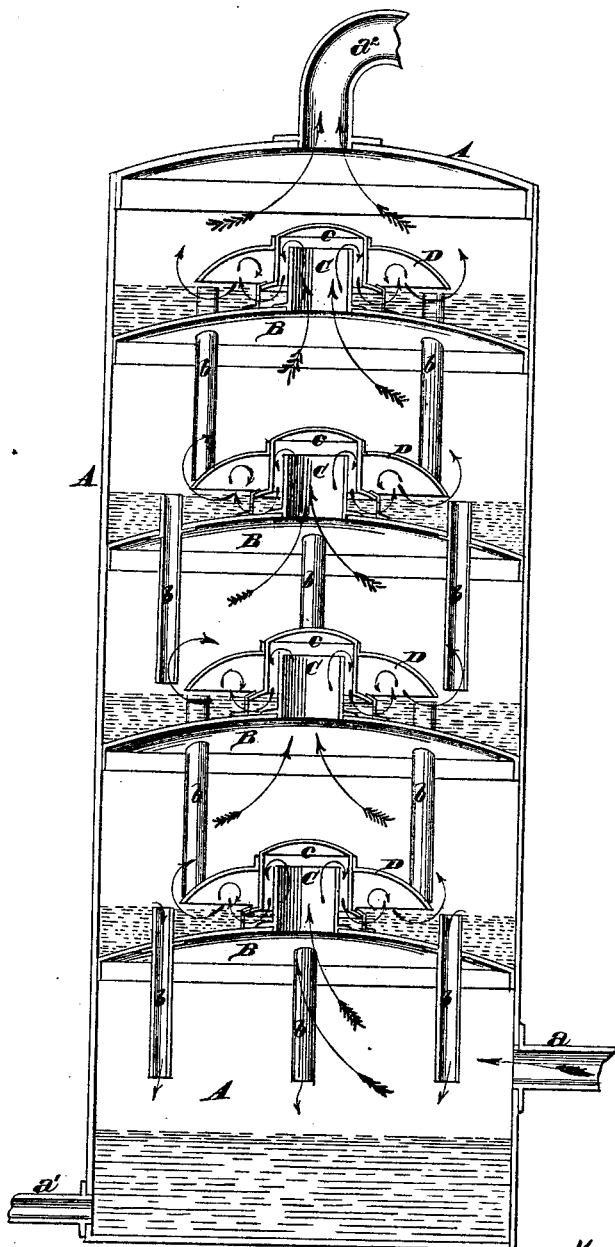


J. G. ELLERHORST.

STILL.

No. 185,900.

Patented Jan. 2, 1877.



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# UNITED STATES PATENT OFFICE.

JOHN G. ELLERHORST, OF BELLEVUE, KENTUCKY.

## IMPROVEMENT IN STILLS.

Specification forming part of Letters Patent No. **185,900**, dated January 2, 1877; application filed September 25, 1876.

*To all whom it may concern:*

Be it known that I, JOHN G. ELLERHORST, of Bellevue, Campbell county, State of Kentucky, have invented an Improvement in Stills, of which the following is a specification:

My invention has for its object such a construction of distilling-column as that the current of vapors arising therein may be caused to free themselves of their rank properties to a far greater extent than by the present modes of distilling, and by this means secure a much higher proof and purity of spirits; and my invention consists in providing the bonnets upon the vapor-escape pipes of the several shelves of the distilling-column with broad extending flanges or collars, which will cause an eddy backward, through the condensed vapors upon the said shelves of the column, of the ascending vapors after escaping from the bonnets, and thereby cause a super-condensation of the grosser qualities of the vapor, and render the quality of the vapor, which finally escapes from the column, of a much higher standard.

The annexed drawing is a sectional elevation of a distilling-column embodying my invention.

Referring to the drawing, A represents the body or shell of the column, provided at the bottom with the vapor-inlet pipe *a* and a delivery-pipe, *a*<sup>1</sup>, for the withdrawal of the oils and dross precipitated in the process of distilling, and at the top with an escape-pipe, *a*<sup>2</sup>, to the condensing-worm. B represents a series of shelves, having escape-pipes C, which are provided with the usual bonnets *c*, the whole arrangement being the usual one adopted to precipitate the grosser qualities of the ascending current of vapors. These shelves are also provided with the usual overflow-pipes *b*, to conduct the accumulated condensed

vapors of inferior quality to the bottom of the column, there to be drawn off or conducted back to the evaporating-chamber. The current of vapors, passing up through the escape-pipes C, and under the bonnets *c*, and bubbling through the body of condensed vapors and water upon the shelves B, ascends and passes off to the condensing-worm. When, however, the collars or flanges D are secured around the bonnets *c*, the rising current of vapors from beneath the bonnet, and condensed vapors upon the shelves, strikes against them, and eddies back into the body of condensed vapors with a recondensing of the heavier and grosser parts thereof; and continuing this operation to the top of the distilling-column renders a purity of spirit not attainable without the flanges D.

This device is particularly adaptable to the purifying of extremely volatile and rare liquids, and is very essential and useful in cologne-distilling, &c., and from the fact that the spirit enters the condenser at a higher state of purity than ordinary the quantity of water required to condense the same is accordingly decreased, and the saving in amount of water thus used is proportionately great.

Having thus described my invention, I claim—

In a distilling-column, the combination, substantially as specified, of the vapor-escape pipe, the bonnet thereof, the shelf upon which the condensed vapors are deposited, the overflow-pipes thereof, and the deflecting-flange around the bonnet.

In testimony of which invention I hereunto set my hand.

JOHN G. ELLERHORST.

Witnesses:

JOHN E. JONES,  
JOHN A. CONN.