

(No Model.)

2 Sheets—Sheet 1.

T. E. RICHARD.  
PORTABLE EVAPORATING APPARATUS.

No. 481,675.

Patented Aug. 30, 1892.

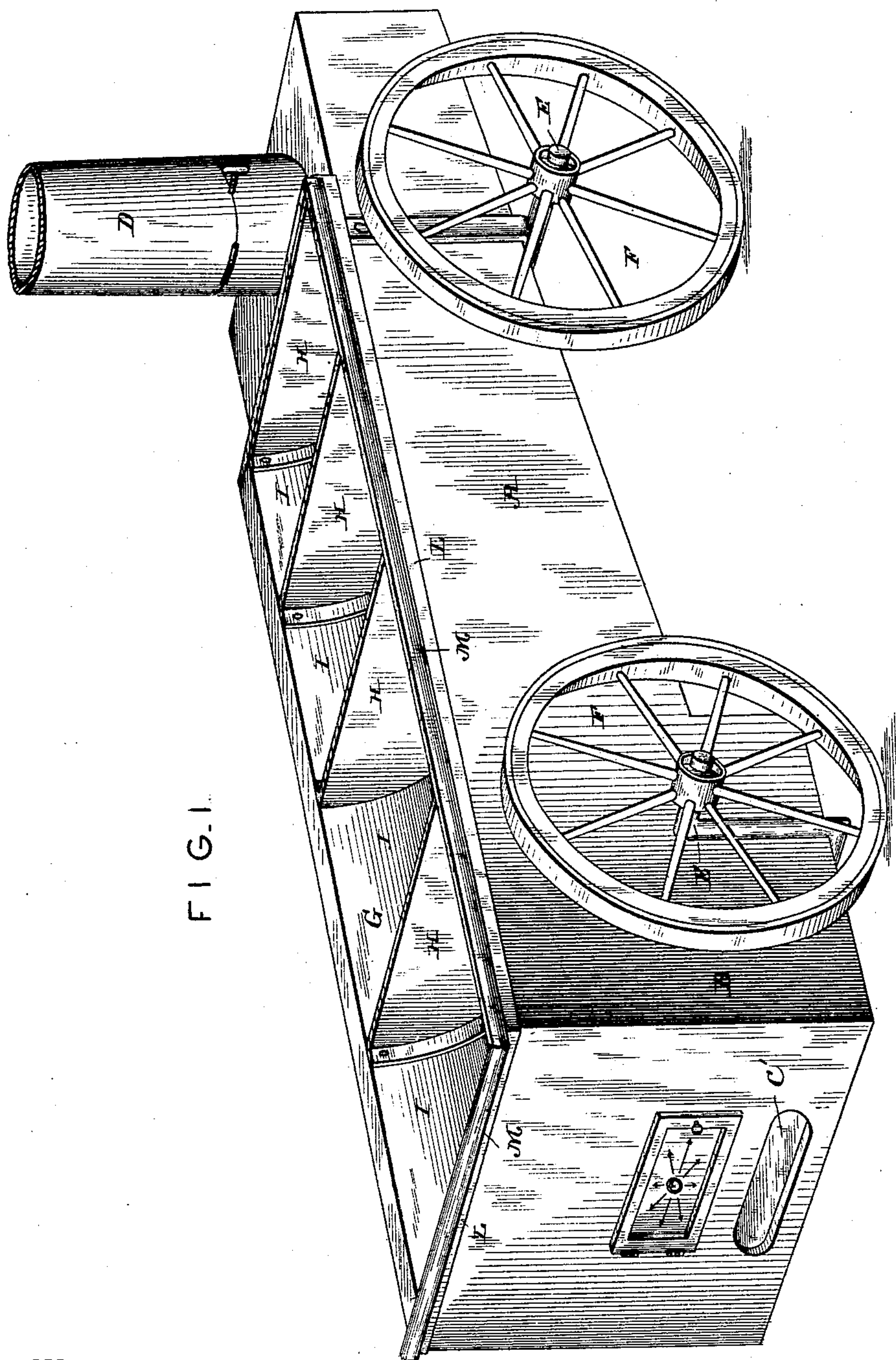


FIG. 1.

