

# H. ROTH. Evaporating Pan.

No. 19,515.

Patented March 2, 1858.

Fig: 2.

GROUND PLAN.

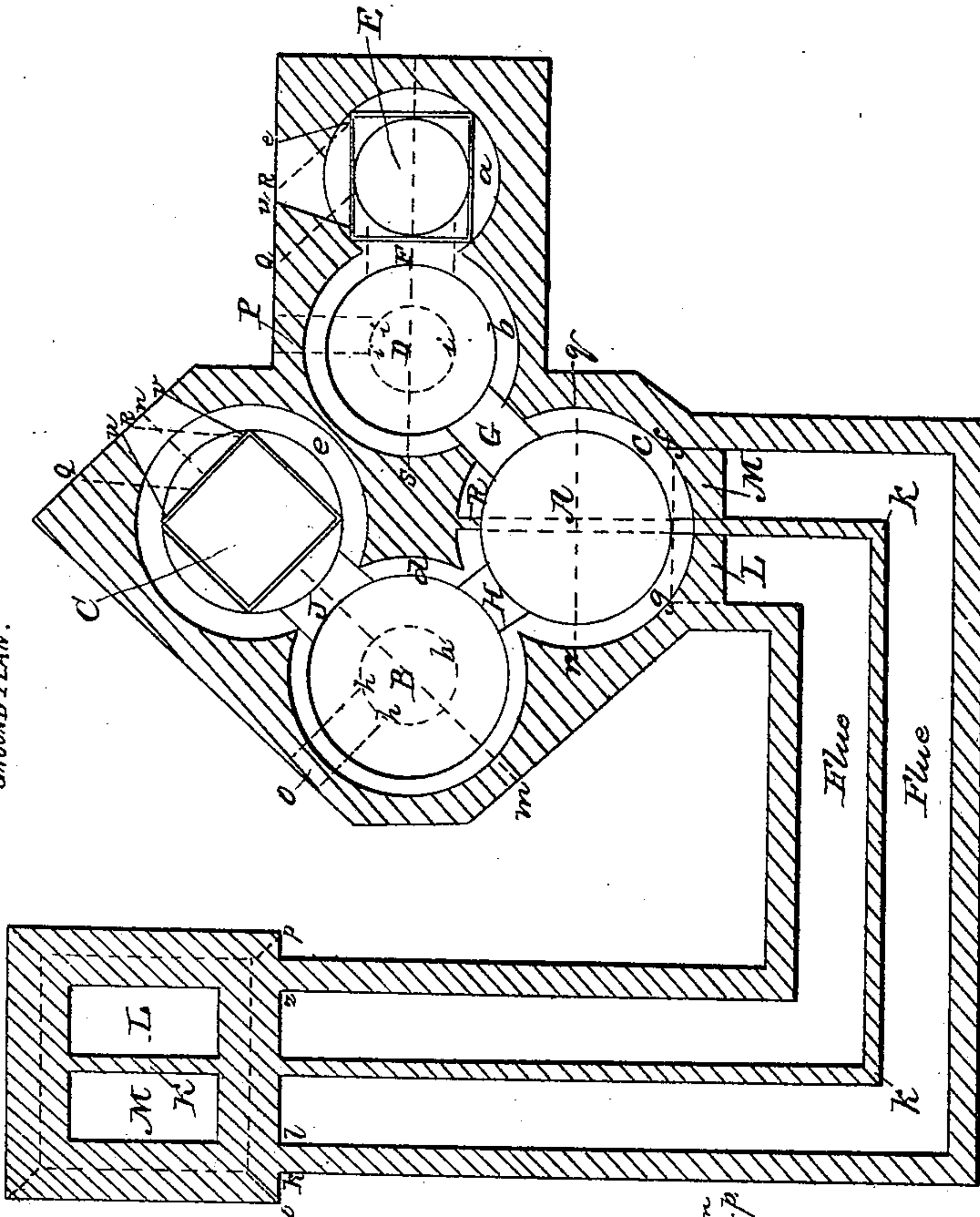
