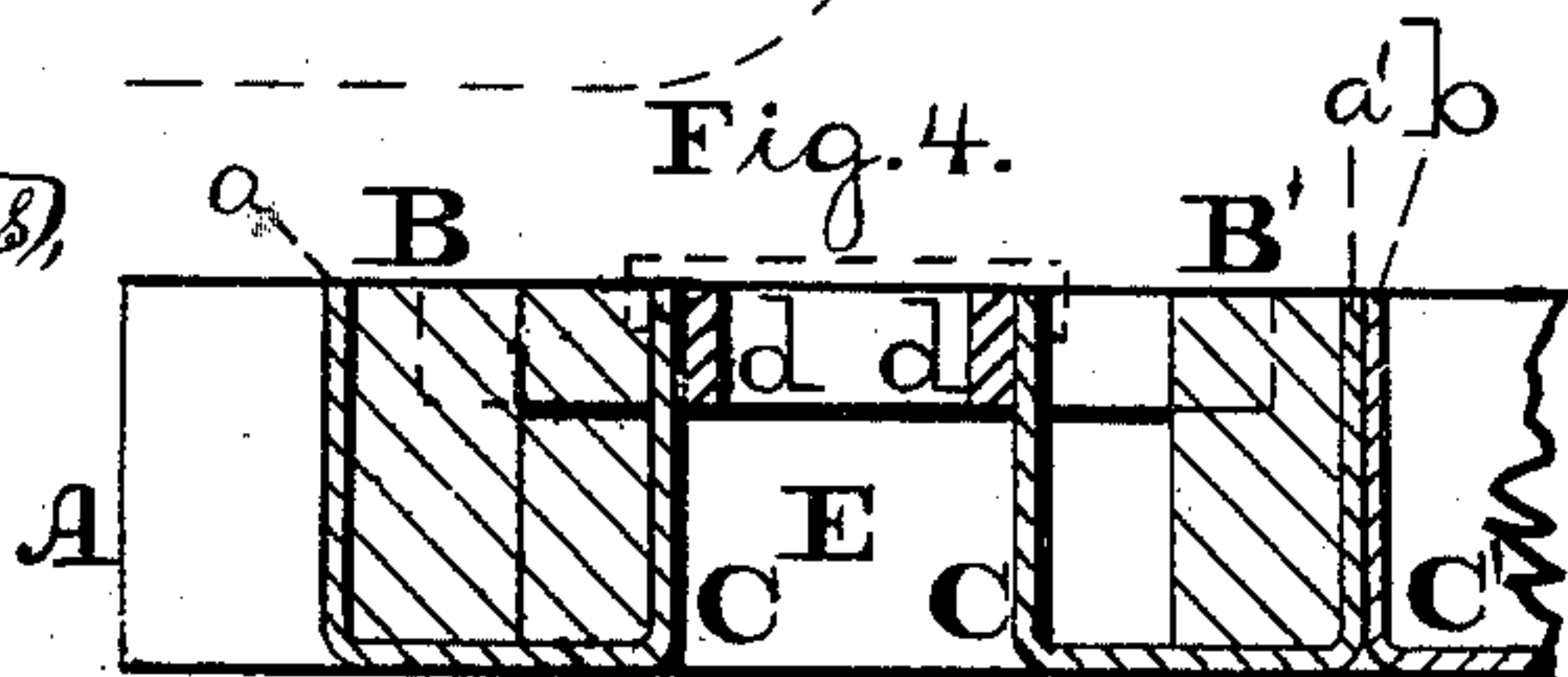
Fig. 3.



Witnesses:

Lewis, J. Brown,
Atty. P. Grant.

Fig. 4.



Inventor:

Thomas Sharp,
by *John A. Diederichsen*
att'y.

UNITED STATES PATENT OFFICE.

THOMAS SHARP, OF UNITED STATES ARMY.

IMPROVEMENT IN THE CONSTRUCTION OF FIRE-PROOF BUILDINGS.

Specification forming part of Letters Patent No. **169,852**, dated November 9, 1875; application filed September 20, 1875.

To all whom it may concern:

Be it known that I, THOMAS SHARP, of the United States Army, have invented new and useful Improvements in Means for Protecting Buildings from Fire; and I do hereby declare the following to be a clear and exact description of the nature thereof, sufficient to enable others skilled in the art to which my invention appertains to fully understand, make, and use the same, reference being had to the accompanying drawings making part of this specification, in which—

Figure 1 is a top or plan view. Fig. 2 is a transverse section in line *x x*, Fig. 1. Fig. 3 is a transverse section in line *y y*. Fig. 4 is a transverse section in line *z z*.

