STUART & BRIDGE.

Fireplace Stove.

No. 90,910. Patented June 1, 1869.

Fig. 1.

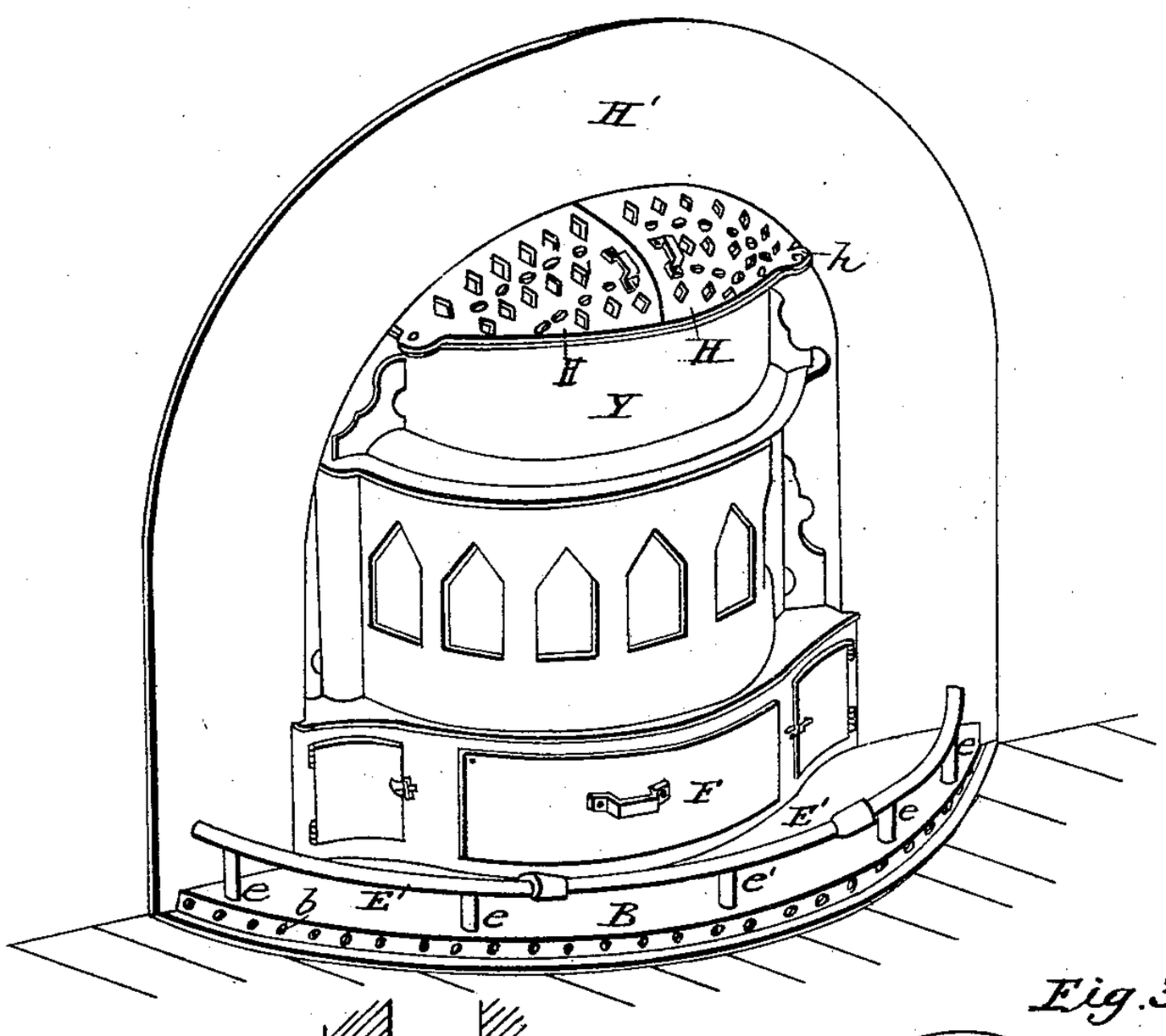


Fig. 2.

