(No Model.) 2 Sheets—Sheet 1.

M. RYAN.

HEATING DRUM.

No. 329,857. Patented Nov. 3, 1885.

Fig. 1.

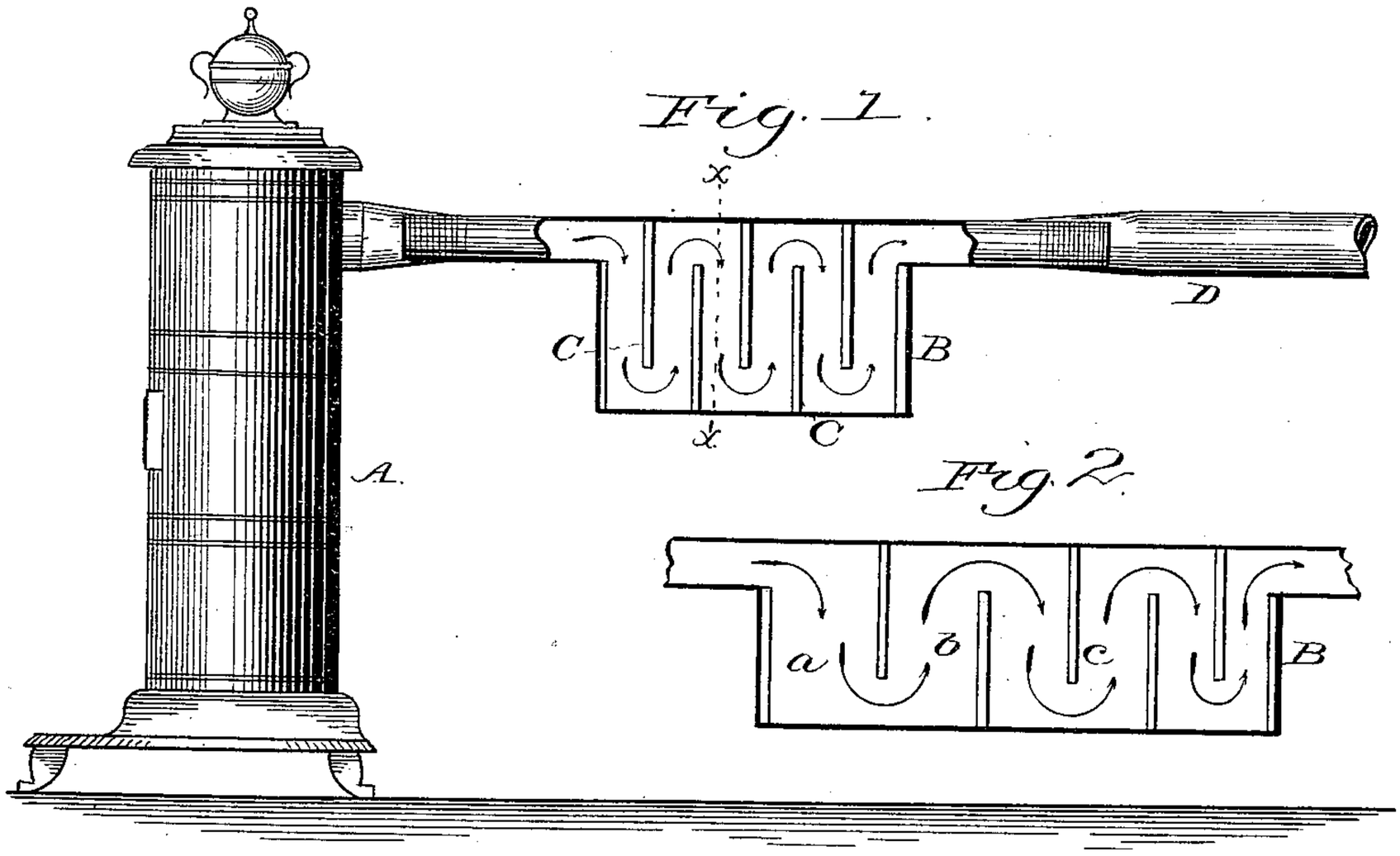


Fig. 2.

Fig. 3.

