

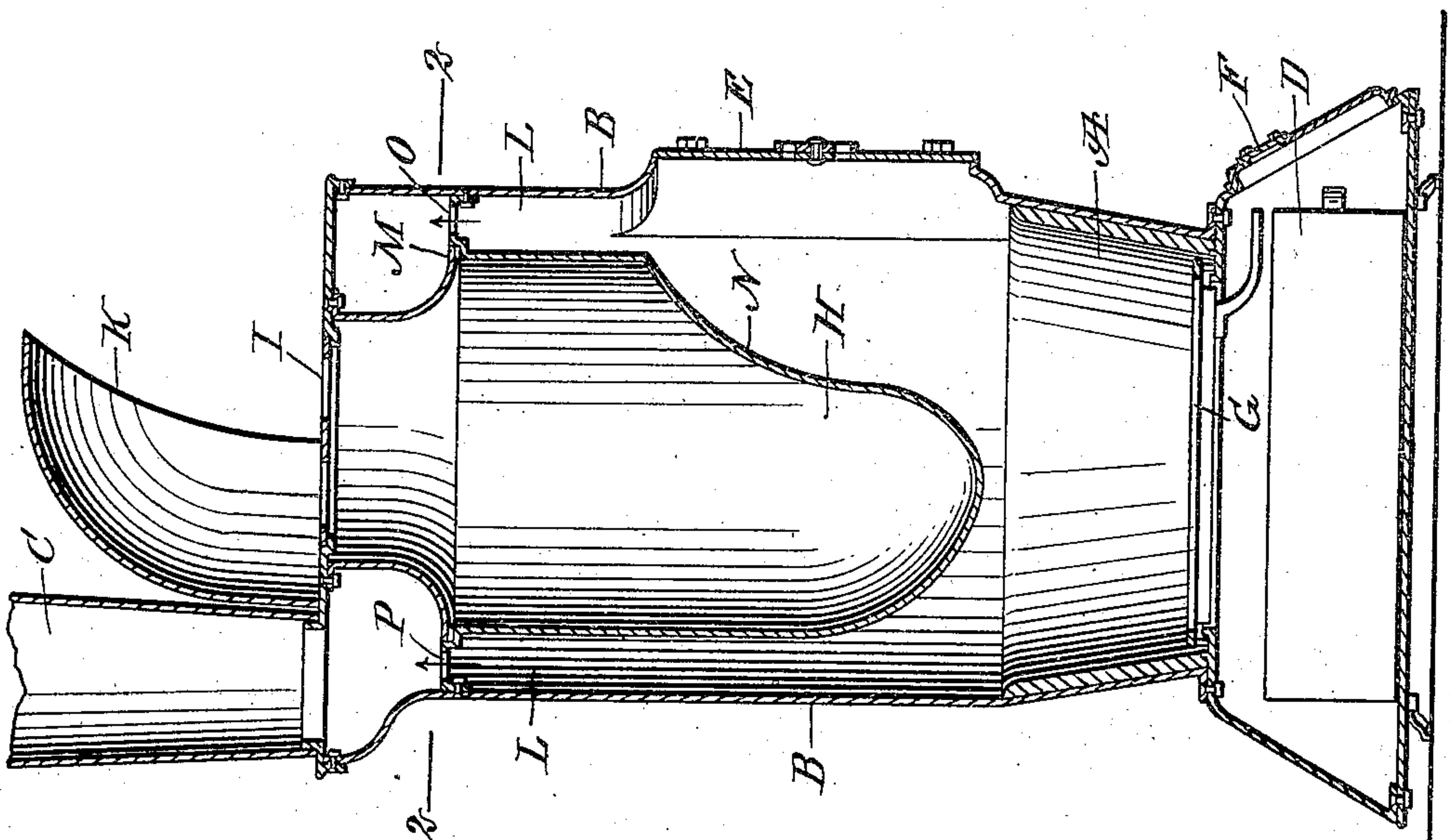