Witnesses

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By his Attorneys,

*C. A. Snow & Co.*

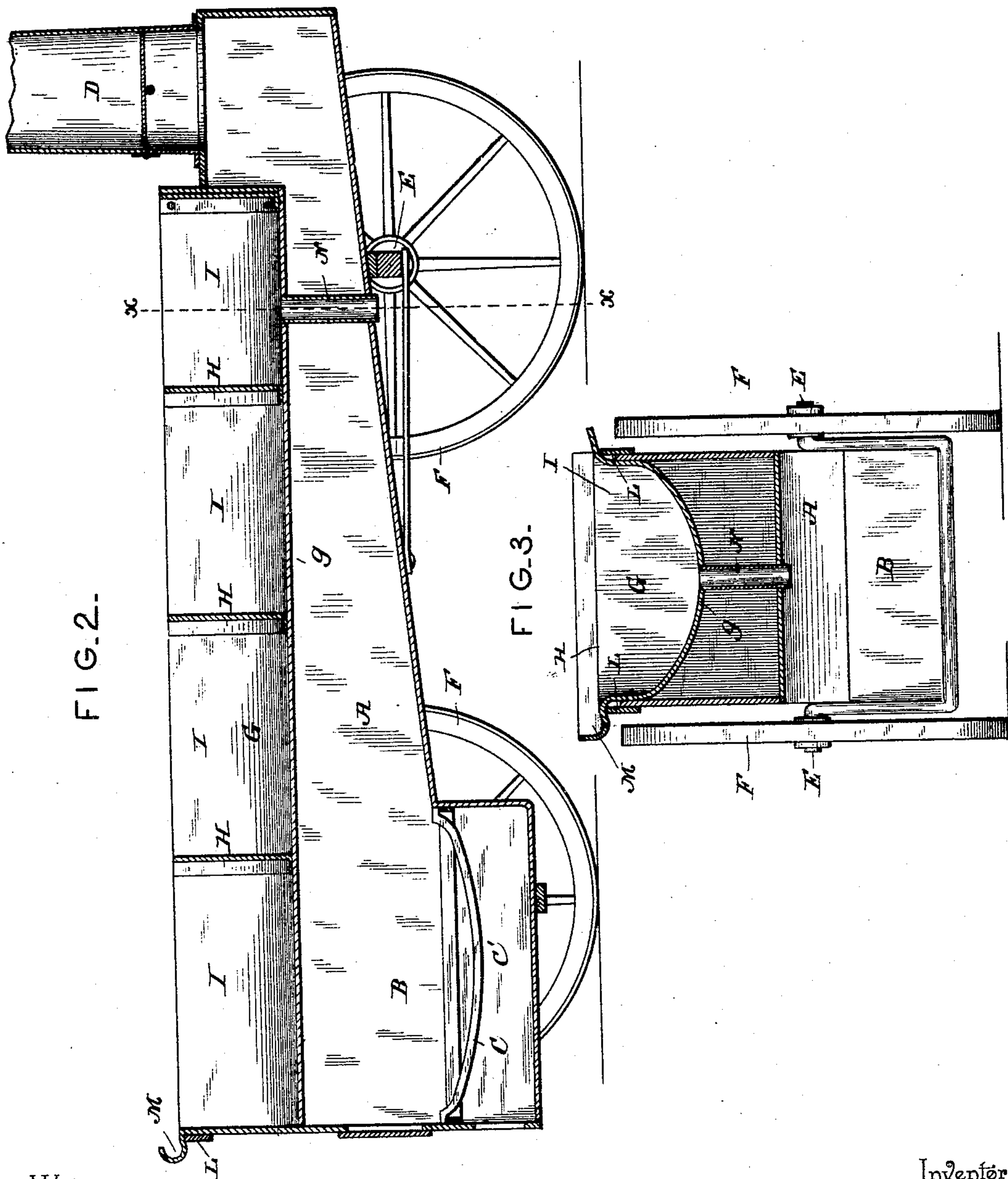
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D. P. Pfoehaupter

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# UNITED STATES PATENT OFFICE.