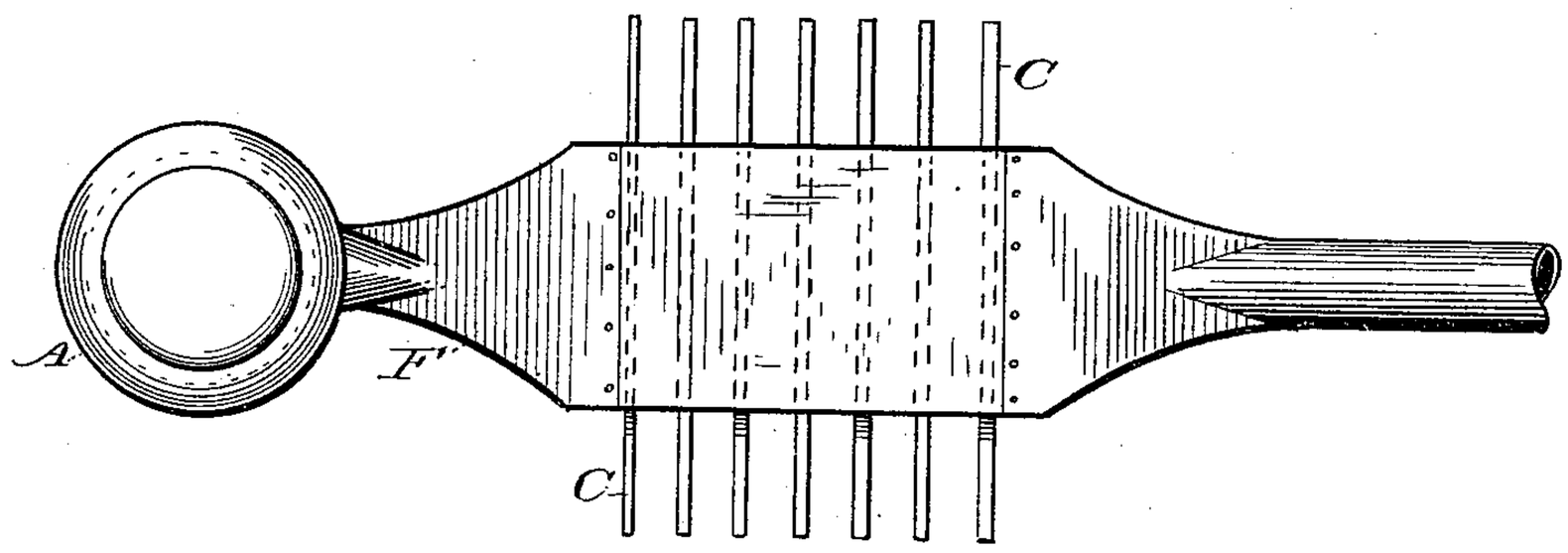
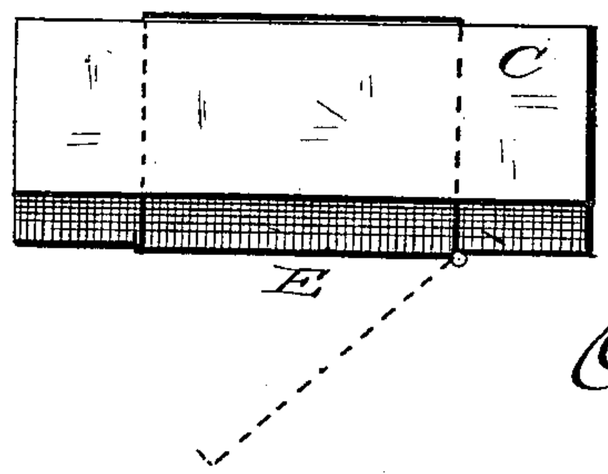


Fig. 4.



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(No Model.) 2 Sheets—Sheet 2.

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Fig. 5.