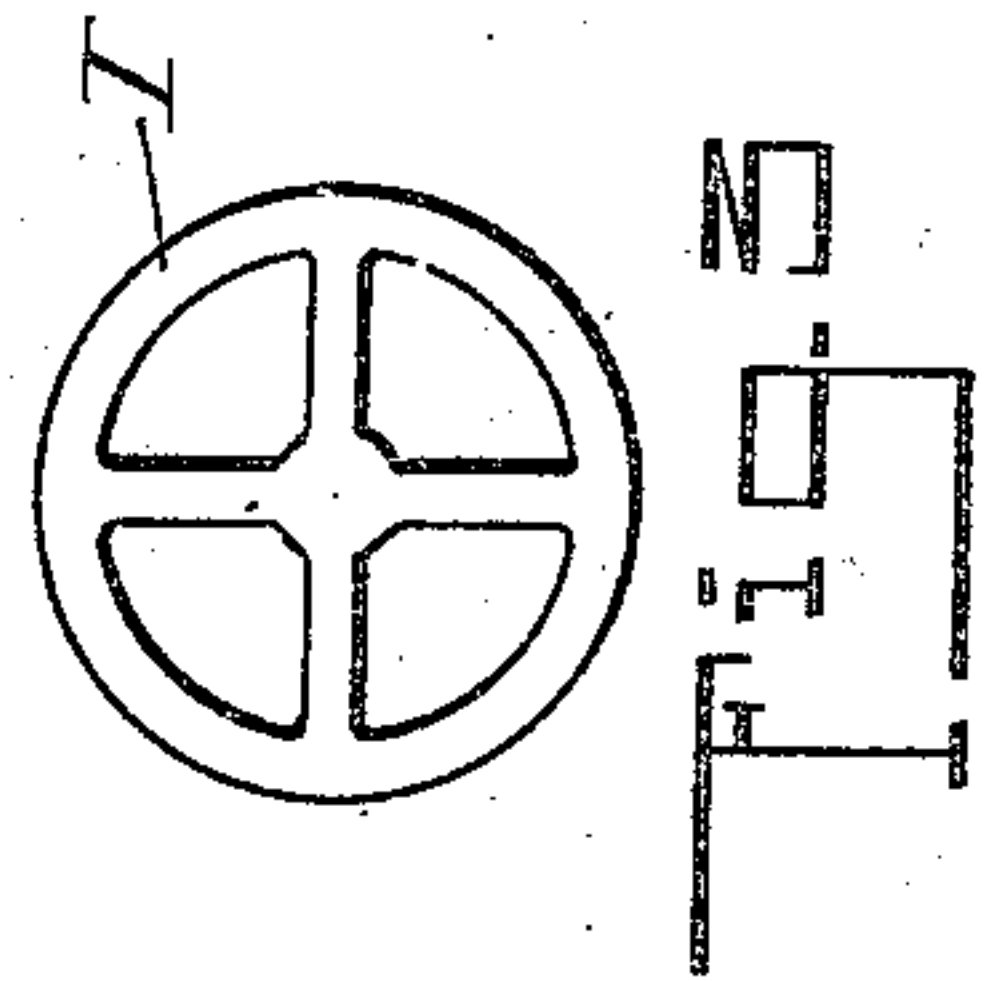
