

A. WYNNE.
Fire-Places.

No. 146,971.

Patented Jan. 27, 1874.

Fig. 1.

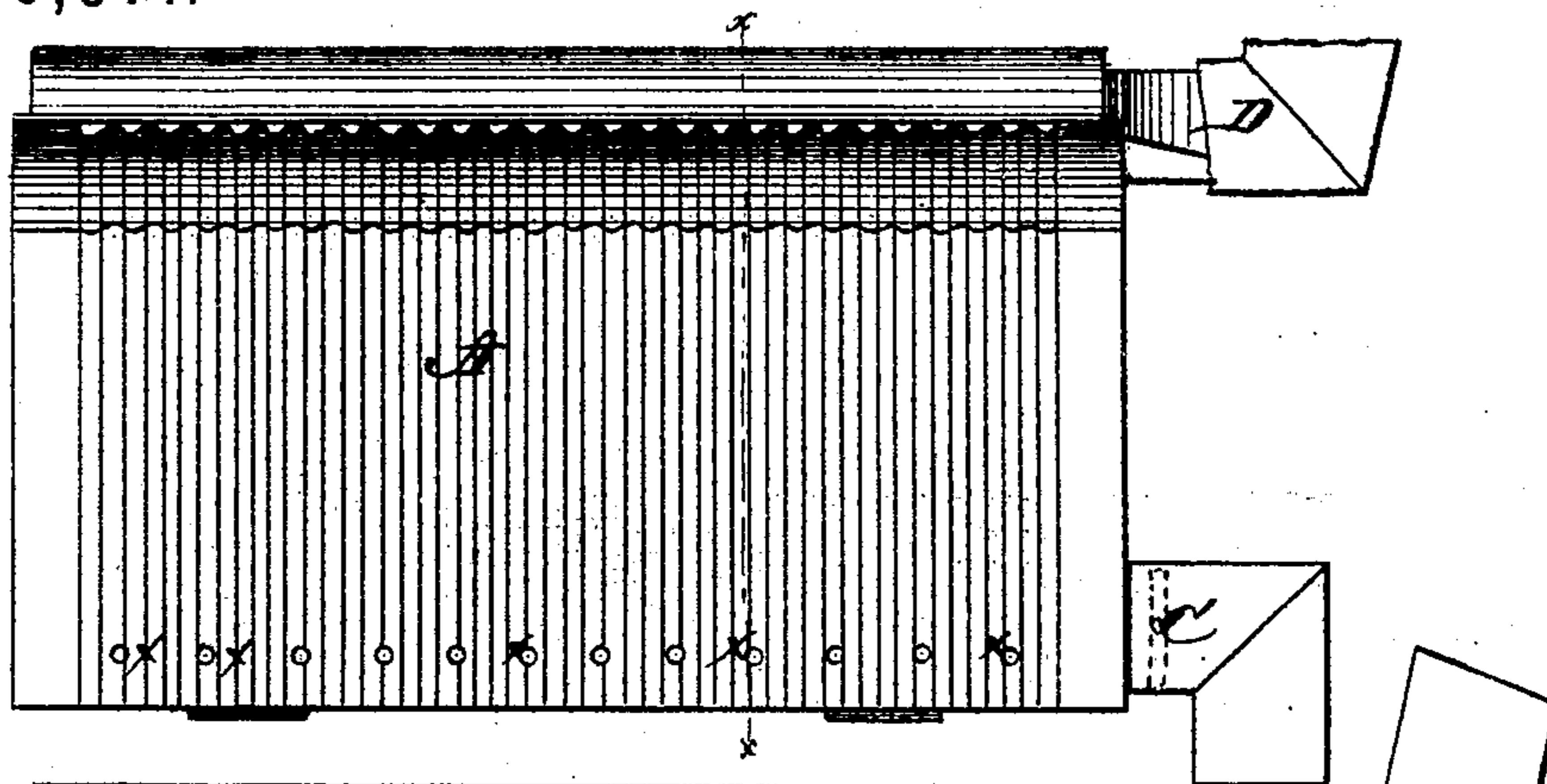


Fig. 2.