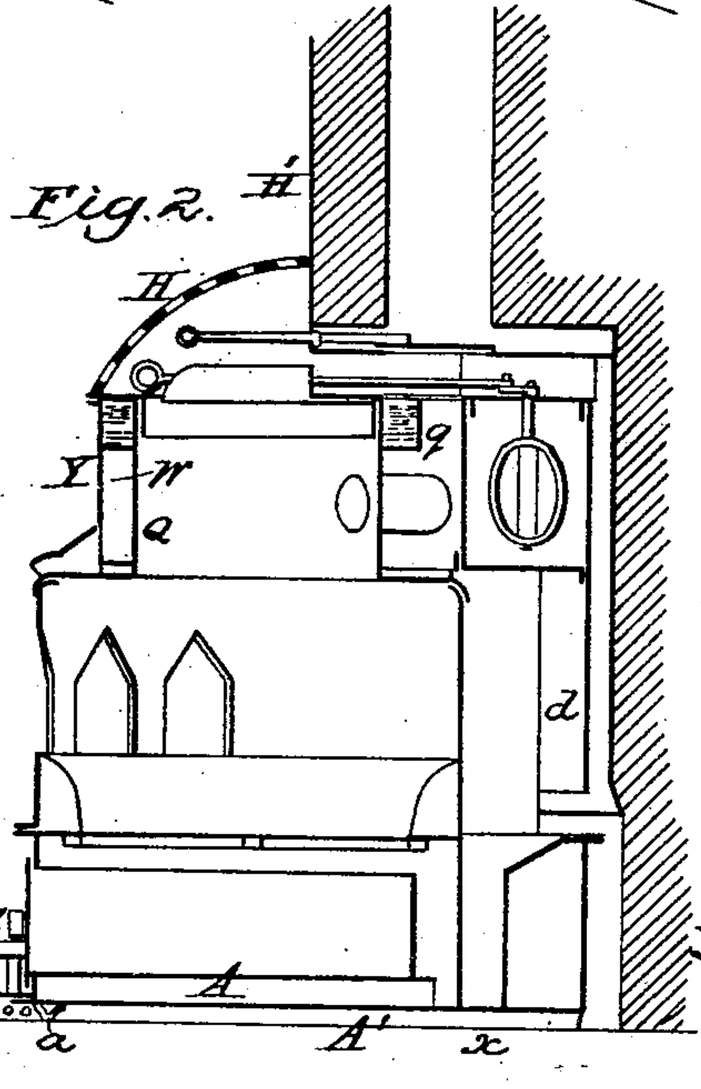


Fig. 3.

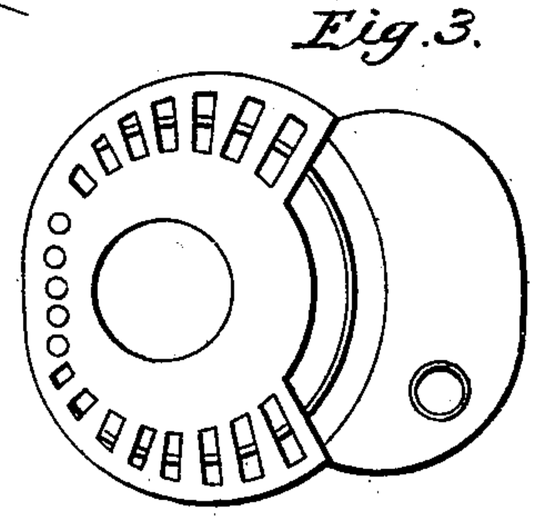


Fig. 4

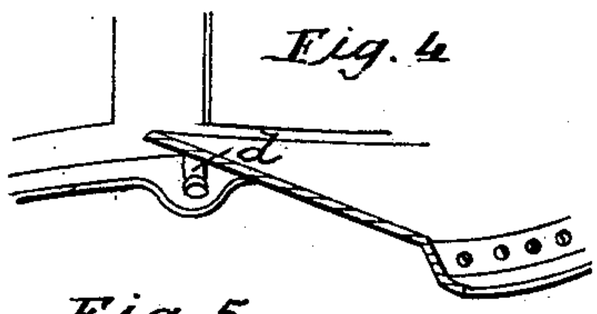
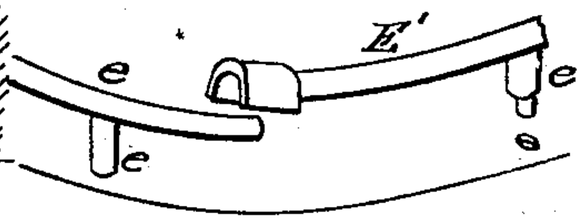


Fig. 5.



Witnesses.
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DAVID STUART AND LEWIS BRIDGE, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 90,910, *dated June* 1, 1869.

IMPROVEMENT IN FIRE-PLACE STOVES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, DAVID STUART and LEWIS BRIDGE, both of Philadelphia, Pennsylvania, have invented certain Improvements in Base-Burning Fire-Place Stoves; and we do hereby declare the following to be a full, clear, and exact description of the same.