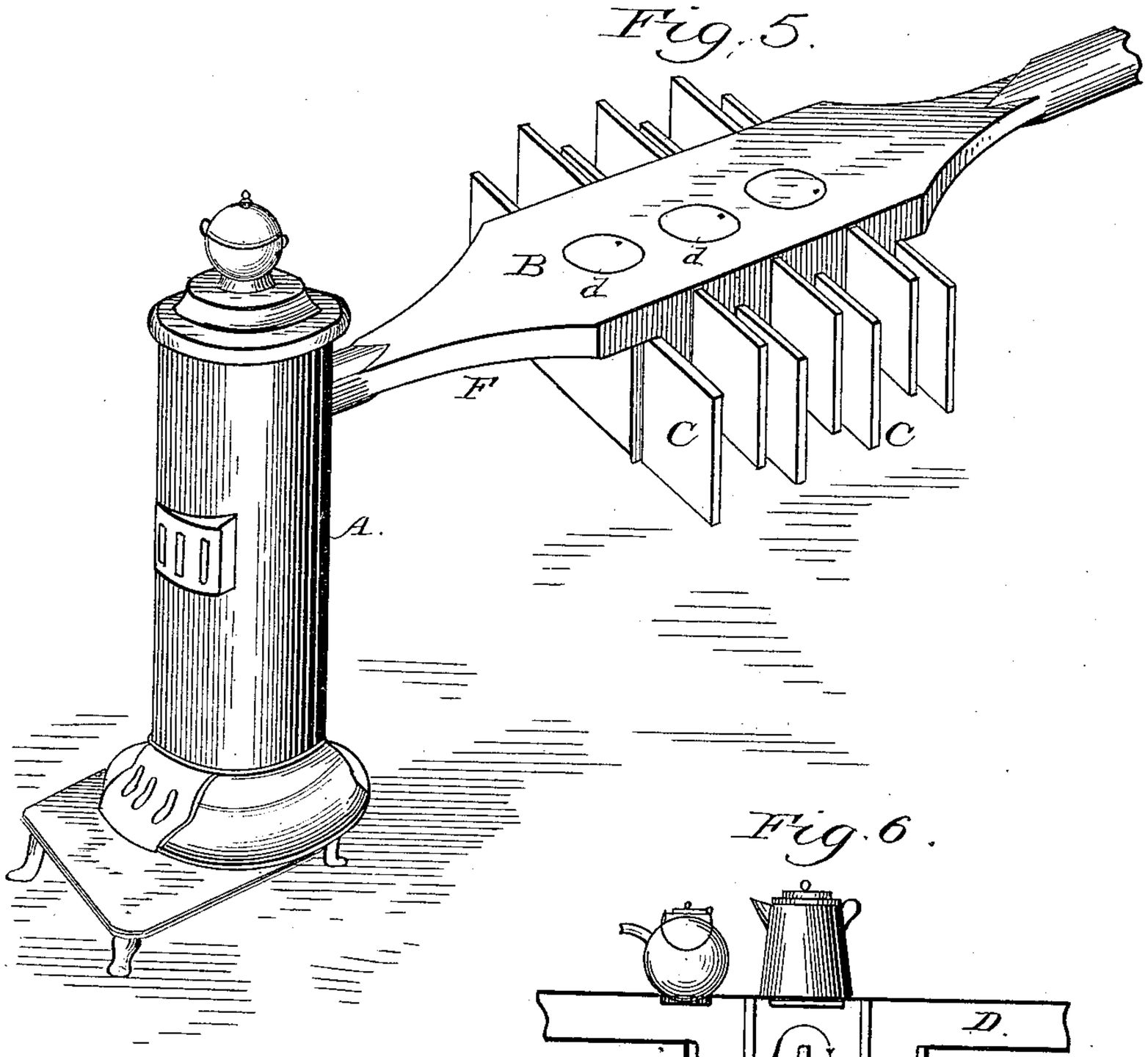


Fig. 6.

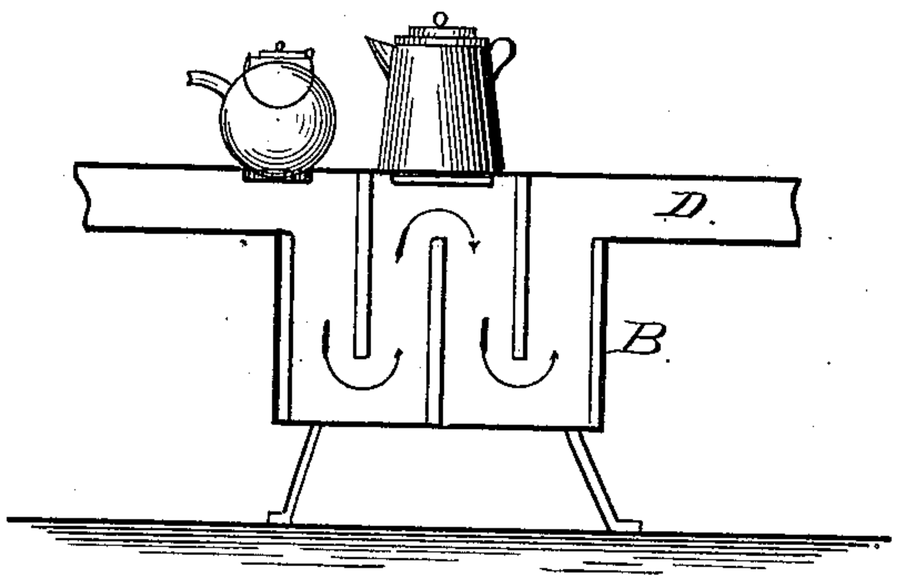
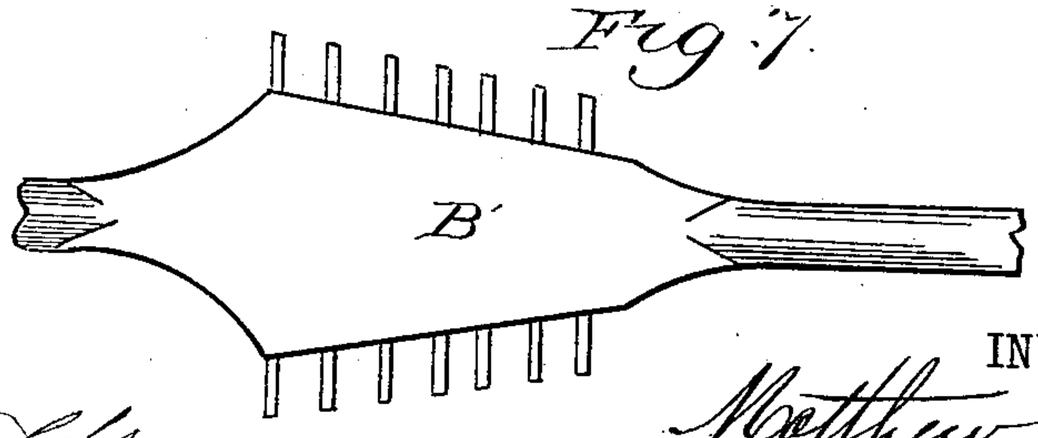