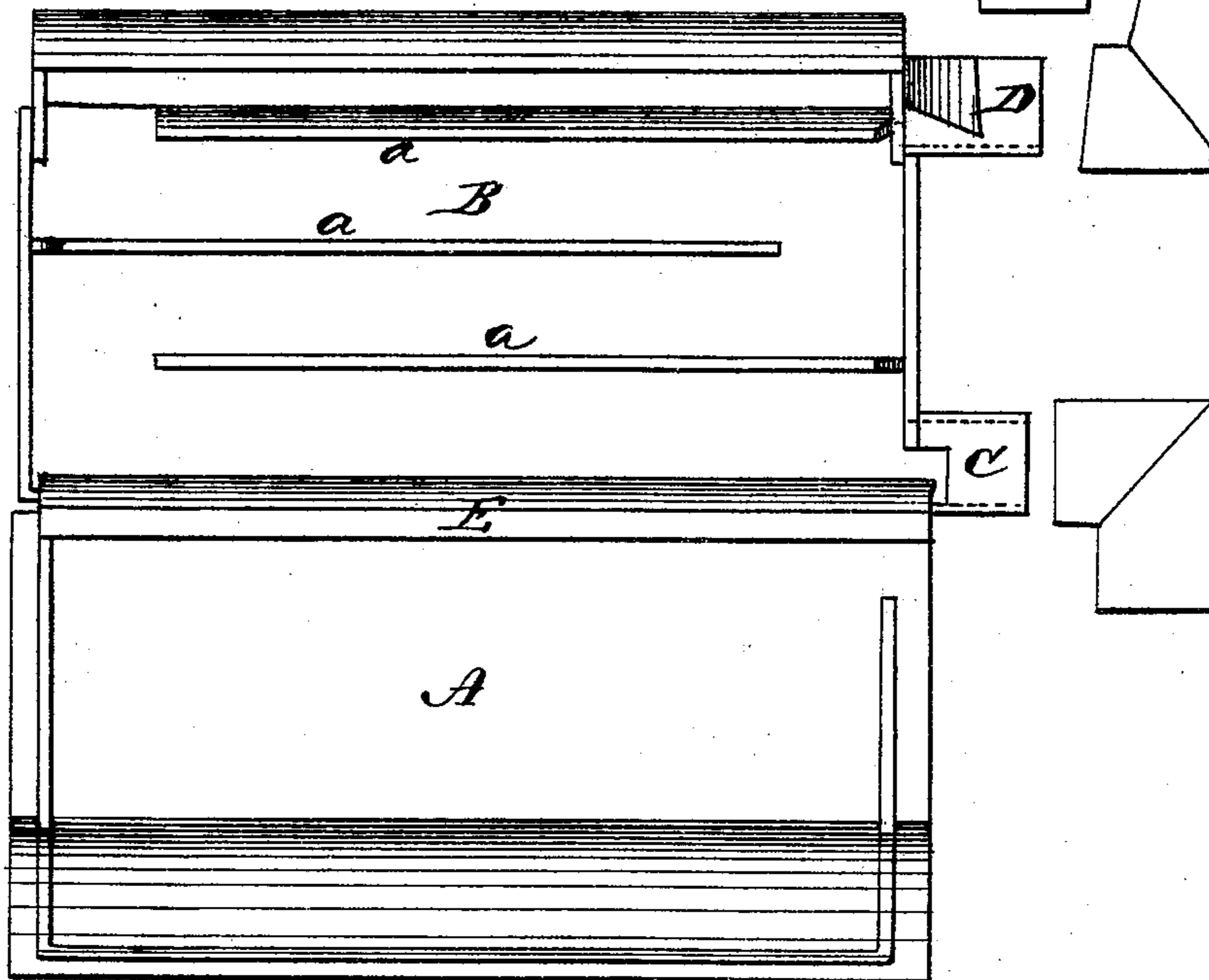
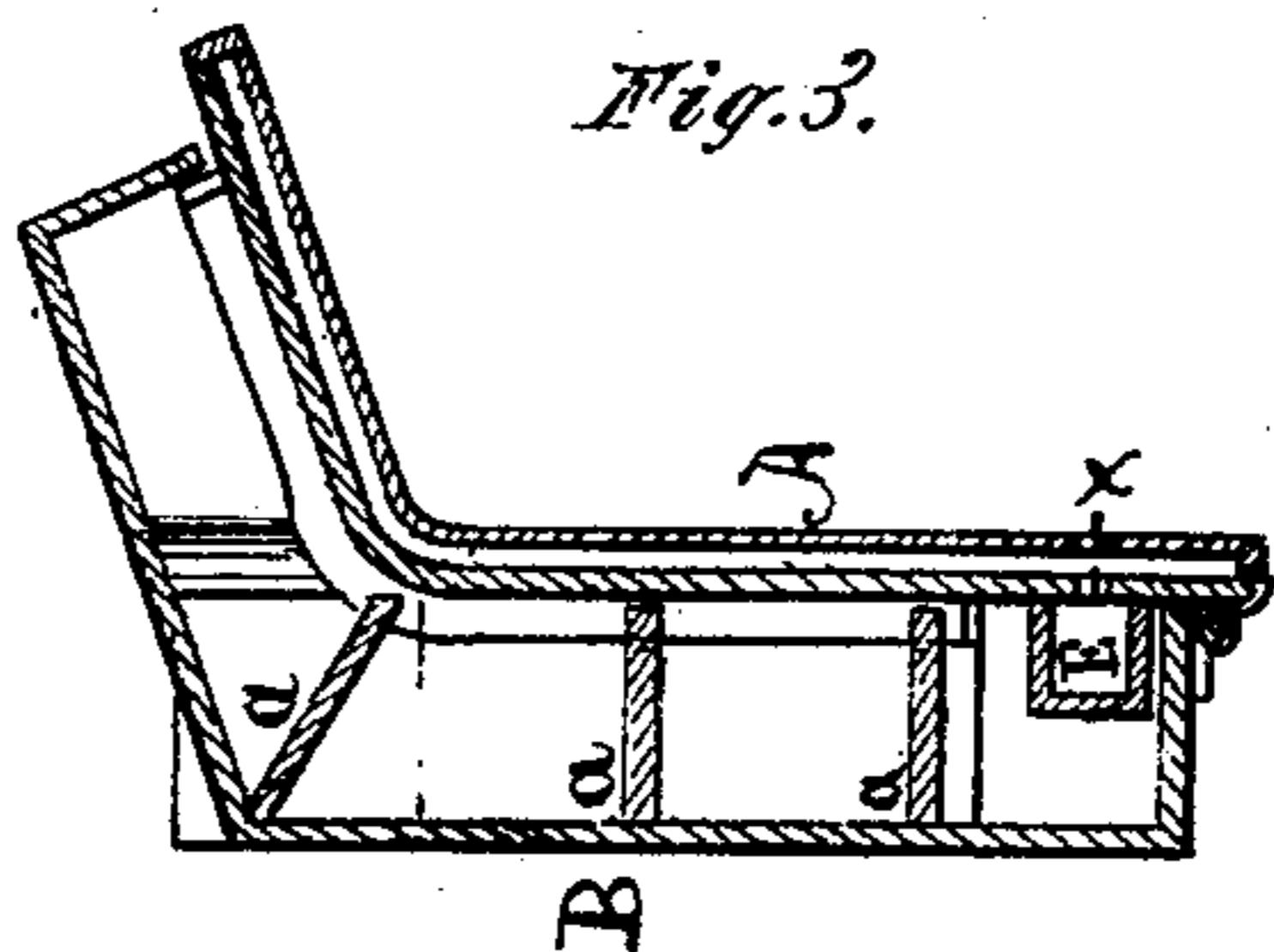


