

I. H. Gildersleeve,

Magazine Stove.

No. 81,360.

Patented Aug. 25, 1868.

Fig. 1.

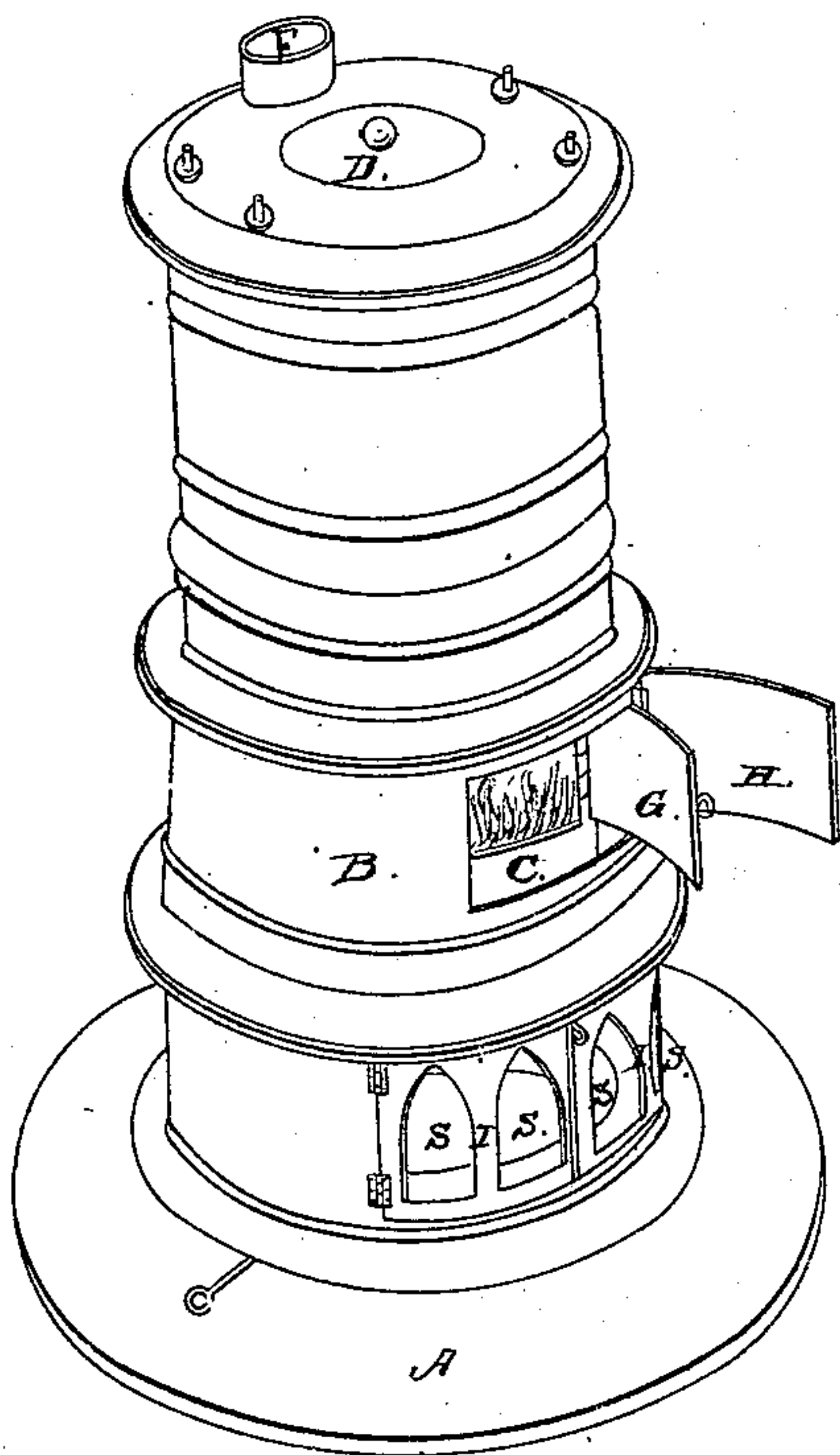


Fig. 2.