Fig. 7.



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MATTHEW RYAN, OF WASHINGTON, DISTRICT OF COLUMBIA.

HEATING-DRUM.

SPECIFICATION forming part of Letters Patent No. 329,857, dated November 3, 1885.

Application filed November 24, 1884. Serial No. 148,731. (No model.)

To all whom it may concern:

Be it known that I, MATTHEW RYAN, of Washington, in the District of Columbia, have invented certain new and useful Improvements in Heating-Drums; and I do hereby declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to heating-drums for stoves, and has for its object to furnish an improved article of this class which shall be simple in construction and strong in use.

With these objects in view I have constructed the parts which I shall now proceed to fully describe, and the particular points of novelty which I shall specifically point out in the claims.

Referring to the accompanying drawings, Figure 1 shows a stove in elevation with one form of my invention attached, which shows the intercepting plates in section and at equal distances apart. Fig. 2 shows a longitudinal sectional elevation of another arrangement of the intercepting and transmitting plates, in which the distances between the plates are continuously diminished from the ingress to the egress end. Fig. 3 is a top plan view of the drum, showing the plates extending from the sides thereof, and also the contour of the apparatus. Fig. 4 shows an end elevation of the drum and one of its plates, also the heat-current passage beneath the plate and the hinged bottom of the drum shown open in dotted lines. Fig. 5 is a perspective view of a stove with my heating apparatus attached. This view shows the position of the heat-absorbing and transmitting plates. Fig. 6 is a detached sectional view, with culinary vessels, showing how the drum may be utilized in other respects than for radiation of heat. Fig. 7 shows another form of drum in which the distances between the plates are equal, but the drum continuously increases in width or depth, or both, from the egress to the ingress end, whereby the current is kept a longer time in contact with the absorbing and transmitting plates, whereby, also, the current is continuously condensed, and by all of which means the entire available heat is extracted from the otherwise waste gases.

The heat-transmitting plates are placed so as to shut off the current alternately from the top and bottom, thus forming a zigzag passage.

The door shown in Fig. 4 forms the bottom of the drum, so that when open easy access is had to all or any part of the interior of the dram to clean it, or for other purposes.

Referring by letters to the drawings, which indicate like parts in all the figures, A is the stove; B, the chamber or drum; C, the heat absorbing and transmitting plates; D, the stove-pipe; E, the hinged bottom, and F the finished end of the drum, which may be rounded, concave, or of any suitable design.

a b c represent the varying and diminished sized chambers; *d*, the holes for the culinary vessels.

Legs may be applied to the drum when deemed advisable, or in case the drum is not connected to the stove, as when steam-heat or other hot vapors or gases are to be utilized both for cooking and heating.

B′, Fig. 7, shows the tapering form of the apparatus, the functions of which have been described.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A heating chamber or drum having within it two or more heat-absorbing plates extending across the line of general direction of the heat current, each alternate plate having an opening on one side, while the intervening plates have openings on the opposite sides, and the ends of all the plates extending outside the drum, whereby the heat-current takes a zigzag course and the heat absorbed by the plates inside the drum is radiated outside, as set forth.

2. A heating-chamber having within it a series of intercepting-plates alternating in height, whereby the heat-current passes over and under them alternately, the distance between the plates gradually decreasing from the ingress to the egress ends of the chamber, and the ends of the plates projecting outside the chamber to radiate the heat, as set forth.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

MATTHEW RYAN.

Witnesses:

E. EVERETT ELLIS,

M. P. CALLAN.