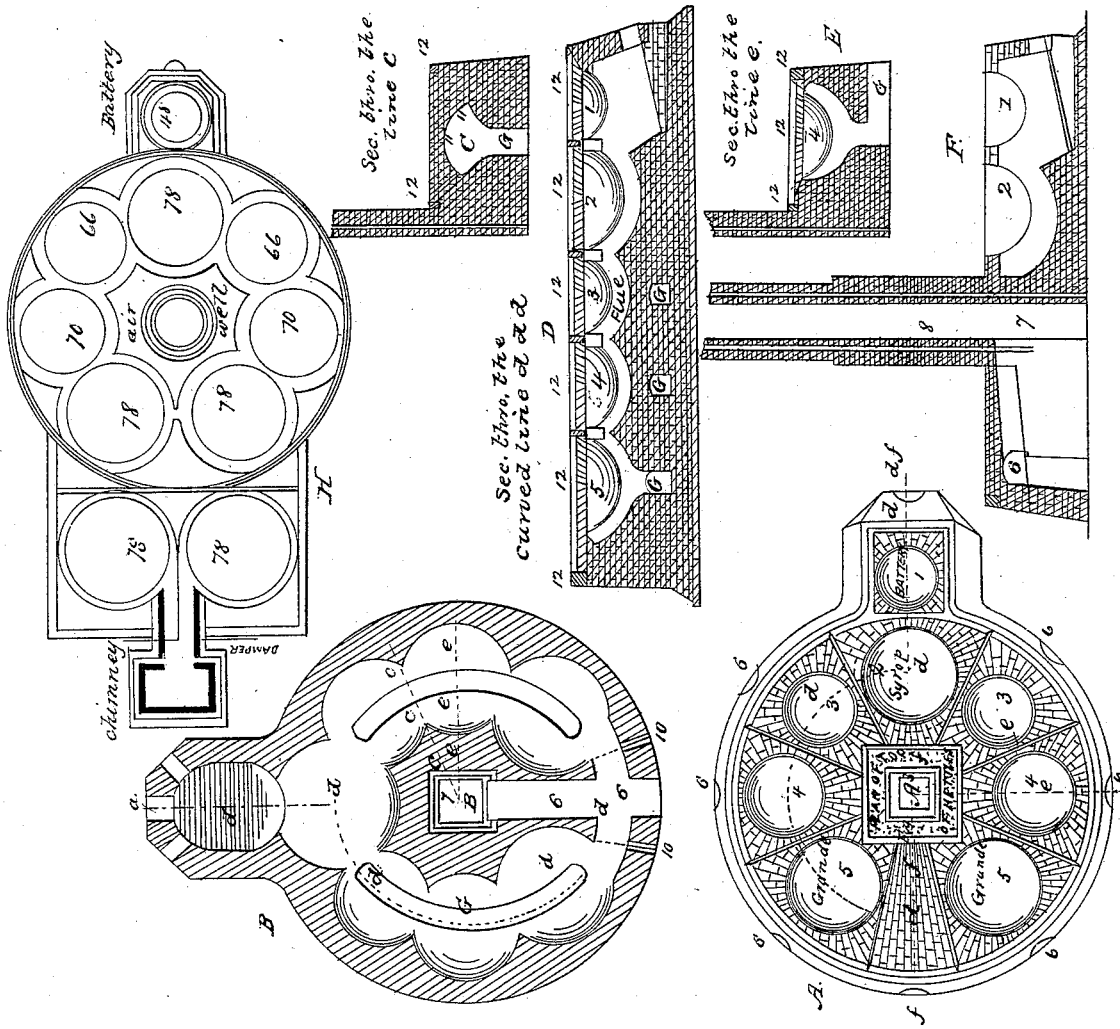


M. WHITE.  
Evaporating Pan.

No. 1,326.

Patented Sept. 17, 1839.



# UNITED STATES PATENT OFFICE.

MAUNSEL WHITE, OF NEW ORLEANS, LOUISIANA.

IMPROVEMENT IN THE MODE OF SETTING AND ARRANGING SUGAR-KETTLES.

Specification forming part of Letters Patent No. 1,326, dated September 17, 1899.