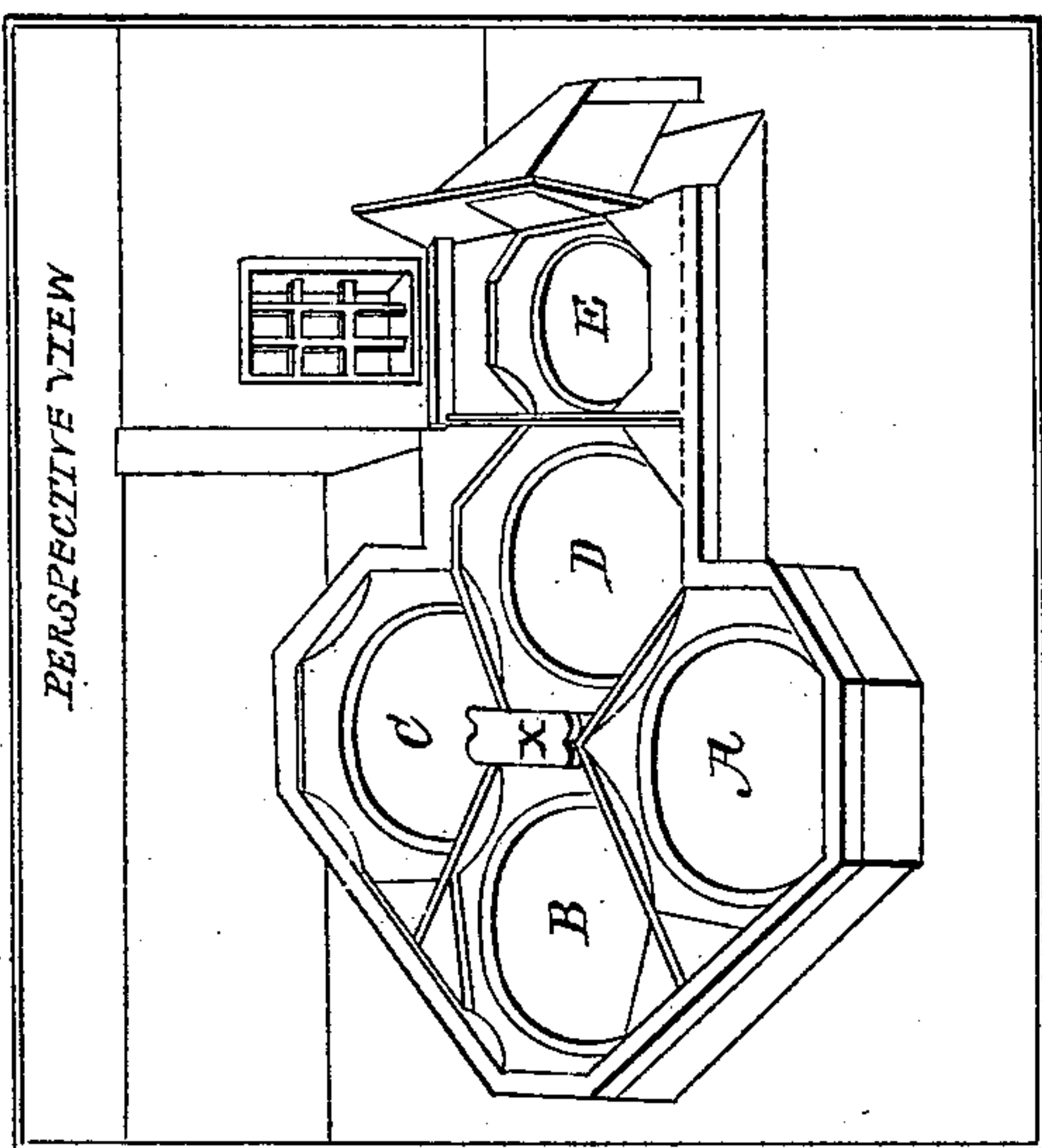


Fig: 1



Witnesses:

*Wm. H. Miller*  
*Wm. H. Miller*

Fig: 3. Section on the line m-m.