THEOGENE E. RICHARD, OF LAKE CHARLES, LOUISIANA.

## PORTABLE EVAPORATING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 481,675, dated August 30, 1892.

Application filed April 5, 1892. Serial No. 427,876. (No model.)

*To all whom it may concern:*

Be it known that I, THEOGENE E. RICHARD, a citizen of the United States, residing at Lake Charles, in the parish of Calcasieu and State of Louisiana, have invented a new and useful Portable Evaporator, of which the following is a specification.

This invention relates to evaporators; and it has for its object to provide an improved portable evaporator particularly adapted for the evaporation of sugar solutions.

To this end it is the main and primary object of the invention to provide a portable evaporator which is designed especially for use at the farm of small planters of sugar too remote from rail or water transportation for shipping their cane to large factories by providing a simple yet efficient evaporator for such use.

With these and many other objects in view, which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

In the accompanying drawings, Figure 1 is a perspective view of a portable evaporator constructed in accordance with my invention. Fig. 2 is a vertical longitudinal sectional view of the same. Fig. 3 is a vertical transverse sectional view on line *xx* of Fig. 2.

Referring to the accompanying drawings, A represents an elongated furnace provided at one end with the ordinary fire-box B, having the grate C and ash-pan C' therebeneath, while the opposite end thereof is provided with the ordinary escape-stack D, from which the smoke and other products of combustion escape. The said furnace is mounted upon the front and rear axles E, carrying the wheels F, by means of which the said furnace may be transported readily from one place to another. Supported within said furnace and extending the entire length thereof is the semicircular evaporating-pan G. The said evaporating-pan G has a horizontal bottom *g* the entire length thereof, and is also provided with a series of independent partitions H, forming a series of separate and independent evaporat-

ing-chambers I, which evaporating chambers or pans decrease in size from the fire-box of the furnace where the heat is the greatest to the escape end thereof, so as to compensate for the different intensities of heat, which is greatest directly over the grate and fire-box and is the least at the smoke-stack end thereof, at which point is located the shallowest pan. Therefore by such construction and arrangement of evaporating-pan the evaporation is even and the several compartments or chambers have a uniform area of exposed surface, owing to the gradual decrease of heat to which said compartments are subjected. The extreme upper edge of the furnace and the evaporating-pan resting therein is banded by a continuous band L, extending entirely around the same, which not only serves to support the said evaporating-pan in the top of the furnace, but also strengthens and renders more durable the entire structure.

One side and end of the evaporating-pan is provided with an offstanding gutter M, which is designed to receive the skimmings of the juice, which is swabbed while the juice is boiling. It will of course be understood that the fire is the hottest directly under the largest compartment directly thereover and the boiling is therefore most rapid in said compartment. After the juice has been partially boiled in the largest compartment it is dipped therefrom successively into the other compartments to the last small one in which it is finished, cooled, and drawn off through the pipe N, passing through the bottom of the furnace and said smaller compartment; but it will of course be understood that the juice can be transferred from one compartment into the other in any suitable manner.

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

In an evaporator, the combination, with a portable elongated furnace, of a semicircular evaporating-pan removably fitting within the top of said furnace along the entire length thereof and having a gutter extending along one side and end thereof, a series of partitions arranged within said pan to form separate and

independent compartments decreasing in size  
from the fire-box of the furnace to the oppo-  
site end, and a strengthening and supporting  
band encircling the upper edge of the fur-  
5 nace and the evaporating-pan resting there-  
on, substantially as set forth.

In testimony that I claim the foregoing as

my own I have hereto affixed my signature in  
the presence of two witnesses.

THEOGENE E. RICHARD.

Witnesses:

P. O. MOSS,  
C. MAYO.