

J. S. TILTON.

Stove.

No. 44,235.

Patented Sept. 13, 1864.

Fig. 1.

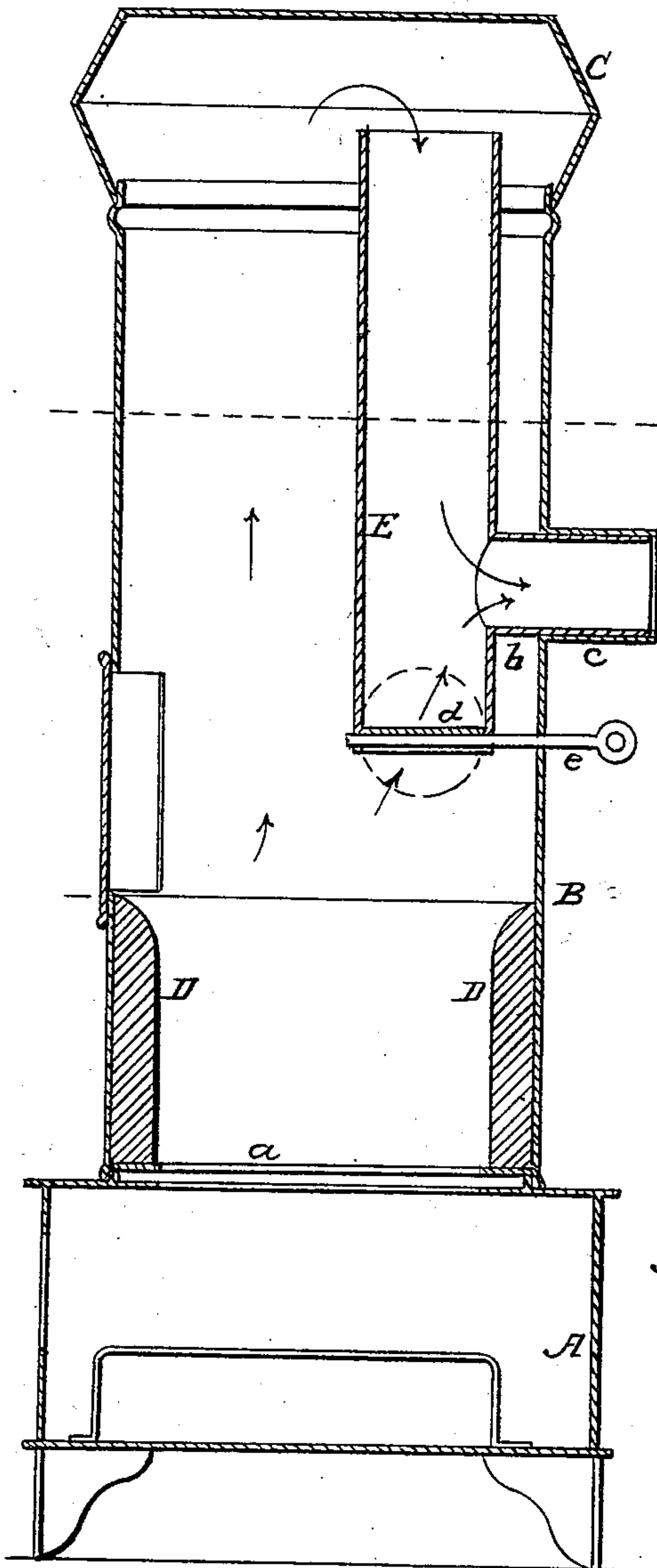
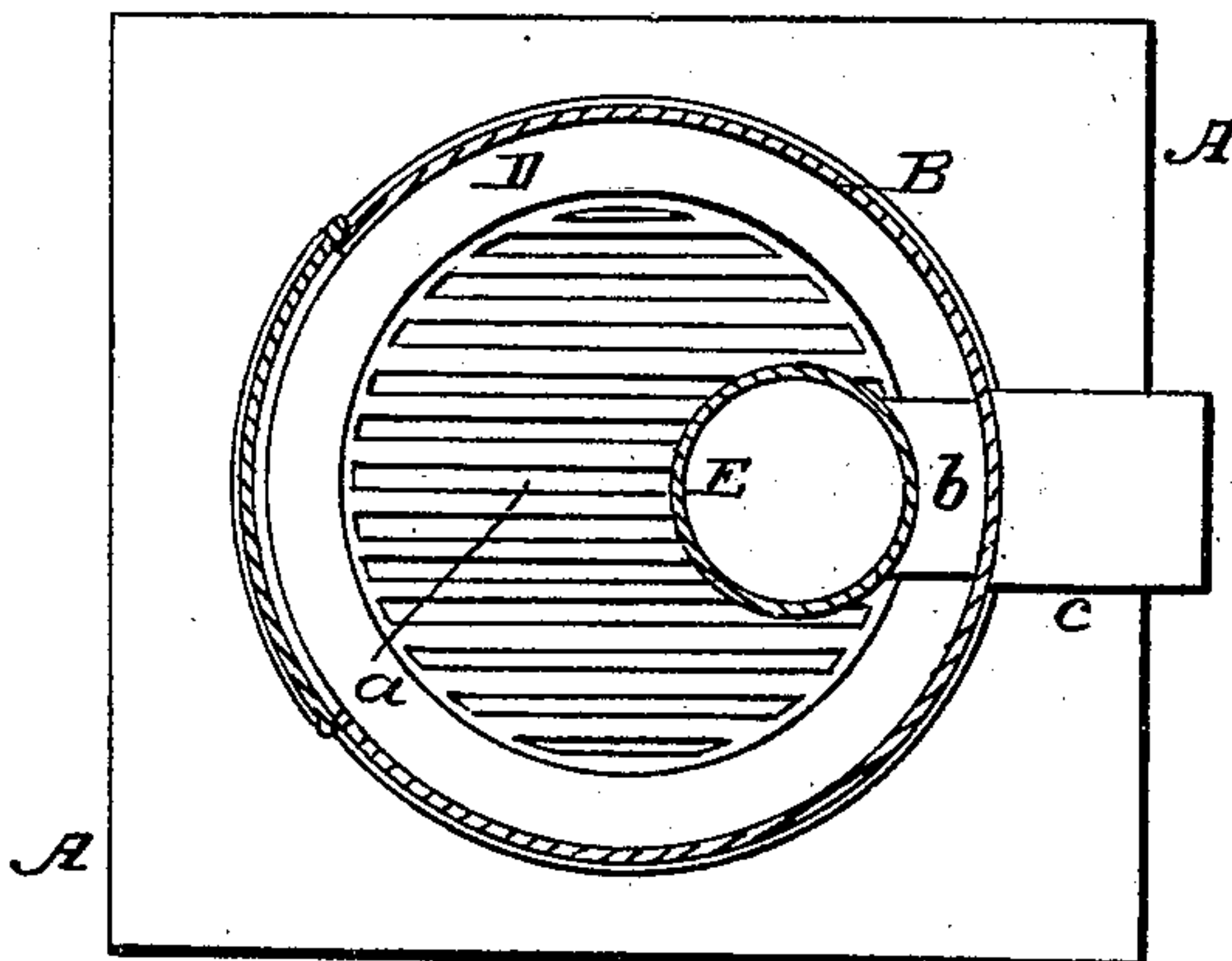