Similar letters of reference indicate corresponding parts in the several figures.

Floors and ceilings of buildings have been provided with compartments, which are to be filled or flooded with water, so that fire in an apartment cannot extend above or below the same, but the defects therein are the difficulty of properly securing the compartments and preventing leakage.

The object of my invention is to remedy these defects; and it consists in a series of compartments, the sides of which cover the faces of the joist adjacent to the wall, and are secured to the next joist, and the sides of the adjacent compartments are laid against the sides of the first-named compartments, so that certain sides of each two compartments are secured to the same joist, whereby the joints between said compartments are so disposed that leakage thereat cannot occur, and the compartments are firmly held in position. It also consists in a non-combustible hatchway. It also consists of a pipe passed through the floor for directing water through the same.

Referring to the drawings, A represents the walls, and B B' B'' B''' the joists of the floors. C represents a metallic plate or sheet which, beginning at *a*, extends downwardly from the upper side of the joist B, between said joist and the wall, so as to cover the face of said joist adjacent to the wall. Then the plate extends under the joist B to the next joist, B', under the same, and then up the side opposite to that which it first reached, as at *a'*. The next plate, C', starts at *b*, against the side or

part *a'* of the first plate C, and the two sides or parts *a' b* are nailed or otherwise secured to the joist B'. The plate C' then extends to the next joist, B'', under the same, and then up the side opposite to that which it first reached, as at *b'*. The next plate, C'', starts at *c*, and is nailed to the joist B'', against the side or part *b'* of the second compartment, and passes under the next joist, which, in the present case, is the last joist, B''', and then extends upward between the joist and wall. It will be seen that by this construction of the plates there are formed a series of compartments or pans. D represents a pipe, which is passed through the floor and one of the plates of the compartment, so as to form a communication between apartments above and below the floor. When the pipe is not required for service it will be closed by a plug or stopper, or by suitable plaster, which may be easily removed in the event of fire. E represents the hatchway, which is formed of iron plates *d d*, which are properly secured to each other and to the joists. The metallic plates or sheets C are brought up the sides of the plates *d d*, and the manner of securing the plates C to the plates *d* will be similar to that of securing said plates C to the joist. When the hatchway is not in use it will be covered by a metal plate, as shown in the dotted lines, Fig. 4. F represents a hose connecting a pipe leading from the outside of the building to one of the compartments between the joist. G G represent passages made in plates and joists, and leading from one compartment to the other.

The operation is as follows: In the event of fire, water will be admitted to one compartment through the pipe D, and pass from the same to the other compartments by means of the passages G, whereby there will be interposed between two floors or stories a series of water-filled compartments, which will prevent the extension of the fire above or below the floor. Should the flooring burn off, the joist cannot burn, as the water will be in contact therewith. In some cases openings may be cut in the flooring, so as to allow the water to overflow the same.

When water is to be directed into an apartment a hose pipe or nozzle will be forced through the hose F, so as to project into the

apartment, and it may have a sprinkler or rose at its end for squirting the water in various parts of the apartment.

The manner of attaching the scantling and lathing to the joist will be the same as that now in use, excepting that the scantling will be below the plates C C', &c., as shown in Fig. 3. The sides of the plates C C' C'' will be bent, as at *e*, and cover the ends of the joists, thereby forming or preserving the pan-shape of the compartments, and sheathing said ends of the joists.

It will be seen that the attachment of the plates C C' C'' to the joists in the manner stated will enable the compartments as formed to sustain the weight of water and prevent leakage.

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

1. The combination, with the joist, of the series of compartments forming plates C C' C'',

the adjacent ends of two of which extend upward along the same joist, and are secured thereto, substantially as and for the purpose set forth.

2. The hose-directing pipe D, projecting through the floor, and operating in the manner and for the purpose set forth.

3. The hatchway consisting of metal plates *d d*, secured to each other and to the joist, in combination with the compartment-forming metal plates extending upward along the sides of said plates *d*, substantially as and for the purpose set forth.

4. The compartment-forming plates C, inlet-pipe F, communicating passages G, projecting pipe D, and metallic hatchway E, combined and operating substantially as and for the purpose set forth.

THOMAS SHARP.

Witnesses:

JOHN HAMILTON,
MATTHEW MARKLAND.