

O. B. OLMSTED.  
Evaporating Pan.

No. 37,303.

Patented Jan. 6, 1863.

Fig. 1,

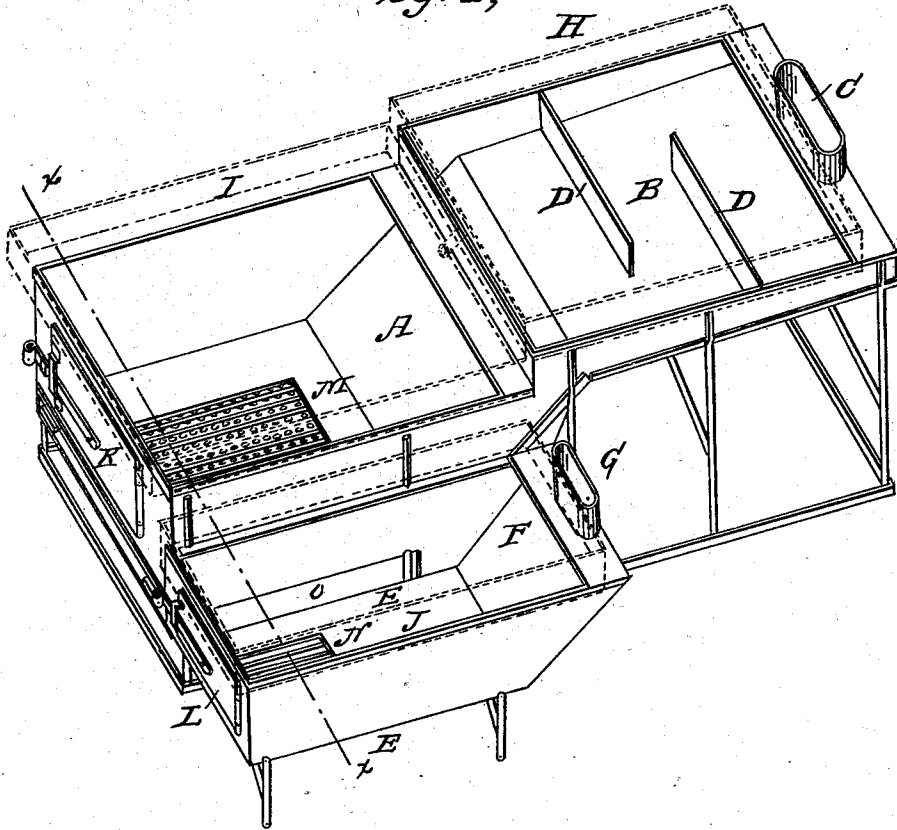
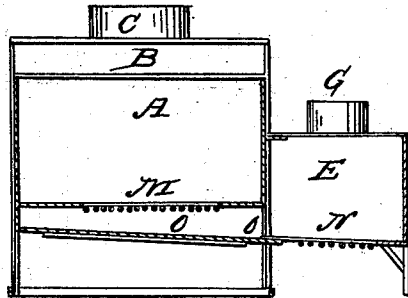


Fig. 2,



WITNESSES

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INVENTOR:

Oscar B. Olmsted.  
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# UNITED STATES PATENT OFFICE.

OSCAR B. OLMSTED, OF ROCKTON, ILLINOIS.

## IMPROVED SUGAR-EVAPORATOR.

Specification forming part of Letters Patent No. 37,303, dated January 6, 1863.

### *To all whom it may concern:*

Be it known that I, OSCAR B. OLMSTED, of Rockton, in the county of Winnebago and State of Illinois, have invented certain new and useful Improvements in Apparatus for Evaporating Saccharine Juices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which make part of this specification, and in which—

Figure 1 represents a view in perspective of an apparatus for evaporating saccharine-juices embracing my improvements, the evaporating-pans being shown in red lines; and Fig. 2, a vertical transverse section through the same at the line *xx* of Fig. 1, the evaporating-pans being removed.

The improvements claimed under this patent consist, first, in a novel method of combining an auxiliary furnace and pan with the main furnace, as hereinafter more fully described, whereby the evaporation is rendered more rapid, and the operator has more perfect control over the juice at all stages of the operation; secondly, in forming the furnace with a double bottom, so constructed that the coals which fall from the main furnace may pass into the auxiliary furnace and be utilized, whereby a great economy of fuel is effected, as hereinafter shown.

In the accompanying drawings, which represent a convenient arrangement of parts for carrying out the objects of my invention, the apparatus is shown as consisting, mainly, of a furnace, A, from which a flue, B, leads to a pipe or chimney, C. The deflector-plates D render the course of the flue more circuitous and increase the heating-powers of the furnace. A smaller auxiliary furnace, E, (provided, in this instance with an independent flue, F, and chimney G, but which may, if preferred connect with the main flue B,) is arranged alongside of the main furnace,

and on a lower level, one of its sides being, in fact, formed by the side wall of the main furnace.

The apparatus is provided with suitable evaporating-pans, H I J, (shown in red lines in the drawings,) of any suitable construction. The furnaces are likewise provided with the usual fire-doors, K L, and grate-bars M N. The main furnace is provided with an additional grating, O, or double bottom, which is slightly inclined and coincident with the grating N of the smaller furnace. An opening, *o*, in the side wall of the furnace prevents any large coals which may fall through the upper grating of the main furnace to roll into the fire-box of the auxiliary furnace and be consumed, thereby economizing fuel.

As the pans are all on different levels, the juice may be allowed to flow from one to the other without the necessity of ladling it, while the arrangement of the smaller furnace is such as to admit of a temperature being maintained different from that of the main furnace; or the smaller furnace may be used for heating water while the juice is being evaporated in the other pans.

Having thus fully described my improved evaporator, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The combination of the auxiliary furnace E with the main furnace A, when arranged and operating as described, for the purposes set forth.

2. Constructing the main furnace A with a double bottom, substantially as and for the purpose specified.

In testimony whereof I have hereunto subscribed my name.

OSCAR B. OLMSTED.

Witnesses:

I. T. SHUE,

J. SNOWDEN BELL.