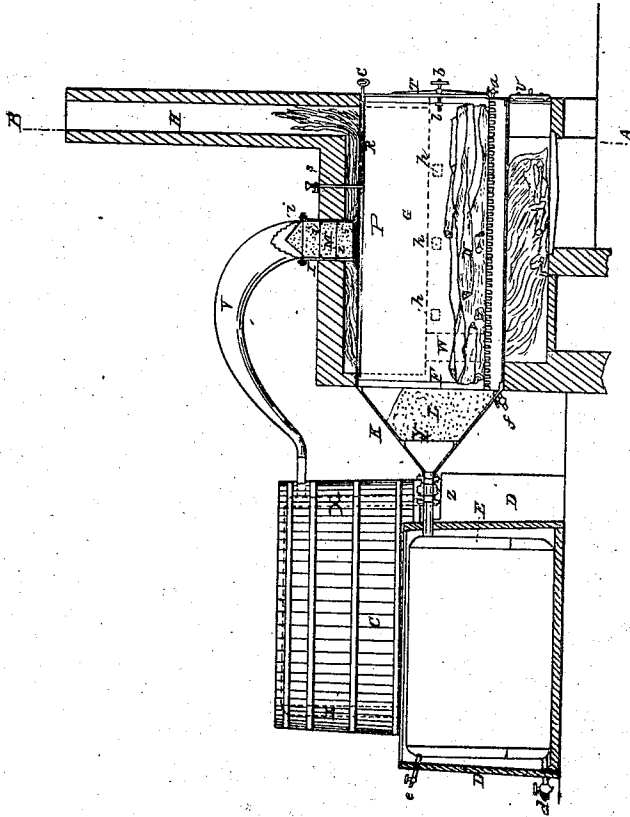
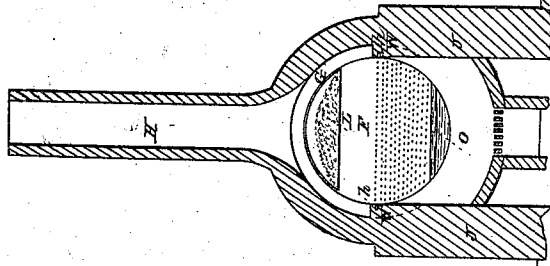
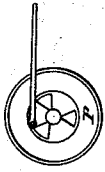


J. D. Stanley.

Distilling Appar.

No. 85,705.

Patented Jan. 5, 1869.



Witnesses.
Wm. A. James
Thos. M. Gardner

Inventor.
James D. Stanley

United States Patent Office.

JAMES D. STANLEY, OF WILMINGTON, NORTH CAROLINA, ASSIGNOR
TO HIMSELF AND THOMAS W. WHEELER, OF SAME PLACE.

Letters Patent No. 85,705, dated January 5, 1869.

IMPROVEMENT IN EXTRACTING SPIRITS OF TURPENTINE FROM PINE WOOD.

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

To all whom it may concern:

Be it known that I, JAMES D. STANLEY, of Wilmington, in the county of New Hanover, in the State of North Carolina, have invented a new and improved Mode of Extracting, Purifying, and Separating, by one and the same Process, from Pine Wood, White Spirits of Turpentine, Oil, Tar, and Inflammable Gas, leaving a residuum of charcoal; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing, and to the letters of reference marked thereon.

The nature of my invention consists in attaching to the retort or still G, two purifiers, I K, each containing lime, or other suitable substance or substances, through which the spirits of turpentine, oil, tar, &c., are passed in the form of vapor, and so purified, and thence carried to the condensers X B, fixed in cisterns C and D.

The retort G and purifiers I and K may be of wrought or cast-iron, or other suitable substance.

The door T is closed air-tight, by means of screw b and bracket L.

P is a disk-valve, opened or closed by means of rod R and handle c.

Z is a stop-cock.

The top of grate-bars O is six inches above the bottom of retort G.

Wire-gauze supports, s s s s, are stretched across purifier I, to sustain or separate purifying-substance or substances.

Purifier K has, at one end, the perforated sheet of iron F, and wire gauze stretched across it at Y, to retain in place the purifying-substance L.

The condensers E and X are of copper, or other suitable material, and of the form of a hollow cylindrical ring, and fixed, in cisterns C and D, which are kept full of cold water.

Condenser X has one cock, near its bottom, for running off its contents.

Condenser E has the cock d for running off oil, tar, &c., and cock e for escape of inflammable gas.

Cock f is for running off any residue of tar, &c.

Gauge-cock a is used for regulating the amount of water introduced into the retort through pipe s while distillation of white spirits is going on.

The retort G, having been filled or charged with pine wood, and water introduced to the depth of top of grate-

bars O, the door T closed, cock Z closed, and valve P opened, heat is applied, either as shown in accompanying drawings, by fire in the furnace underneath the retort, the draught passing through flues W W, over the retort and off through smoke-stack H, or by the introduction of superheated steam into the retort.

The white spirits of turpentine now pass off in vapor through valve P, purifier I, and pipe V, into condenser X, and are thence drawn off purified and free from tarry odor.

As soon as these spirits begin to show color, valve P is closed, and cock Z opened, and the water in bottom of retort drawn off through cock f. The remaining colored spirits, oil, tar and gas pass off through purifier K, into condenser E.

The pyroligneous and acetic acid retained in the purifying-substances L and M, can be distilled or separated from them with less trouble and expense than by the ordinary method.

The advantage this method of obtaining white spirits from wood has over any other heretofore known or used is, that by closing the valve P, as soon as the spirits passing through it begin to show color, the purifier I and contents, pipe V, and condenser X, are kept clean, so that white spirits can be run through them from subsequent charges; whereas, if colored spirits were suffered to pass through them once, they would have to be carefully cleaned (a very difficult matter) before they could run white spirits again, and colored spirits have to be redistilled several times to render them white, or nearly so.

Thus I accomplish by one process what has heretofore required several.

What I claim as my invention, and desire to secure by Letters Patent, is—

A new method of extracting, separating, and purifying, by one and the same process, from pine wood, white spirits of turpentine, oil, tar, and inflammable gas, by applying to a retort two purifiers connected with two condensers, in the manner and with the appliances herein described, or any other substantially the same, and which will produce the intended effect.

JAMES D. STANLEY.

Witnesses:

THOS. W. WHEELER,
J. MCKENNEY.