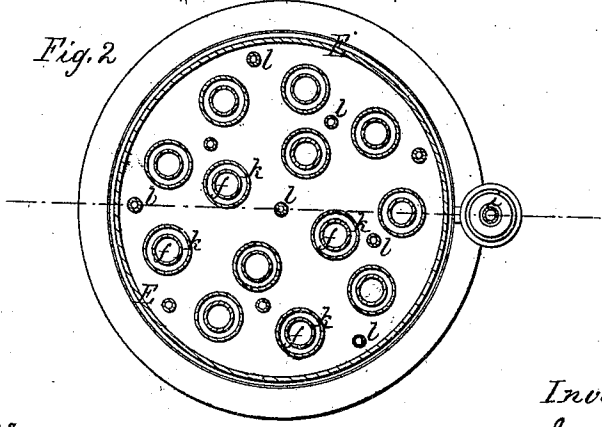
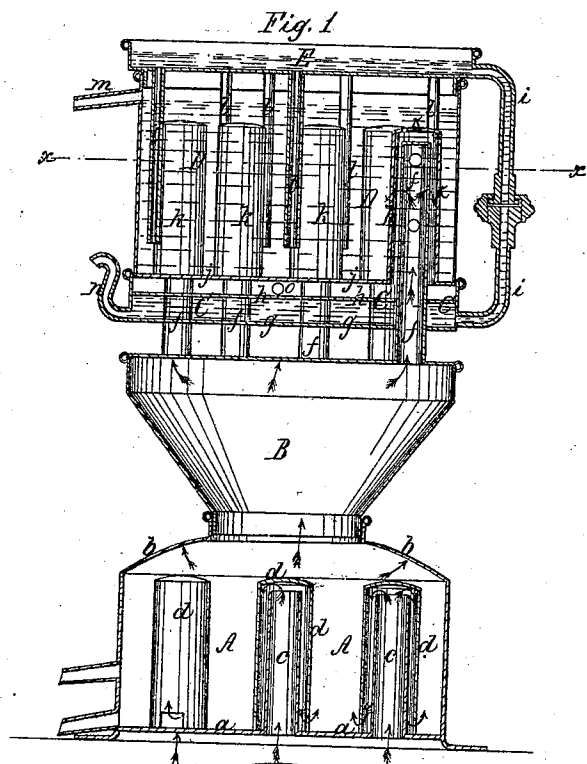


J. D. RILEY, Dec'd.
 J. RILEY, Administratrix.
 DISTILLING APPARATUS.

No. 77,216.

Patented Apr. 28, 1868.



Witnesses
 H. B. Ashkett
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United States Patent Office.

JANE RILEY, OF CINCINNATI, OHIO, ADMINISTRATRIX OF THE ESTATE OF JOHN D RILEY, DECEASED, ASSIGNOR TO HENRY G. DAYTON, OF MAYSVILLE, KENTUCKY.

Letters Patent No. 77,216, dated April 28, 1868.

IMPROVED DISTILLING-APPARATUS.

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

TO ALL WHOM IT MAY CONCERN:

Be it known that JOHN D. RILEY, deceased, late of Cincinnati, in the county of Hamilton, and State of Ohio, did, during his lifetime, invent a certain new and improved Distilling-Apparatus; and that I, JANE RILEY, of Cincinnati aforesaid, administratrix of the estate of said JOHN D. RILEY, do hereby declare that the following is a full, clear, and exact description of said invention, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 represents a side elevation, partly in section, of the improved distilling-apparatus.

Figure 2 is a horizontal section of the same, taken on the plane of the line *x x*, fig. 1.

Similar letters of reference indicate corresponding parts.

This invention relates to a new apparatus to be put upon a still, for condensing and separating the various grades of spirits, and consists chiefly in such a construction of the condenser and water-distributor that, without the use of a worm, and without requiring large quantities of water, the desired results may be quickly obtained.

A, in the drawing, represents a cylindrical doubler, provided with a perforated bottom, *a*, and with an annular cover, *b*, as shown in fig. 1.

