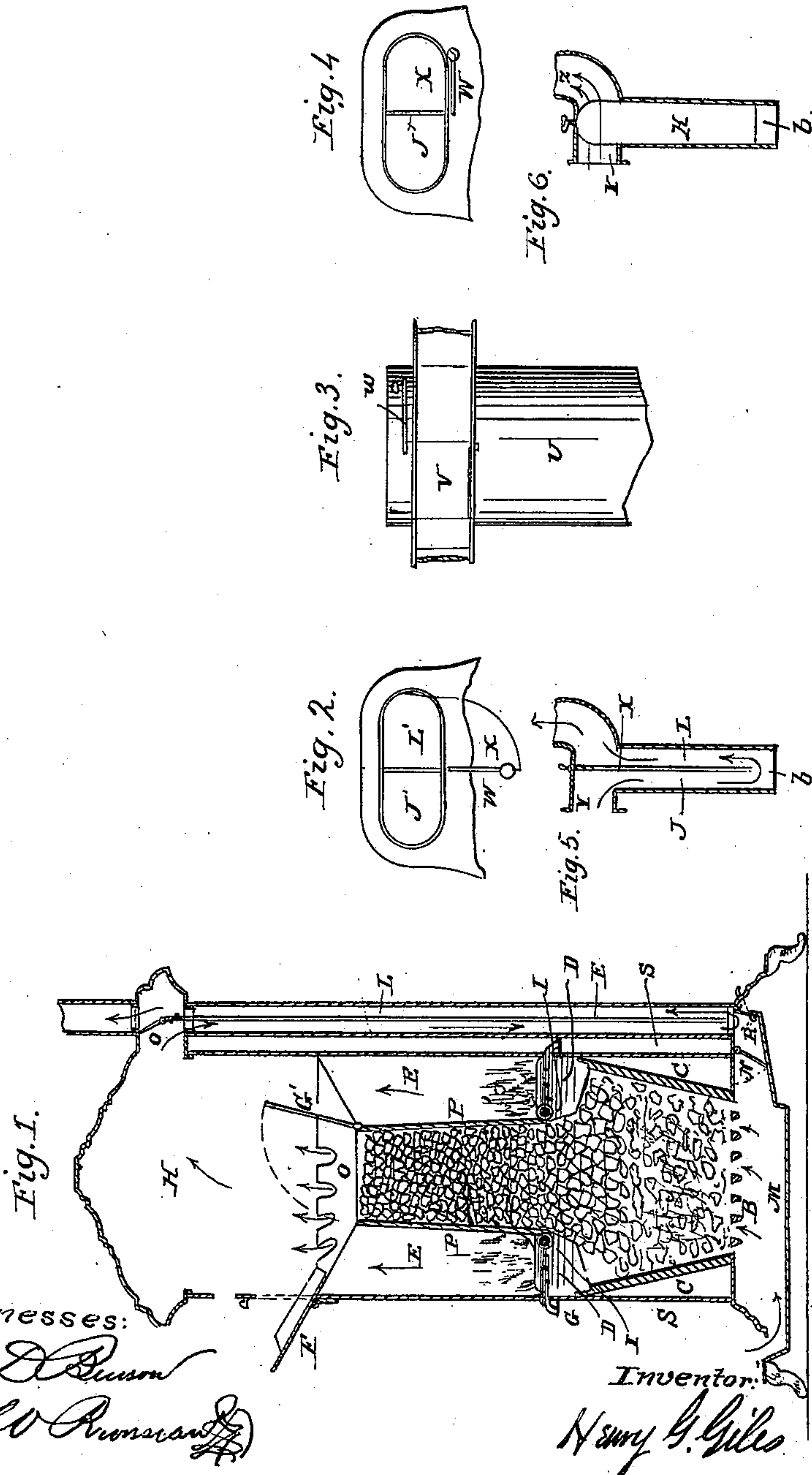


H. G. GILES.

Magazine Stove Flue and Damper.

No. 44,180.

Patented Sept. 13, 1864.



Witnesses:

Saml D. Benson
Wm C. Benson

Inventor:

Henry G. Giles

UNITED STATES PATENT OFFICE.

HENRY G. GILES, OF TROY, NEW YORK.