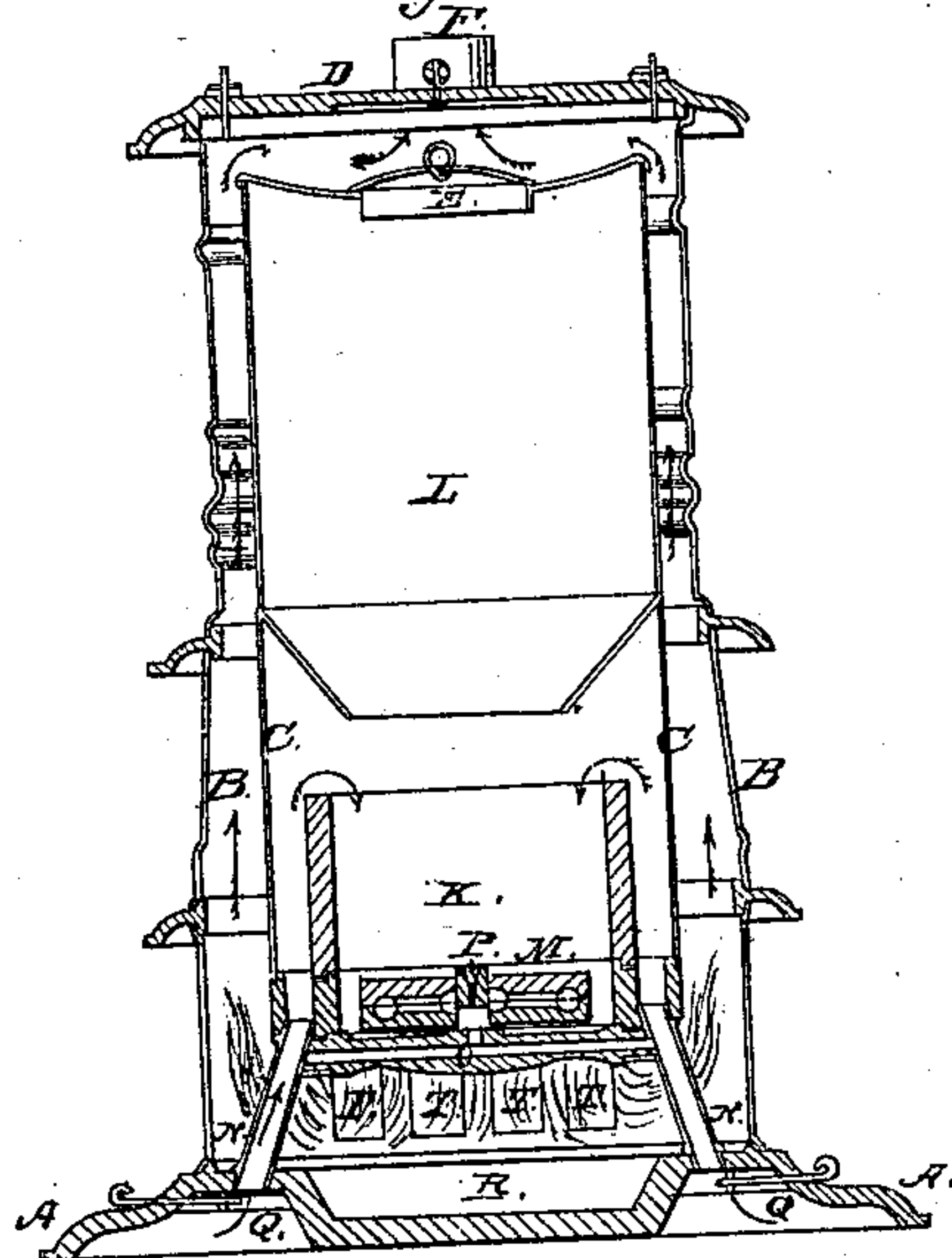


Fig. 3.