Fig. 3.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN FIRE-PLACES.

Specification forming part of Letters Patent No. **146,971**, dated January 27, 1874; application filed January 5, 1874.

To all whom it may concern:

Be it known that I, ADAM WYNNE, of Indiana, in the county of Indiana and State of Pennsylvania, have invented certain new and useful Improvements in Hot-Air Back Walls for Fire-Grates; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon, which form a part of this specification.

The nature of my invention consists in the construction and arrangement of a hot-air back wall, made of cast-iron or other suitable material, to be used in fire-grates or furnaces, or other heating apparatus, for the purpose of supplying heated air to the rooms above that in which such heating apparatus is located, as will be hereinafter more fully set forth.

In order to enable others skilled in the art to which my invention appertains to make and use the same, I will now proceed to describe its construction and operation, referring to the annexed drawing, in which—

Figure 1 is a front view of the back wall. Fig. 2 is an interior view of the same, and Fig. 3 is a transverse section of the same in reduced dimensions.

My hot-air back wall is composed mainly of a corrugated front, *a*, and a box, B, and may be made entirely of cast-iron, or in part of sheet-iron—that is, the box part B, removably secured to the corrugated front A—and, when connected, they form a hot-air chamber. The plate A is hinged at its base, so that it may be turned out when desired, for the purpose of cleaning the chamber, or readily removed, to be replaced when burned out. Within the hot-air chamber is a series of horizontal partitions, *a a*, running alternately from one end to near the other, so as to form a zigzag passage, through which the air passes to become sufficiently heated. C represents the cold-air-supply pipe or flue, supplying air to the interior of the back wall A B, either from the inside of the room, or from the outside of the building, as may be desired; or this flue may be so arranged as to take air both from the inside and outside of the building. Ordinarily,

the common chimney-flue may be used, to be provided with an opening a few inches from the hearth, where it is connected with the back wall. From this opening the flue is discontinued to the height of the outlet D, where it is again connected with the back wall. In the lower part of the corrugated front A are a number of perforations, *x x*, communicating with a pipe, E, permanently attached to the back of the front A. This pipe is closed at one end, and the other end open to be fed with cold air from the common supply-pipe C. The pipe E thus, through the perforations *x x*, supplies the fire with oxygen, which assists combustion, and materially improves the draft of the chimney in which the back wall is inserted. This pipe E may be advantageously applied to all fire-place grates. The bricks are built against the edges of the front A, and between it and the grate-front.

The hot-air back wall thus constructed is durable, and saves considerable expense, especially as it dispenses with the large brick stacks necessary in houses where stoves are used in the upper stories.

A fire-place on the first floor, or a furnace in the cellar, with this back wall, can be made to heat the entire house, registers being placed in the various rooms to shut off or let on the heated air.

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

1. The corrugated plate A, provided near its base with perforations *x* and the interior air-pipe E, substantially as and for the purpose herein specified.

2. The hinged plate A, having perforations *x* and interior air-pipe E, in combination with the part B, having partitions *a*, inlet C, and outlet D, constructed and arranged as and for the purpose set forth.

In testimony that I claim the foregoing as my own I affix my signature in the presence of two witnesses.

ADAM WYNNE.

Witnesses:

ADAM C. BRAUGHLEE,
B. F. MCCLUSKY.