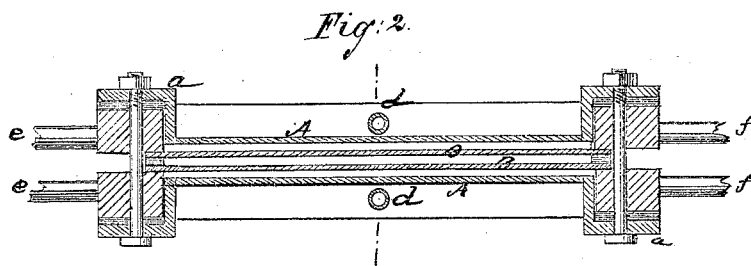
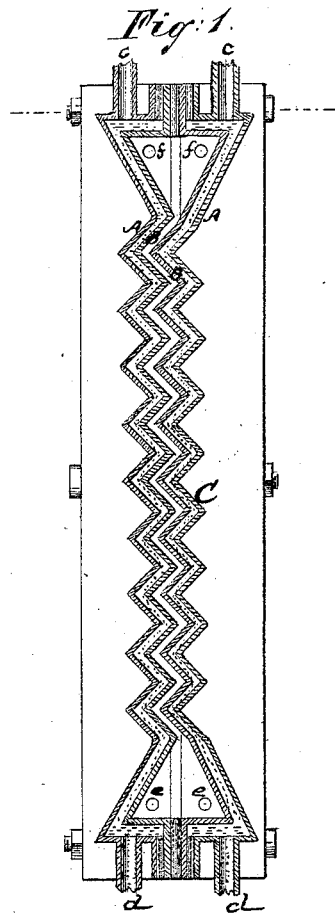


J. YATES & E. DEUELL.

Improvement in Condensers for Stills.

No. 114,245

Patented April 25, 1871.



Witnesses:

Rufus Knapp
H. L. Mattenbergh

Inventor:

J. Yates & E. Deuell
per *Wm. Simpson*
att

United States Patent Office.

JOHN YATES AND EDGAR DEUELL, OF BROOKLYN, NEW YORK.

Letters Patent No. 114,245, dated April 25, 1871.

IMPROVEMENT IN CONDENSERS FOR STILLs.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern :

Be it known that we, JOHN YATES and EDGAR DEUELL, of Brooklyn, in the county of Kings and State of New York, have invented a new and improved Condenser; and we do hereby declare that the following is a full and exact description of the same, reference being had to the accompanying drawing and to the letters of reference marked thereon making a part of this specification.

The object of this invention is to construct a condenser for distilling purposes; so as to do away with the use of a worm, obtain great cooling surface in a compact form, and obviate the necessity of using a "tub."

In the accompanying drawing—

Figure 1 represents a vertical section of our invention, and

Figure 2 a plan view of same.

Similar letters of reference indicate corresponding parts in the several figures.

A and A represent the outside leaves of our condenser.

B and B intermediate leaves.

It will be observed by reference to the drawing that each leaf is composed of a frame, *a*, which may be made of any suitable material.

Fitted between the frame *a a* is a corrugated plate of thin sheet-copper, C, the corrugations being so formed that, when one leaf is placed upon another, the series of angles formed in one plate will enter into and nearly fill the angles of the other plate. The series of plates being thus placed one upon the other, and the whole series being firmly clamped together by bolts or otherwise in an upright position, it is only necessary, when desiring to use the condenser, to at-

tach the nozzle of one or more stills to the openings *c c*, at the top of the condenser, (see fig. 1,) when the vapor from the stills will pass between the two intermediate leaves B B, where it will be condensed by coming in contact with the surface of said plates and trickle downward and out into a receptacle through the openings *d d*, the surface of said intermediate leaves being at all times kept in a cool state by attaching a pipe to the openings *e e*, and forcing upward between the outside of said intermediate plates and the inside of said outside plates a stream of cold water, which will finally find its exit through the openings *f f*.

It will thus be seen that any amount of refrigerating surface may be had by simply adding to the number of leaves of the condenser.

The corrugations in the leaves answer the double purpose of increasing the cooling surface and retarding the passage of the vapor between them until it shall have been fully condensed, so that the use of a tub for cooling the vapor from a still is avoided.

The joints between the several frames may be made air-tight by a packing of leather or any other suitable material.

Having thus described our invention,

What we claim as new, and desire to secure by Letters Patent, is—

A condenser for distilled vapor, composed of a series of corrugated leaves, in the manner and for the purpose herein described.

JOHN YATES.
EDGAR DEUELL.

Witnesses:

SAMUEL FROST,
RICH. C. REYNOLDS.