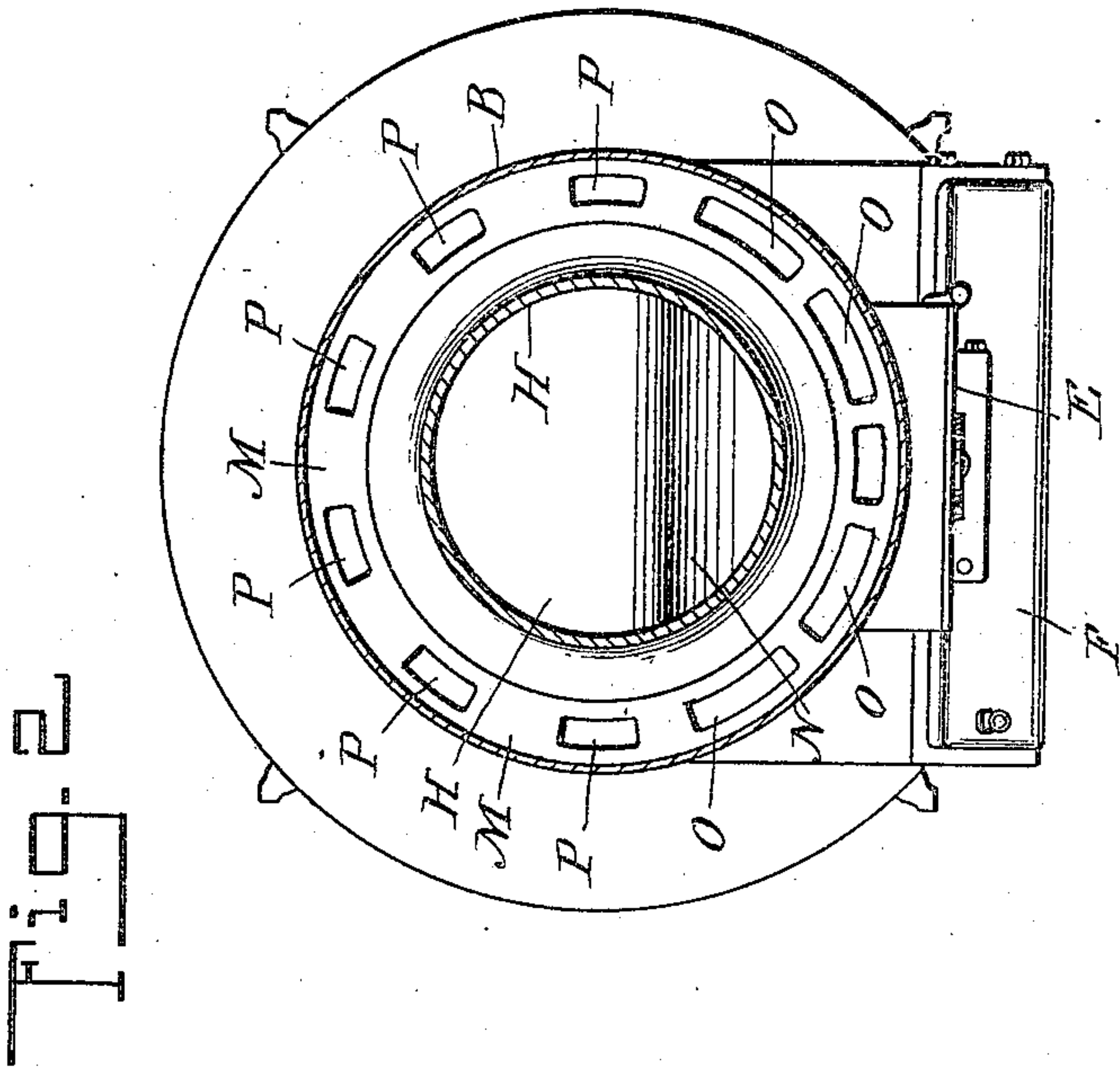
F. MADSEN.