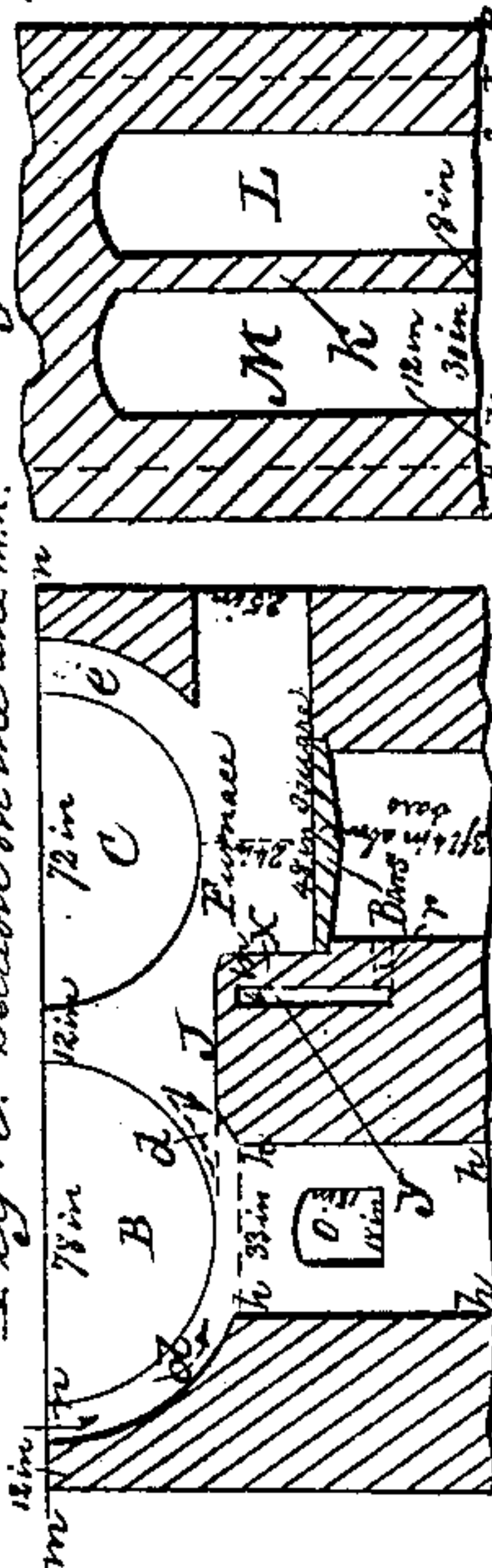


Fig: 5. Section on the line o-p.