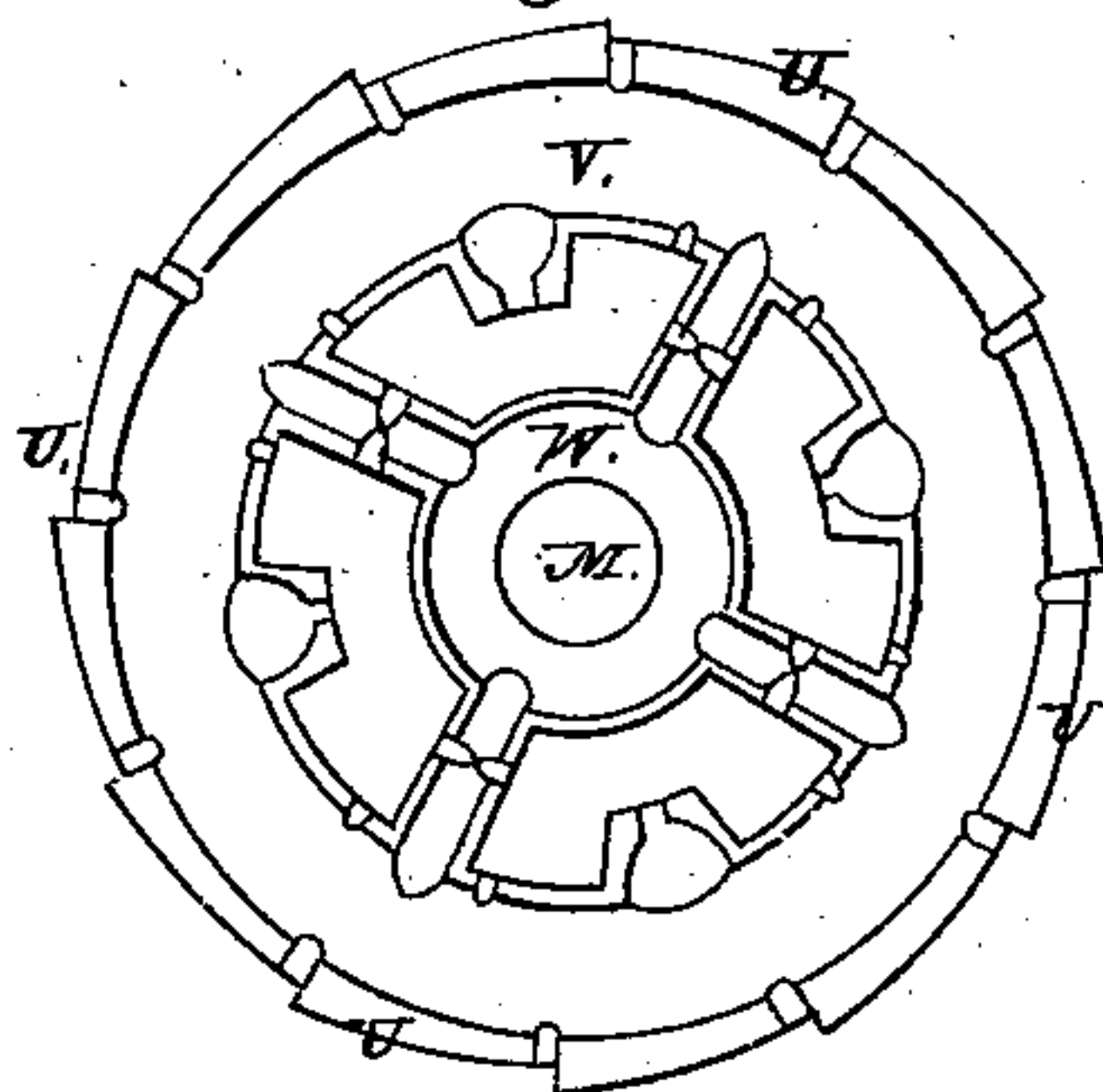
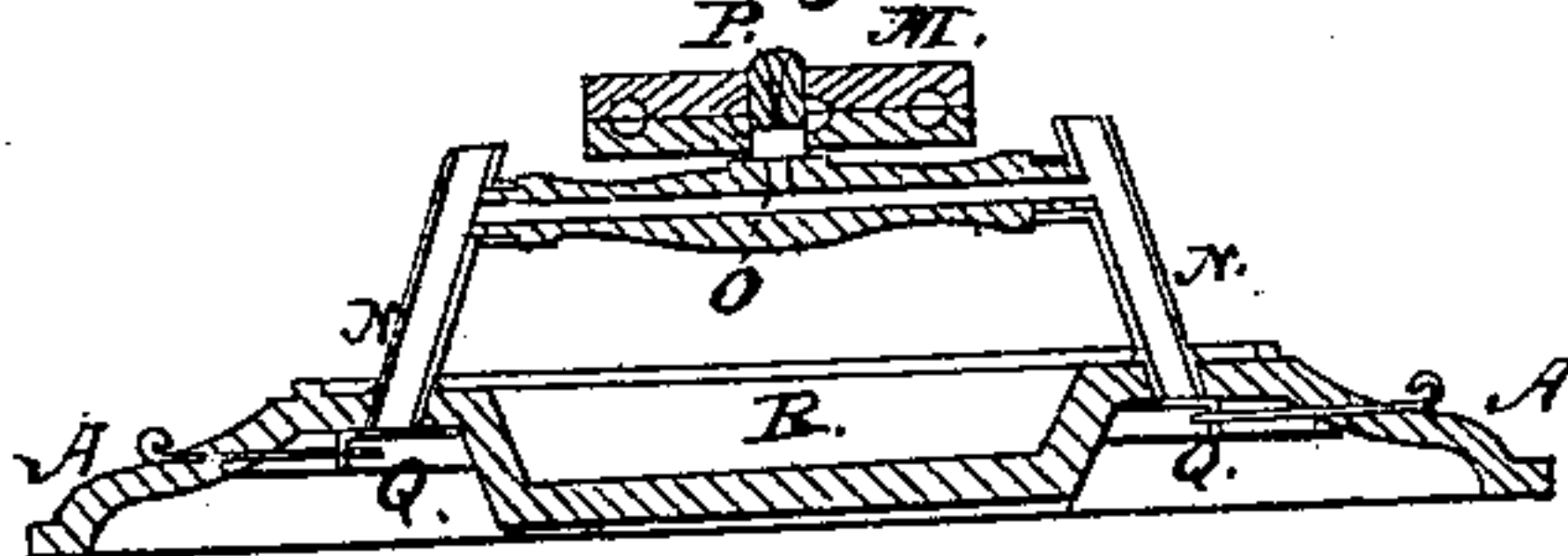


Fig. 4.