STOVE.

APPLICATION FILED APR. 6, 1909.

934,739.

Patented Sept. 21, 1909.



WITNESSES

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STOVE.

934,739.

Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed April 6, 1909. Serial No. 488,190.

To all whom it may concern:

Be it known that I, FRANDS MADSEN, a subject of the King of Denmark, and a resident of Wilbur, in the county of Lincoln and State of Washington, have invented certain new and useful Improvements in Stoves, of which the following is a full, clear, and exact description.

The present invention has for its principal objects the following: first. to increase the available radiating surface in a stove; second. to cause the heated gases to maintain closer and more intimate contact with the metal of the radiating surfaces; third. to regulate the output in heat of the radiator.

Reference is to be had to the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a vertical section of a stove constructed in accordance with my invention; Fig. 2 is a cross section of the stove taken on the line 2—2 in Fig. 1; and Fig. 3 is a plan of a grating for practically covering the upper opening of the internal radiating chamber.

The structure as shown may be divided into groups of parts relating to the fire pot A, the radiator section B, and the flue C.

The present invention relates more particularly to the radiator section. The fire pot A, the ash pan D, the fire door E, the ash door F, grate bars G and flue C are all of the usual form and construction.

The radiator section B differs in the employment of the internal chamber H with its regulating cover I and deflector K. Also in the forming, by the use of the chamber H, the annular passage L, for the heated gases of combustion, and by the use of the perforated cover M, to regulate the exit of the said gases from said passage.

The chamber H is provided with the closed bottom shown and is substantially cylindrical in form. In size the chamber is of a diameter to approach the outer walls of the stove, close enough to spread the heated gases in a thin layer while not choking the draft. By thus spreading the gases, the contained heat is brought in closer contact with the metal walls of the radiator section. By thus bringing the total volume of heated gas in closer contact with the metal, a larger proportion of such heat is transferred to the metal.

The lower end of the chamber H is extended downward toward the fire bed, the object being to introduce the blue flame of initial combustion upon the metal of the chamber H. To permit this extension of the chamber, without interfering with the introduction of the coal into the stove, the wall of the chamber is retracted at N, as shown in Fig. 1.

The heated gases on rising from the fire would naturally be drawn directly to the flue C. If unrestrained, this would leave the upper portion of the radiator section—both internal and external walls—farthest removed from the flue, comparatively cool. It is desirable to distribute the heated gases so that the more rapid movement of the smaller quantity of the gases near the flue will be compensated by the larger volume passing more slowly from the radiator at a point removed from the flue. Therefore, I provide the perforations O, O, which are larger than the perforations P, P on the side of the stove removed from the flue, as shown in Fig. 2 of the drawings.

The perforations in the cover I may be partially or entirely closed by using a suitable lid. The cover is sometimes removed, to be replaced by a suitable pipe or drum for conveying off the heat radiated in the chamber H, for use in warming a room at a distance from the stove. When this substitution of the lid by a heat duct is made, the deflector K is likewise removed; thus a double use of the stove may be obtained.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:

1. A stove, comprising a cylindrical body portion vertically disposed, having a fire-pot and a side-opening feed door, a flue for the products of combustion, opening from the top of said body portion, a hollow chamber adapted to partially fill the interior of said body portion to form contracted passages between the vertical walls of said chamber and said body portion, the said hollow chamber having closed bottom and side walls and contracted at the upper portion to form an annular chamber for the conveyance of the products of combustion to the said flue, said hollow chamber opening outward from said body portion and at the top thereof, and a partition adapted to hold said hollow chamber within said body portion equally distant from the walls of said body

portion, and perforated, said perforations being graduated to induce the passage of a portion of the products of combustion into the said annular chamber at the side of the stove removed from said flue.

2. A stove, comprising a cylindrical body portion vertically disposed, having a fire-pot and a side-opening feed door provided with a flue for the products of combustion, opening at the top of said body portion, a hollow chamber adapted to partially fill the interior of said body portion to form a contracted passage between said body portion and the said chamber, said chamber having closed sides and bottom, and a contracted, neck-like portion at the top thereof opening outside the said body portion and forming within said body portion an annular chamber for the products of combustion, a partition adapted to hold the said hollow chamber

within said body portion equally distant from the walls of said body portion, and provided with perforations graduated to induce a portion of the products of combustion to pass from said body portion into said annular chamber at the side of the stove removed from said flue, and a deflecting hood mounted upon said body portion and forming a part thereof and inclined over the open end of said chamber to deflect the heat rising from said chamber, horizontally from said body portion.

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

FRANDS MADSEN.

Witnesses:

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RUDOLPH M. RASMUSSEN.