IMPROVEMENT IN OUTSIDE FLUES AND DAMPERS FOR HEATING-STOVES.

Specification forming part of Letters Patent No. 44,180, dated September 13, 1864.

To all whom it may concern:

Be it known that I, HENRY G. GILES, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful improvement in what is known as base-burning stoves, and others which have no outer revertible flue; and I do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawings, making part of this specification.

Figure 1 shows a vertical section of a base-burning stove with improvements attached. Fig. 2 shows the division of an oblong flue by an end view with the double-acting damper. Fig. 3 shows an inner view with said damper closed. Fig. 4 shows an end view with the damper closed. Fig. 5 shows a T-pipe with suspended flue division. Fig. 6 shows the same suspended flue division turned.

The same letters indicate like parts in all the figures.

My invention consists, chiefly, in an outward revertible flue, J and L, constructed by placing the division K in the center of the back pipe, at the top of which is a damper, Q, which, when turned back, opens a direct upward draft from the chamber H, but when turned forward turns the draft from chamber H down the flue J, to the lower end of division K, and thence up the flue L to the pipe which leads off to the chimney. At the lower end of the flues J and L is a damper, R, through which, when open, air from near the floor is admitted and taken up into the flue L and passed off through the pipe into the chimney. Thus, by taking cold and impure air from the room this damper R becomes a complete ventilator to the room where the stove is in use, and at the same time performs another office—viz., by this large admission of air for ventilation, the draft through the flue J is impeded and moderately checked. The damper M, when turned up, opens a communication from ash-chamber M to flue L, which causes a powerful back-draft that prevents all dust and ashes from escaping into the room when shaking the grate or taking up the ashes. It also acts as a counteraction of the combustion of the fuel in chamber A by diverting the supply of oxygen.

The flues J and L may be constructed in many different ways. They may be made

longer or shorter. They may be constructed in a round, oblong, oval, or square pipe. One or both of these flues may be brought down inside the outer casing of the stove, or they may be projected partly or wholly outside the proper line of said casing; but every inch of projection of these flues J and L outside the proper or regular line of the casing of the stove adds just so much to the radiating-surface and power of the stove for heating. Therefore, projecting flues, or flues set out from the stove, are preferable. Said flues may be used on any kind of stove that otherwise has no revertible flue.

The dampers or valves at the top of the flues J and L for changing the draft may be made and operated in different ways and effect the same thing—viz., the changing the draft from revertible to direct, and from direct to revertible. Fig. 2 shows a double-acting damper, W, at the top of the flues J' and L', turned so as to open both flues for a direct upward draft, with the wing V extended perpendicularly crosswise of the oblong pipe, while the other wing, X, is horizontally at right angle from the flues J' and L'. Fig. 3 shows said damper W closed with wing V, shutting the flue L from chamber H, while Fig. 4 shows wing X closing flue J' at the top, but leaving it open to the chamber H. Fig. 5 shows a vertical section of a round perpendicular pipe connected at the top with a horizontal pipe, which leads from the top part of any stove, to which it may be attached at the end Y. In the center of the pipe b is suspended the partition K, which turns the draft from the stove down the flue J, and thence up the flue L to the exit-pipe Z. Fig. 6 shows the suspended partition K turned lengthwise of pipe Y and Z, leaving the said pipe open from Y to Z, thus making a direct draft from the stove to which it may be attached.

The effect of the exterior revertible flues as to retaining the heat in the stove is the same as an interior reverting flue. The flue J becomes a balancing column against that of the heat in chamber H arising from the combustion, the surplus of which is taken off by the flue L.

I claim—

1. In a stove which has both a chamber of combustion and supply, the flues J and L, projecting partly or wholly outward from the

regular or proper line of the casing of the stove, operating as and for the purposes described.

2. In the same kind of stove, in combination with said flues J and L, the damper R, or any opening to said flues admitting exterior air to either of them, for the purposes set forth.

3. In the same kind of stove, in combination with said flues J and L, the damper N, operating as and for the purposes set forth.

4. The double-acting damper W, which at

the same time closes off the product of combustion from one of said flues and turns the other downward.

5. The suspended flue-division, or equivalent, acting as a damper for changing the course of the draft, as described.

HENRY G. GILES.

Witnesses:

BENJ. D. BENSON,
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