Witnesses:
Harrison Livingston
Percy B. Smith

Inventor:
Isaac H. Gildersleeve.
By his Atty J. B. Smith

United States Patent Office.

ISAAC H. GILDERSLEEVE, OF WHITEWATER, WISCONSIN.

Letters Patent No. 81,360, dated August 25, 1868.

IMPROVEMENT IN BASE-BURNING 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 I, ISAAC H. GILDERSLEEVE, of Whitewater, county of Walworth, and State of Wisconsin, have invented a new and useful Improvement in Base-Burning, Gas-Consuming Coal-Stoves; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawing, forming part of this specification, in which—

Figure 1 is a perspective view.

Figure 2, vertical sectional view.

Figure 3, view of the upper side of the lower half of the grate.

Figure 4, sectional view of the bottom of the stove, draught-pipes, and grate.

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

The object of my invention is to produce a stove with a magazine for coal, the burning of which shall be at the base, with a downward draught, and so arranged that the fire shall be easily and expeditiously kindled, and the gas escaping from the coal be entirely consumed, obtaining a perfect combustion of fuel.

A, base of the stove; B, the outer shell; C, inner shell; D, cover to the opening in the top of the outer shell; E, cover to the opening in the top of the inner shell, leading to the coal-magazine; F, smoke-pipe; G, door to the inner shell; H, door to the outer shell; I I, doors to the ash-pit, with openings for mica windows; K, fire-pot; L, coal-magazine, with a contracted opening at the bottom over the fire-pot; M, fire-grate, made in two parts, with openings in its several arms and rings for air to pass through to keep it cool, and to supply oxygen to the gas escaping from the coal, to make perfect combustion. N N, air-pipes. Their lower ends open at the bottom of the stove for the entrance of air, and their upper ends open into the space between the inner shell and the fire-pot, for the air to pass through to support combustion of the coal. O, hollow pipe, its ends connecting with air-pipes N N. P, a hollow thimble on pipe O, over which the grate M sets. At the base of this thimble are openings on each side of it, through which air passes from pipe O into and through the several air-passages in the grate. Q Q, dampers with which to close and open the lower ends of pipes N N, to regulate the draught. R, ash-pit; S S S S, openings for mica windows in the ash-pit door; T T T T, openings for mica windows into the ash-pit from the back of the stove. These windows are for the purpose of showing the blaze of the fire as it descends below the grate. U, serrations in the periphery of the grate, to relieve the grate when coal or clinkers get between the grate and the bottom of the fire-pot. V, an annular air-space in the grate near its outer rim; W, an annular air-space near the centre of the grate.

Operation.

Coal is poured into the magazine M through the openings in the top, which, passing down through its contracted bottom, fills the fire-pot K. Coal may be poured in till the magazine is filled, the coal at its bottom resting on the coal in the fire-pot. Kindlings are then put on the coal in the fire pot around its edge, under the slope of the magazine, and fire applied to them. This is done through doors G and H. Then doors G and H are closed, and dampers Q Q are opened; air then passes up through air-pipes N N to the fire, as indicated by the arrows, and as there is no escape for it except down through the coal, to and through the grate, it takes that course, and passes out around the bottom of the inner shell C, and up between the two shells, and escapes through pipe F. This ignites the coal, and it burns from the top of the fire-pot to the bottom.

Air passes from pipes N N, through pipe O and thimble P, to the interior of the grate, and out through the openings therein, coming in contact in jets with the gas escaping from the burning coal, supplying oxygen enough to support combustion, and thus the gas is consumed, and complete combustion obtained.

This cold air passing through the grate, keeps it sufficiently cool to prevent it from being rapidly burned out by the heat.

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

1. A stove, consisting of base, A, outer shell B, inner shell C, pot K, magazine L, grate M, and pipes N N, substantially as described.
2. Grate M, when made with air-spaces for air to pass through, for the purpose of consuming the gases from the coal, and to keep the grate from burning out, substantially as described.
3. Grate M, with a serrated rim, substantially as described.

Witnesses:

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