*To all whom it may concern:*

Be it known that I, MAUNSEL WHITE, of the city of New Orleans, in the State of Louisiana, have invented certain Improvements in the Manner of Setting and Arranging the Kettles Used in the Manufacturing of Sugar from Cane-Juice, by which improvements a great saving of fuel is effected, room is economized, the operations are performed with greater facility and convenience than heretofore, and other important advantages are attained; and I do hereby declare that the following is a full and exact description thereof.

In my arrangement, the kettles in general are so placed as to surround the stack or chimney for the escape of smoke, and they have a circular arch underneath them, along which the draft from the fire passes. I sometimes, however, place the kettles on a circular arch, and erect the chimney on the outside of said circle; but in either case the general plan of setting the kettles is the same.

Figure A in the accompanying drawings is a plan of the top of the arch and kettles when completely set and finished, and also of the frame or margins of wood or other material which form the compartments by which the kettles are surrounded and separated from each other. No. 8 shows the chimney-flue rising from the center of the structure. The kettles are numbered, respectively, from No. 1 to No. 5 on each side, No. 1 being the battery, or first kettle standing out of the circle and immediately over the furnace.

Fig. B is a horizontal section or plan immediately below the kettles. *d'* is the place of the grate-bars of the furnace under the battery. From this furnace the flues run under the other kettles in both directions until they meet on the opposite side of the arch, as at 6', whence the flue 6' 6 leads into the chimney at 7. G G shows the places of the canal into which the ashes are to fall.

Fig. C is a vertical section of the arch through the line *c c* on the plans, Figs. A and B, dividing the arch between two of the kettles. Nos. 11 11 is the transverse soffit of the arch; No. 12, the frame-work of wood or other material, and G the canal for ashes.

Fig. D is a developed section through the curved and right lines *d d*, Fig. B, supposing the curved line to be opened out, the respective kettles being numbered as in Fig. A,

1 being the battery, *d'* the grate-bars of the furnace, and G G the canals for ashes. Nos. 11 11 11 correspond with the same numbers in Fig. C, giving an end view of the soffits of the arches. Nos. 12 12 12 also show the frame-work corresponding with the same numbers in the other figures.

Fig. E is a vertical section along the line *e e*, Figs. A and B, through the middle of one of the kettles, giving a profile view of the flue and the canal or aperture through which the ashes are removed.

Fig. F is a longitudinal vertical section through the line *f f*, Fig. A, cutting through the furnace *d*, the battery No. 1, the sirup No. 2, the chimney No. 8, the flue 7, leading from the arches 6 into the chimney, as at 6' 6, Fig. B, and the canal or aperture for the removal of ashes, (marked No. 9.) Nos. 11 and 12 designate the same parts as in the other figures. There are of course doors or stoppers to close the apertures of the canals for ashes, and for the admission of air and other purposes, and likewise dampers or valves to regulate the draft through the flues, which need no description, as they do not differ in their structure or use from such as are employed in other similar structures. Nos. 10 10 represent the place of two of these dampers for regulating the draft through the main flues of the arches where they meet at their junction with the flue leading to the chimney.

Fig. H shows a variation on the plan of setting the kettles in a circle, the battery with its furnace and also the flues and arches being constructed in the manner already explained; but in this plan the chimney is placed without the circle, as also are two additional kettles. The flue in this arrangement, instead of passing inward from under the series of kettles on each side, passes outward and into the chimney, the two channels being regulated by dampers, as in the former instance. By this arrangement a single fire is made to operate upon two series of kettles, while as heretofore constructed it could act upon one only, and a double quantity of juice can therefore be operated upon at the same time, and even a larger quantity with the aid of the two additional kettles, as shown in the arrangement under Fig. H. The economy resulting from this manner of setting kettles is not, however, limited to this circumstance; but it has been proved experi-

mentally that, owing to the circular form, the heat is concentrated in a much smaller space, while the surfaces of the flues being spherical, and from this cause more nearly approaching the surfaces of the kettles, the current of heated air which passes around them is more directly applied to them than in the straight arches heretofore constructed, and a more rapid evaporation is consequently effected.

Having thus fully explained the manner in which I arrange and set my kettles for the manufacture of sugar from cane-juice, what I

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

The carrying the flues from a single fire in two semicircular arches, under two sets of sugar-kettles arranged in a circle, for the purpose and substantially in the manner herein made known.

MAUNSEL WHITE.

Witnesses:

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