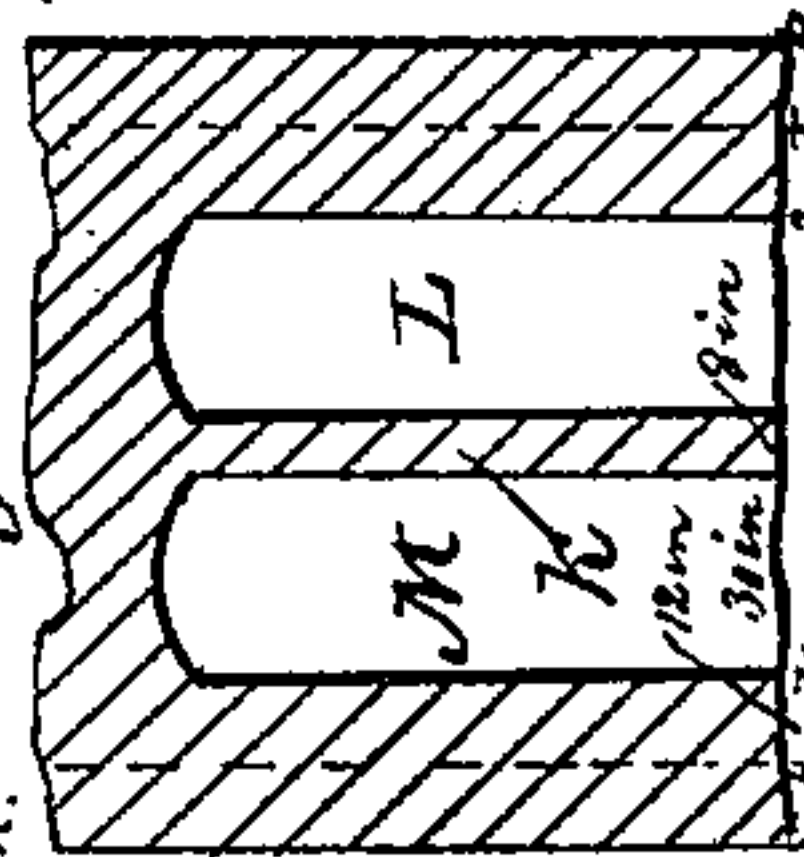


Fig: 4. Section on the line s-t.