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

JOHN S. TILTON, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN STOVES.

Specification forming part of Letters Patent No. 44,235, dated September 13, 1864.

To all whom it may concern:

Be it known that I, JOHN S. TILTON, of Philadelphia, Pennsylvania, have invented an Improvement in Stoves; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention relates, particularly, to that class of stoves known as "upright-cylinder stoves;" and it consists in certain devices, fully described hereinafter, whereby the heated gases in their progress from the fire to the chimney are compelled to pass in contact with the sides and top of the stove and impart their heat to the same.

In order to enable others skilled in the art to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a vertical section of my improved stove; and Fig. 2, a section on the line 1 2, Fig. 1.

Similar letters refer to similar parts in both views.

A is the base of the stove, on which rests the sheet-iron casing B, closed at the top by a cap, C, and provided with the usual fire-clay cylinder, D, below which are the grate-bars *a*.

Within the casing B is secured a pipe, E, which extends from above the fire-pot nearly to the top of the stove and communicates through a horizontal pipe, *b*, with the exit-pipe *c*, the latter being secured to the casing about midway between the top and bottom of the same. The pipe *b* is of such a size as to fit snugly within the pipe *c*, so that there can be no communication between the interior of the stove and the pipe *c*, excepting through the pipes E and *b*. At the lower end of the pipe E is a damper, *d*, the spindle *e* of which projects through the casing to the outside of the same. When a fire is kindled in the stove, the damper *d* is turned, so that the products of combustion can pass freely in the direction of the blue arrows from

the fire directly to the chimney. After the fire has become fully ignited, the damper *d* is turned to the position shown in Fig. 1, the lower end of the pipe E being thus closed and the heated gases and products of combustion compelled to take a course first upward to the top of the stove and thence downward through the pipe E and along the pipes *b* and *c* to the chimney, as shown by red arrows, Fig. 1.

In stoves of the ordinary construction a large proportion of the fuel is uselessly consumed in generating and heating gases, which escape directly to the chimney without being brought in contact with and giving off their heat to the sides and top of the stove. This is especially the case with what are known as "upright-cylinder stoves," where the exit-opening is placed at the back some distance from the top, the heated gases passing directly to this opening and carrying off to the chimney the heat which in a stove of the proper construction might be economically employed for heating the room. In my improved stove this difficulty is obviated by compelling the heated gases to travel in a course indicated by the red arrows, so that they shall pass in contact with the sides and top of the stove and impart to the same the heat which in stoves of the ordinary construction would be carried to the chimney.

It will be apparent that stoves of the ordinary construction can be readily provided with my improvement at but a slight expense.

I claim as my invention and desire to secure by Letters Patent—

The pipe E, with the damper *d*, or its equivalent, formed and arranged within the casing B of a stove, and communicating with the opening *c*, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN S. TILTON.

Witnesses:

CHARLES FOSTER,
JOHN WHITE.