Our invention relates, for the most part, to certain improvements in base-burning fire-place stoves, for which Letters Patent were granted to us, June 23, 1868; and

Our improvements consist—

First, of a fire-place stove, on which a flange, or hearth-plate is arranged, as fully described hereafter.

Second, of a hearth-plate, forming a continuation of the bottom-plate of the stove.

Third, in making the said hearth-plate detachable, for cleansing-purposes.

Fourth, of a water-reservoir, placed within the hot-air chamber of a base-burning stove, which surrounds or is adjacent to the feeder, so that the vapor from the water may mingle with and purify the hot air which enters the room in which the stove is situated, as well as that which is conducted to the rooms above, all substantially as described hereafter.

In order to enable others skilled in the art to make and use our invention, we will now proceed to describe its construction and operation, reference being had to the accompanying drawing, which forms a part of this specification, and in which—

Figure 1 is a perspective view of our improved fire-place stove;

Figure 2, a transverse section of the same;

Figure 3, a view of the top of the stove, with the screen removed;

Figure 4, a perspective view of part of the hearth-plate; and

Figure 5, a perspective view of part of the fender.

Similar letters refer to similar parts throughout the several views.

Our present invention relates, for the most part, to improvements on the base-burning fire-place stove for which Letters Patent were granted to us on the 3d day of May, 1867.

In the latter stove, the bottom-plate A was arranged to bear directly on the floor, to which undue heat was consequently imparted, and this is common to all fire-place stoves.

In order to obviate this evil, and at the same time avail ourselves of the heat of the bottom-plate, the latter is elevated, in our present improvement, a short distance above the floor *x*, by suitable projections *a*, thus forming an air-chamber, A′, between the said bottom-plate and the floor, communicating with the hot-air chambers at the back of the stove, which are so fully described in our former patent, that a description of them here will be unnecessary.

Thus, the heat of the bottom-plate, instead of being imparted to the floor, is added to the heat distributed from the hot-air chambers, either into the room or into passages communicating with upper rooms.

The bottom-plate A is continued outward in front, so as to form a hearth-plate, B, the flange *b*, on the outer edge of which, rests on the floor, so that the space beneath the hearth-plate and the floor forms a continuation of the above-mentioned air-chamber, to which air is admitted through perforations in the said flange *b*.

The hearth-plate B is, in the present instance, detachable, the rear edge resting on a flange of the bottom-plate, in which are holes for receiving pins *d*, on the hearth-plate. (See fig. 4.)

The detachability of the said hearth-plate renders it more convenient for cleaning-purposes.

On the hearth-plate, and supported by pins *e e*, is a rail, or fender E, affording a rest for the feet.

A central portion, E′, of this fender, with its pin *e′*, is made detachable, the lower end of its pin fitting loosely into a hole in the hearth-plate, (fig. 5,) and its opposite ends resting on the other parts of the fender, which are secured permanently to the hearth-plate.

On removing this central section E′ of the fender, the ash-drawer F can be removed and replaced.

Instead of the section E′ of the fender being entirely detachable, it may be pivoted at one end to the permanent portion of the rail, so as to be turned outward when the ash-drawer has to be removed.

The stove is furnished with a feeder, or coal-reservoir, similar to that described in our former patent, and shown at fig. 2, the fuel being introduced at the top.

Although we have illustrated and described the screen, we make no claim to it here, as it forms the subject of another application for Letters Patent.

The feeder is suspended within a casing, Q, which may be found in other base-burning stoves, the space W, between this casing and the outer casing V of the stove, being a hot-air chamber, within which, near the top of the stove, we place an annular vessel, *q*, for containing water, this being so situated that the vapor for purifying the heated air will unite both with that which passes into the room and that which is conveyed to upper rooms—an arrangement which may be used to advantage in other base-burning stoves.

We claim as our invention, and desire to secure by Letters Patent—

1. A fire-place stove, having at the base a flange,

or hearth-plate, B, arranged substantially as described.

2. The hearth-plate B, forming a continuation of the bottom-plate of the stove, and having in front a perforated flange, *b*, to which air is admitted beneath the said hearth-plate and bottom-plate, all substantially as described, for the purpose specified.

3. The hearth-plate B, arranged to rest with its flange *b* on the floor, and so connected to the stove as to be detachable therefrom, for the purpose specified.

4. A water-reservoir, *q*, placed within the hot-air chamber of a base-burning stove, which contains the feeder, so as to communicate both with the lower and with the upper chamber, for the purpose specified.

In testimony whereof, we have signed our names to this specification, in the presence of two subscribing witnesses.

DAVID STUART.
LEWIS BRIDGE.

Witnesses:
JOHN WHITE,
C. HOWSON.