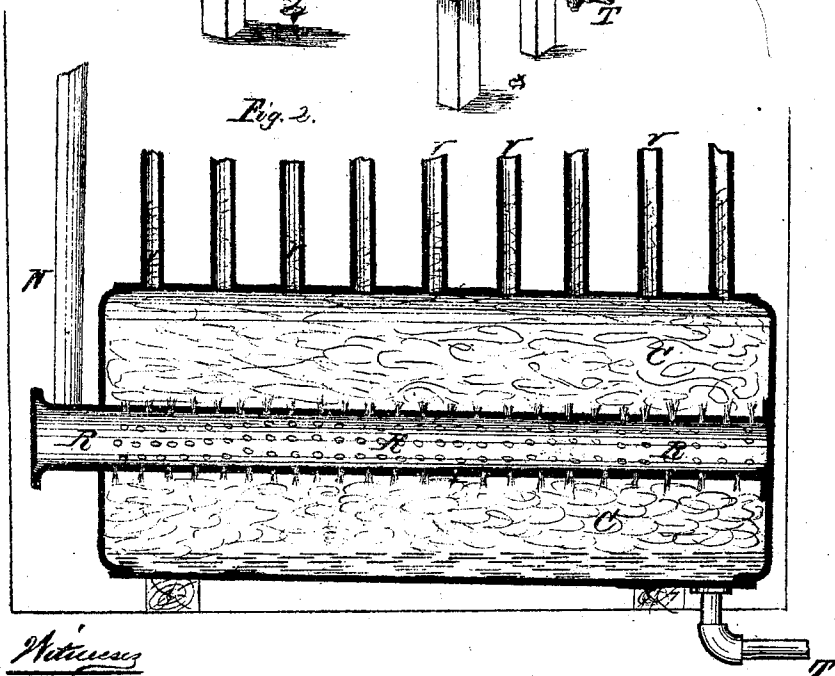
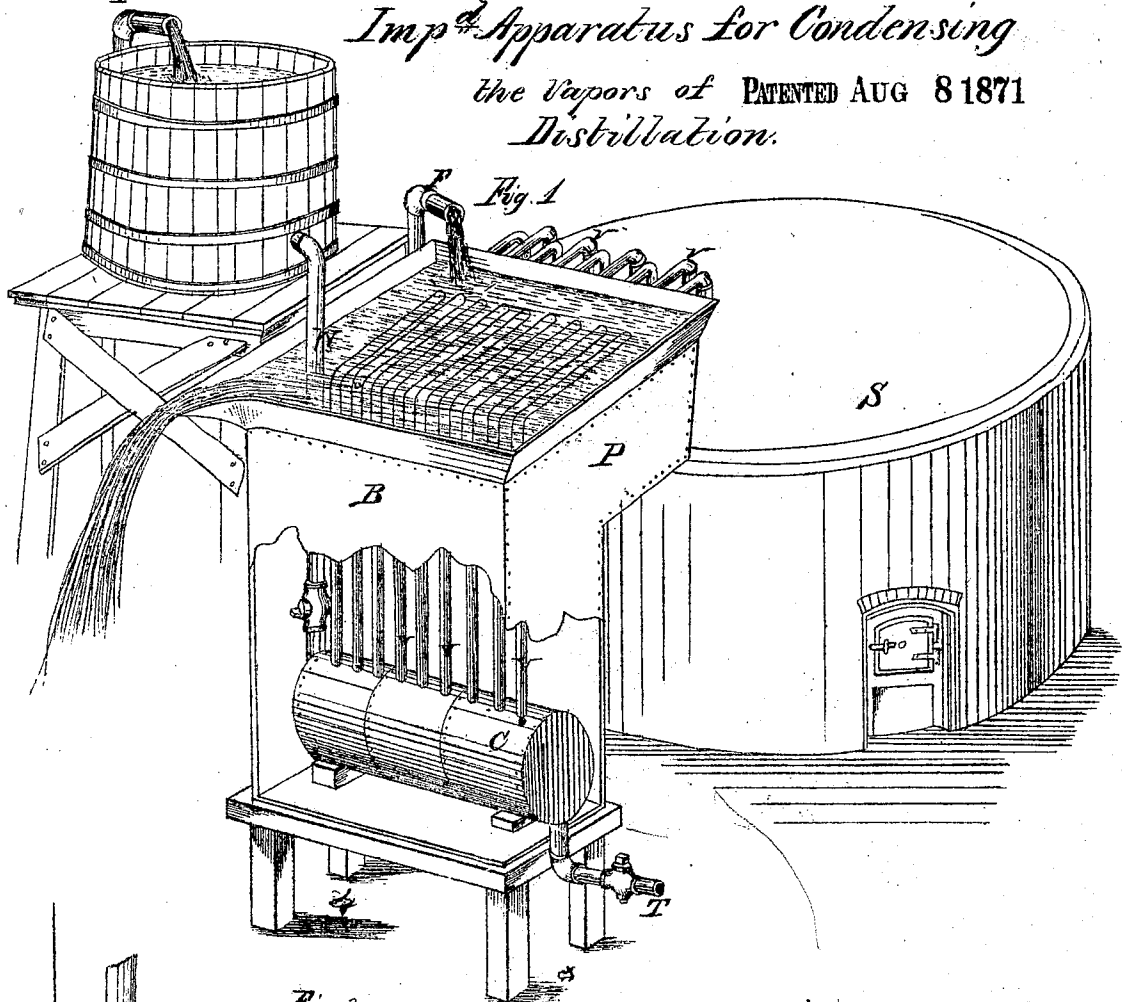