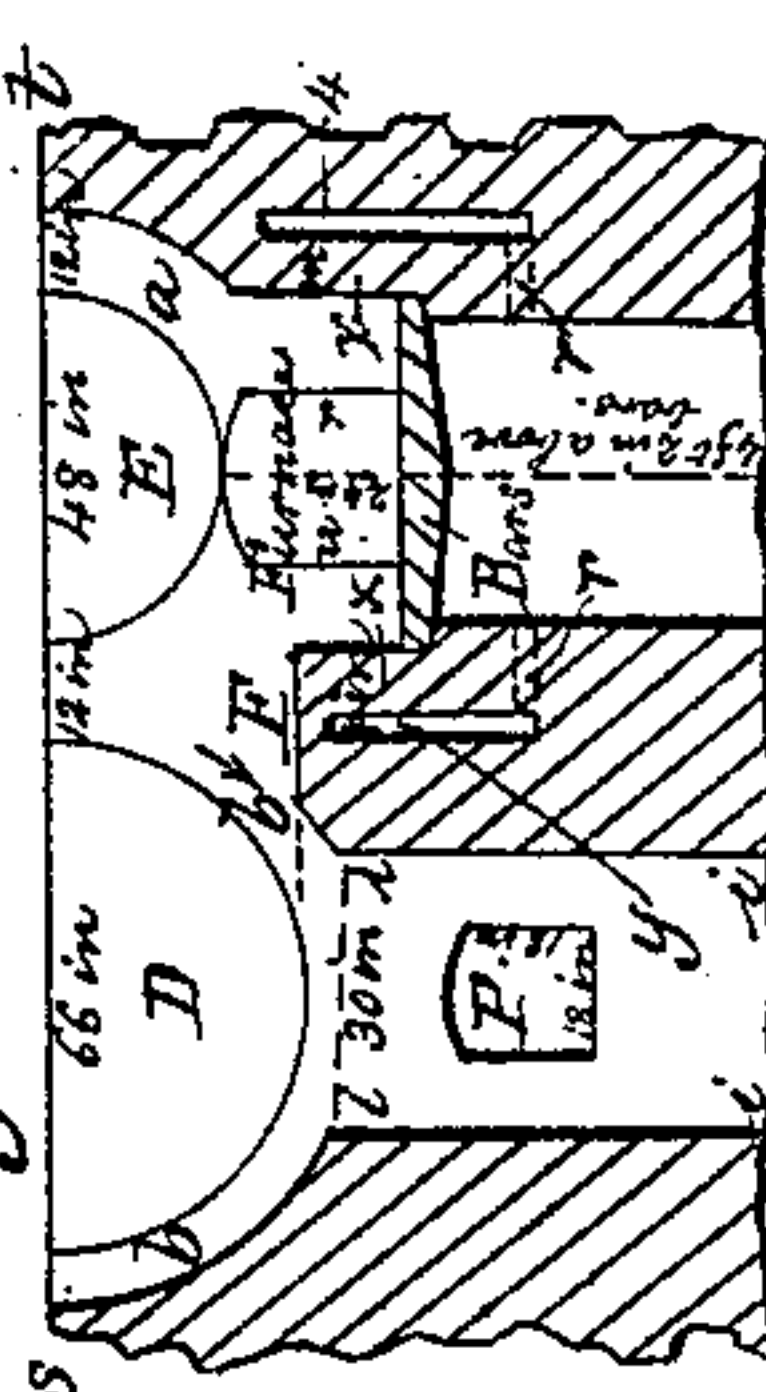
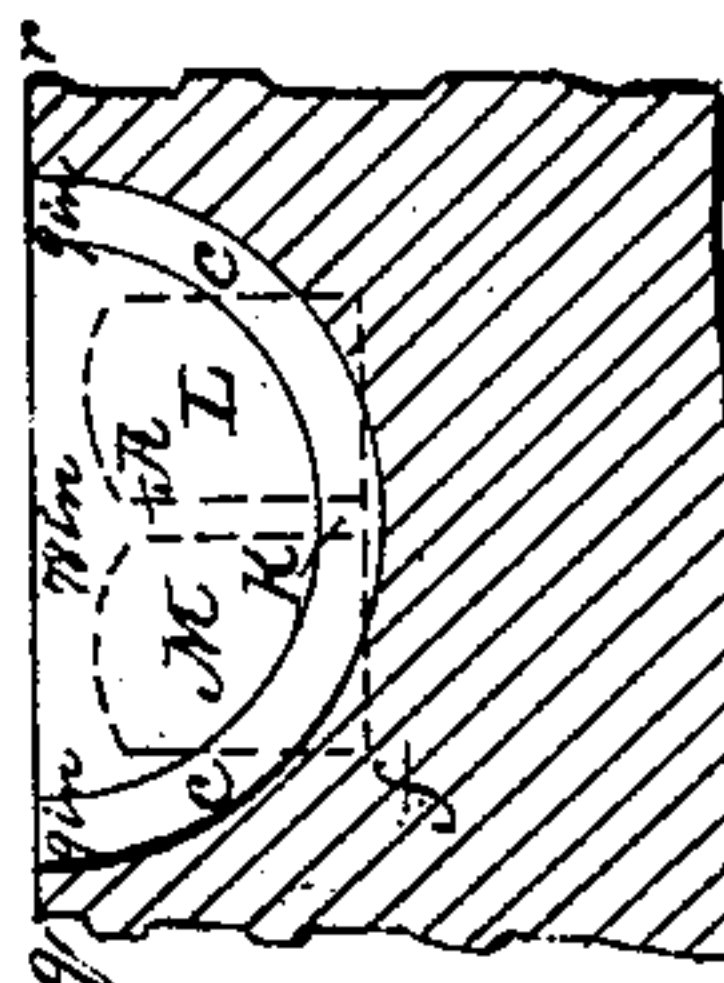


Fig: 6. Section on the line q-r.



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# UNITED STATES PATENT OFFICE.

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## IMPROVEMENT IN METHODS OF SETTING SUGAR-KETTLES.

Specification forming part of Letters Patent No. 19,515, dated March 2, 1858.

*To all whom it may concern:*

Be it known that I, HONORÉ ROTH, of the parish of Iberville and State of Louisiana, have invented a new and useful Improvement in the Manner of Setting Kettles for the Manufacture of Sugar from Cane-Juice; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, forming part of this specification, in which—

Figure 1 is a perspective view showing kettles in position. Fig. 2 is a plan view of furnaces and kettles, showing connecting canals, flues, &c. Fig. 3 is a vertical section taken on line *m n*. Fig. 4 is a vertical section taken on line *s t*. Fig. 5 is a vertical section taken on line *o p*. Fig. 6 is a vertical section taken on line *q r*. Fig. 7 is a view showing the cross-sections of the several flues F G H J L M.