It is to be set upon a still of ordinary or suitable construction, to receive the vapors arising from the same.

These vapors pass up into the doubler, through the holes arranged in the bottom of the same, and into pipes *c c*, which project upward from the bottom, and which are open at their upper ends.

Caps *d d* are arranged over and around the pipes *c*, to deflect the vapors downward, which then pass through perforations in the lower parts of the pipes *d*, into the main compartment of the doubler.

By striking against the metallic tops and sides of the pipes *d*, and against the annular cover *b* of the doubler, the impure spirits and low-wines are condensed and are retained in the doubler, while the pure spirits rise through the opening in the cover of the doubler into the condenser.

Upon the doubler is set a vessel, B, which is narrower at the bottom than at the top, and which has a perforated, flat, or other cover, *e*, from which perforated pipes *f f* project upward.

The lower part of the vessel B is open, and communicates with the doubler, as shown, so that the impure vapor that may be carried beyond the doubler will be condensed when striking against the covering-plate *e* of the vessel B.

Above the vessel B is supported a pan, C, through which the pipes *f* pass, without communicating with it, and which has a main bottom, *g*, and above that a false bottom, *h*, as is clearly shown in fig. 1.

Into the space between the bottoms *g* and *h* is, from above, conducted water, through a pipe, *i*, so that such water may serve to cool the sides of the pipes *f*.

Upon the pan C is set the condenser, D, with its bottom, *j*, elevated above the false bottom *h* of the pan, so that a space is left between *h* and *j*, as shown.

The bottom, *j*, of the condenser is perforated, and from it projects a series of closed tubes *k k*, which serve as caps and covers for the pipes *f*, as shown.

The condenser is filled with water or other cooling-liquid, and the tops and sides of the caps are consequently cooled.

The vapors arising from the doubler escape through the perforations in the sides of the pipes, and are projected against the cool sides of the caps *k*, by which they are at once condensed.

The thus condensed vapors pass downward in the tubes *k* into the pan C.

In this manner the condensing process can be rapidly and thoroughly carried out in a small compass, no long worm being required.

Upon the condenser D rests, or above it is supported, a vessel or pan, E, which has a perforated bottom, from which a series of very fine pipes, *l l*, projects downward, nearly to the bottom of the condenser, the lower ends of such pipes *l* being open, as shown in fig. 1.

Water or other cooling-liquid contained in the vessel E is, by the pipes *l*, conducted to and diffused over the condenser, and a regular supply of fresh cool liquid is thus constantly carried to the lower part of the condenser, keeping the pipes *k* always at an equal degree of temperature.

The water, as it gets warmed in the condenser, rises therein, and escapes through a pipe, *m*, projecting from the upper part of the condenser.

From the vessel E the pipe *z* leads to the pan C, to carry water to the same, and such water escapes from the pan through a goose-neck pipe, *n*, shown in fig. 1.

The condensed liquor can be drawn off the pan C through a pipe, *o*.

I claim as new, and desire to secure by Letters Patent—

1. A condensing-apparatus for stills, consisting of the pan C and vessel D, and receiving the vapors through perforated upright pipes *f* that are covered by the cooling-caps *k*, substantially as herein shown and described, the pipes *f* passing through the pan C, in the lower part of which cooling-liquid is contained, substantially as herein shown and described.

2. The above, in combination with a doubler, A, made substantially as herein shown and described.

3. The water-distributor E, consisting of a pan, from which a series of pipes *l l* projects downward, to conduct cooling-liquid to the lower part of the condenser, substantially as herein shown and described.

4. The arrangement and combination with each other of the doubler A, vessel B, pan C, pipes *f*, condenser D having caps *k*, and of the distributor E with its pipes *l*, all made and operating substantially as herein shown and described.

JANE RILEY,

Administratrix of the Estate of John D. Riley, deceased.

Witnesses:

LIZZIE DE WITT,

J. G. STAUNTON.