P 117873

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Imp^d Apparatus for Condensing

the Vapors of PATENTED AUG 8 1871
Distillation.



Witnesses
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UNITED STATES PATENT OFFICE.

HIRAM W. FAUCETT, OF TITUSVILLE, AND THOMSON MCGOWAN, OF MEREDITH,
PENNSYLVANIA.

IMPROVEMENT IN CONDENSERS FOR OIL-STILLS.

Specification forming part of Letters Patent No. 117,873, dated August 8, 1871.

To all whom it may concern:

Be it known that we, HIRAM W. FAUCETT, of Titusville, Crawford county, and THOMSON MCGOWAN, of Meredith, Venango county, State of Pennsylvania, have invented an Improved Apparatus for Condensing the Vapors of Distillation, of which the following is a full and complete description, reference being had to the accompanying drawing, of which—

Figure 1 is a general perspective view with part of the water-box removed so as to allow a view of the vapor-cylinder. Fig. 2 is a longitudinal section of the vapor-cylinder with its connections.

The object of our invention is the rapid condensation of distilled vapors in a simple and effective manner.

For this purpose we have the water-box B, with the pan P forming a continuation of its upper part, resting upon the edge of the still S and filled with water from the pump or otherwise by the feed-pipe F. In the lower part of the water-box B, as shown, is placed the vapor-cylinder C, having a tail-pipe, T, with stop-cock. Within the vapor-cylinder C is the water-cylinder R, which is kept filled with water under pressure from the feed-pipe W, and, being perforated all over its surface with fine holes, throws the water in fine jets in every direction throughout the interior of the vapor-cylinder C, this water-cylinder R resting on the collars *ff*, separates and frees from the vapor-cylinder C, so as to be readily removed for cleaning or repairs. The vapor, being brought from the top of the still S by the vapor-pipes V V through the water in the pan P and the water-box B, is carried down by the pipes V V, as shown, in the vapor-cylinder C, where it meets with the fine sprays of water, before mentioned, from the surface of the water-cylinder R, the condensed vapor and water being drawn off together by the tail-pipe T, as shown.

It will be observed that the vapor-pipes V V are permanently covered with flowing cold water, almost from the moment of leaving the still, and, therefore, that the condensation begins sooner

than in the ordinary present arrangement; that the water in the cylinder R is under pressure from the head in feed-pipe W; and that the vacuum generated in the vapor-cylinder C, by the rapidity of this method of condensation, has a tendency to forward and assist the general process.

To provide against the rupture or derangement of the vapor-pipes V V, by the expansion and contraction of the metal water-box B and pan P in heating and cooling, they are provided with expansion joints in the perpendicular arms immediately joining the still.

The vapor-cylinder is set with a slight descent toward the tail-pipe T to facilitate its discharge.

We do not claim the use of vapor-pipes surrounded by cold water; neither do we claim, broadly, condensing vapors of petroleum by injecting into them water or cold liquid in the form of a spray or shower in the condenser, as such has been patented by E. G. Kelley and A. H. Tait, June 18, 1861, and reissued May 9, 1871; neither do we claim a condenser having zigzag condensing-pipes parallel in sections, each section opening in and connected to a transverse supply-pipe at the top and a transverse discharge-pipe at the bottom; nor do we claim a cold-water feed-pipe for casting jets of water on the outside of sectional condensing-pipes; but,

Having described our invention, what we claim as new, and desire to protect by Letters Patent, is—

The longitudinal cylindrical perforated pipe R, arranged within the condensing-cylinder C and communicating with the feed-pipe W, as described, in combination with the vapor-pipes V V, surrounded by water in the water-box B and operating in reference to the still S, substantially as and for the purpose set forth.

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Witnesses:

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