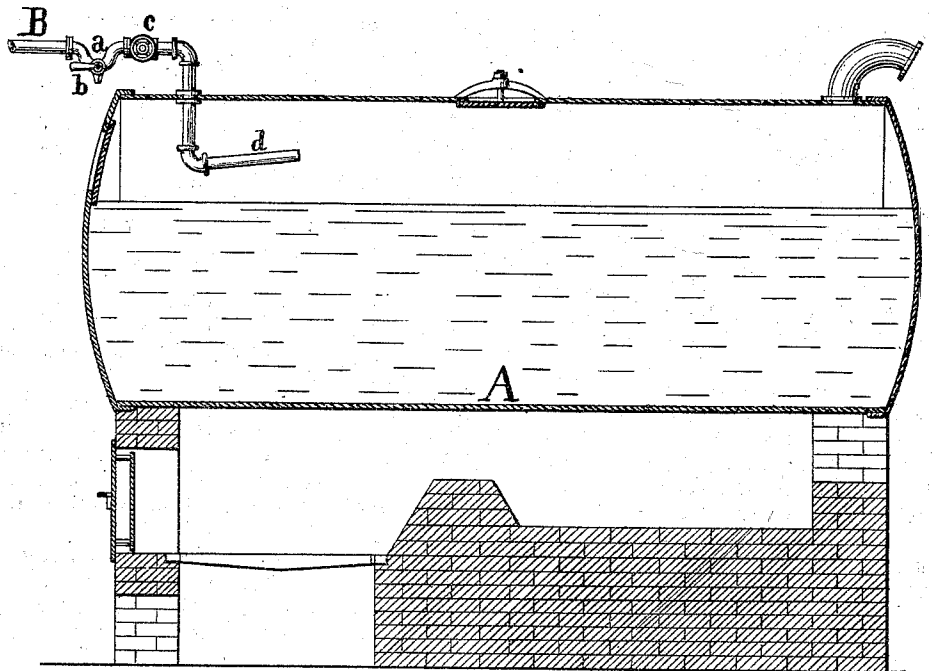


R. KLOSTERMAN.

Apparatus for Distilling Oils, Fats, and Petroleum.

No. 152,650.

Patented June 30, 1874.



Witnesses.

Henry Gensner
Chas. Wickers

Inventor.

Robert Klosterman
per
Van Santvoord & Hauff
Attys

UNITED STATES PATENT OFFICE.

ROBERT KLOSTERMAN, OF BROOKLYN, NEW YORK.

IMPROVEMENT IN APPARATUS FOR DISTILLING OILS, FATS, AND PETROLEUM.

Specification forming part of Letters Patent No. **152,650**, dated June 30, 1874; application filed June 3, 1874.

To all whom it may concern:

Be it known that I, ROBERT KLOSTERMAN, of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Improvement in Apparatus for Distilling Oils, Fats, Petroleum, and other materials, of which the following is a specification:

This invention is illustrated in the accompanying drawing, which represents a sectional side view thereof.

My improvement consists in the combination, with a still for petroleum, tar, fats, or oils of a steam-pipe, provided with a water-trap and blow-off-cock, and with a nozzle, which is inclined upward in such a manner that in blowing steam into the retort, no water is permitted to mix with the oil in the still, and thereby the danger of causing the oil to fume and to boil over is avoided, while the full benefit of the action of the steam is gained.

In the drawing, the letter A designates a still of any suitable construction, such as generally used for distilling fats, oils, petroleum, tar, or other materials of a similar character.

Various attempts have been made to inject steam into such a still, so that by the action of the steam the heavy vapors are partly cooled off, and the light vapors are chased out of the still, and it was expected that by the application of a steam-jet the distillation would be materially facilitated. This expectation has not been fulfilled, since the steam, on being injected into the still, is liable to carry with it particles of water, which, when allowed to mix with the liquid in the still, cause the same to boil over, and thereby the operation is rendered very dangerous. This difficulty I have obviated by providing the pipe B, through which steam is injected into the still A, with a trap, *a*, and a blow-off-cock, *b*, so that by opening this blow-off-cock before the steam-

valve *c* is opened, all water which may have accumulated in the pipe B is driven out, and when the steam-valve is opened, only pure steam is permitted to pass into the still.

With the steam-pipe B I have also combined a nozzle, *d*, which is slightly inclined upward, so that the steam-jet issuing from said nozzle will mingle with the vapors in the upper part of the still, without coming in contact with the liquid, and if any particles of water should yet be mixed with the steam, this water, on coming in contact with the heated vapors, will immediately be transformed into steam, and no water will be permitted to mix with the liquid in the still.

By this arrangement of the steam-pipe B, I have succeeded in rendering the use of a steam-jet in a still for petroleum, fats, or oils practicable and free from danger, and I have succeeded in distilling heavy oils or coal-tar without trouble.

By the injection of steam the formation of a crust on the inner heated surface of the still is avoided, the distillation progresses without danger of an explosion, and a clear distillate is obtained.

I do not claim as my invention the application of a steam-jet to a still; but

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

The combination of a still, A, a steam-pipe, B, provided with a water-trap, *a*, a blow-off-cock, *b*, and an upwardly-inclined nozzle, *d*, substantially as shown and described.

In testimony that I claim the foregoing I have hereunto set my hand.

ROBERT KLOSTERMAN.

Witnesses:

W. HAUFF,
E. F. KASTENHUBER.