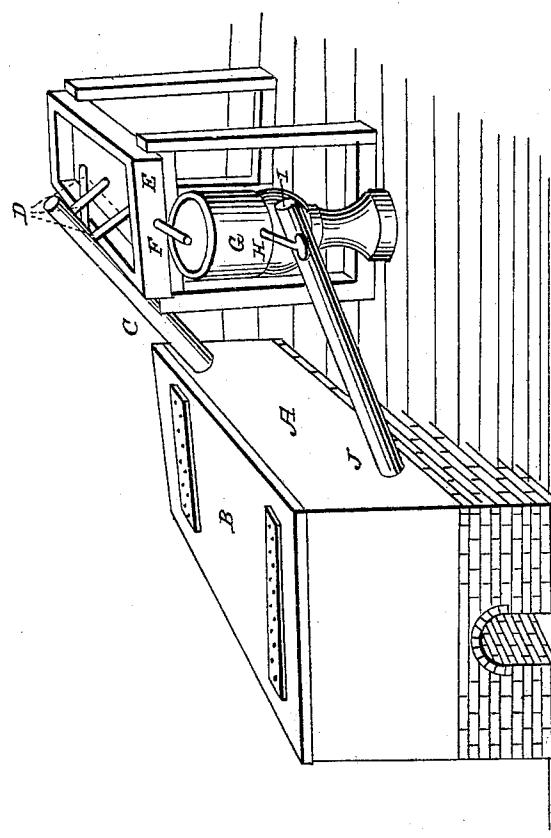


J. H. WARD.

Ash Leach.

No. 2,178.

Patented July 16, 1841.



UNITED STATES PATENT OFFICE.

JOSEPH H. WARD, OF RANDOLPH TOWNSHIP, PORTAGE COUNTY, OHIO.

PROCESS OF LEACHING ASHES IN THE MANUFACTURE OF POTASH.

Specification of Letters Patent No. 2,178, dated July 16, 1841.

To all whom it may concern:

Be it known that I, JOSEPH H. WARD, of the township of Randolph, in the county of Portage and State of Ohio, have invented a new and Improved Mode of Heating Water for the Purpose of Leaching Ashes; and I do hereby declare that the following is a full and exact description.

The nature of my invention consists in providing a vessel in which lye is boiled with a cover or lid sufficiently tight to prevent the escape of steam except through a tube or tubes which conduct it into the water which is to be heated for the purpose of leaching ashes.

15 To enable others skilled in the art to make and use my invention I will proceed to describe its construction and operation.

I construct my vessel or boiler in which 20 to boil lye as shown at A, in the accompanying drawing in any of the known forms and apply thereto a lid B, which is secured in its place with props or otherwise so as to prevent the escape of steam except through the tube C, the bore of which is made sufficiently large to admit of its passage without much pressure and into which other tubes are inserted as shown at D, to conduct it into the water which is to be heated, the 25 lower ends of which tubes are to be immersed in the water to the necessary depth for heating the same observing however as slight an immersion as possible to prevent unnecessary pressure of steam on the boiler.

30 The vessel E, in which water is to be heated is made of the depth of eight or ten inches to preserve equality of temperature,

the other dimensions will of course vary in ratio to the quantity of water designed to be heated at one time, said vessel is elevated so 40 that the water may be drawn when heated and conveyed upon the leaches as through the tube F, which tube is stopped with a plug or otherwise, my leaches G, are made in any of the known forms and will of 45 course vary in number with circumstances. They may be elevated to the necessary height for the lye to run from them into the boilers as shown at the tubes H, and I, J. The end I, of the tube I, J, is elevated about four inches above the limits 50 that the boiler is intended to be filled with lye to prevent the steam from propelling lye out of said tube, which elevation however should vary with the pressure of steam 55 that the boiler is compelled to sustain. The end J, of which tube is inserted in the lower part of the boilers, that it may be below the surface of the lye in the boiler to prevent the escape of steam through said tube. 60

What I claim as my invention and desire to secure by Letters Patent is—
The combination of the leach tub and reservoir of hot water with the boiler in which the lye is evaporated by means of a tube or 65 tubes for conducting steam from the boiler to the reservoir for heating the water in the same, the whole being constructed in the manner and for the purpose herein set forth.

JOSEPH H. WARD.

Witnesses:

JUSTIN BELDING,
AUSTIN COLLINS.