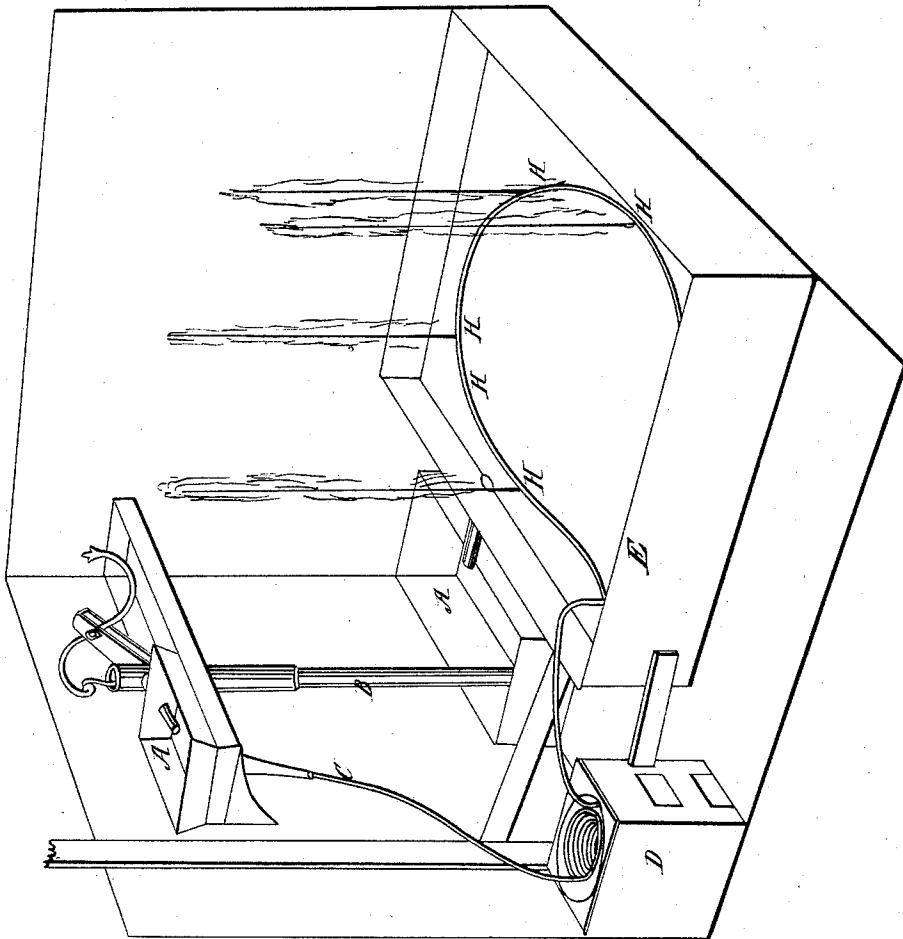


E. CONSTANTINE,  
Evaporating Pan.

No. 28,158.

Patented May 8, 1860.



**Witnesses:**

*Chs. Hubble*  
*Jno. Weber*

**Inventor:**

*Ernst Constantine*

# UNITED STATES PATENT OFFICE.

ERNST CONSTANTINI, OF NEW YORK, N. Y.

## IMPROVEMENT IN APPARATUS FOR EVAPORATING LIQUIDS.

Specification forming part of Letters Patent No. 28,158, dated May 8, 1860.

*To all whom it may concern:*

Be it known that I, ERNST CONSTANTINI, of the city, county, and State of New York, have invented a new and Improved Evaporator; and I hereby declare the following to be a full, clear, and exact description thereof, reference being had to the annexed drawing, forming part of this specification and representing a perspective view of my evaporator.

The nature of my invention consists in forming an evaporator for the rapid evaporation of salt containing liquids, by effecting an increased contact of the said liquid with the atmosphere by causing the liquid to be spouted or thrown upward like fountains.

To enable others skilled in the art to make and use my invention, I will proceed to describe my invention.

In the annexed drawing, A represents a tank containing the salinous liquid.

B represents the pump by which it is elevated into another tank, A', in order to create a head or a pressure of the liquid.

C represents the pipe leading, conveying the liquid downward, into the oven D by means of coils. (Shown on the drawing.) Thence the pipe is conducted into a larger heater, E. In this heater the pipe contains many small openings, H H H, through which the liquid is spouted upward, as shown on the drawing, the liquid being divided by these fountains into a shower

of small drops, and thereby an increased contact with the air is effected. The part of the liquid not evaporated on this first operation is collected in the tank immediately above the heater, and is conveyed to the original tank A, when the operation is repeated until the whole of the fluid is evaporated and the solid salts are deposited.

I do not confine this method of evaporation to saline fluids, but intend to apply the same to all liquids where a higher degree of concentration is to be attained by means of evaporation.

The advantages of this apparatus are as follows: It requires less space, is less expensive, it saves fuel, permits an equal temperature during the evaporation, permits a large volume of fluids to be evaporated simultaneously, and makes the evaporation independent of the atmosphere.

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

The rapid evaporation of saline and other liquids by means of spouts or fountains, constructed in the manner and for the purpose substantially as described.

ERNST CONSTANTINI.

Witnesses:

CHS. WEHLE,  
JULES WEHLE.