Similar characters of reference in the several figures denote the same parts.

Without entering into a detailed description of the process of sugar-boiling, I will premise that the several kettles employed contain the cane-juice in different stages or conditions, and that each kettle requires a particular degree of heat. The regulation of this heat under the several kettles is a matter of great importance, and frequently the proper regulation of heat under all the kettles becomes a matter of considerable difficulty. It is to obviate this that the mode of setting hereinafter to be described is proposed.

The nature of the invention consists in the use of two furnaces, one under the battery, where the sugar is formed, and the other under the flambeau, the first leading to the sirup and the other to the propre, and both in communication with the grande on opposite sides of a dividing-wall reaching nearly to the bottom of the said kettle, by which arrangement the heat necessary for the battery and sirup may be kept up in one furnace and not interfere with the regulation of the heat to be maintained under the flambeau and propre, the heat necessary for the grande being maintained under all circumstances of regulation of the two furnaces.

In the sugar-boiling operation the grande receives the cane-juice from the mill, and requires the lowest degree of heat. The most

intense heat is required by the battery, where the sugar is formed. The kettles known as the "propre," "flambeau," and "sirup" require degrees of heat less than that required by the battery and greater than required for the grande.

The usual mode of graduating the heat of the respective kettles is to set the kettles in a row over a single flue, the battery being over the furnaces. This I have found disadvantageous, for the reason that the relation between the temperatures required under the several kettles is not constant, but varies with certain circumstances that need not be detailed here—that is, with the battery heated to a given point the intermediate kettles may require a greater or less degree of heat, depending upon the condition of the cane-juice. These considerations have led me to set the small kettle, which is to contain the concentrated juice, over a furnace in communication with the sirup or kettle designed to hold the juice in a condition nearly ready for the battery. A proper regulation of heat for the last steps of the process is thus at the command of the operator. The flambeau and propre I place so as to receive any necessary degree of heat without reference to that maintained in the furnace under the battery, both furnaces connecting with the space under the grande, as before stated.

In the drawings the several parts are as follows: A is a grande-kettle; B, propre-kettle; C, flambeau-kettle; D, sirup-kettle; E, battery-kettle; F, flue connecting battery and sirup; G, flue connecting sirup and grande; H, flue connecting propre and grande; J, flue connecting flambeau and propre; K, wall of separation under kettle A and reaching to within half an inch of its bottom. This half-inch opening constitutes the sole connection between the furnaces. This wall is carried up the chimney about ten feet. L is a horizontal flue leading to chimney; M, horizontal flue leading to chimney; *a*, fire-space around battery; *b*, fire-space around sirup; *c*, fire-space around grande; *d*, fire-space around flambeau; *e*, fire-space around propre; *h h h*, cleaning-hole under kettle B; *o*, passage for access to hole *h*; *i i i*, cleaning-hole under kettle D; P, passage for access to hole *i*; *v u*, entrance to furnaces of E and C; Q R, entrance to ash-holes; *y*, space of four

inches between wall  $x$  and the solid work; T, apertures communicating with spaces  $y$  to furnish air; X, bucket-seat.

In operation the several kettles are supplied with juice and skimmed in the usual manner, the heat in the respective furnaces being regulated to the requirement of the kettles, as hereinbefore set forth.

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

Setting the kettles known as the “battery” and “flambeau” over separate furnaces in

communication, respectively, with the kettles denominated the “sirup” and “propre,” and both communicating with the grande or first kettle of the series on opposite sides of a division-wall, reaching nearly to the bottom of said kettle, substantially as and for the purpose set forth.

HONORÉ ROTH.

Witnesses:

JOHN H. ILSLEY,

JOHN H. ISLEY, Jr.