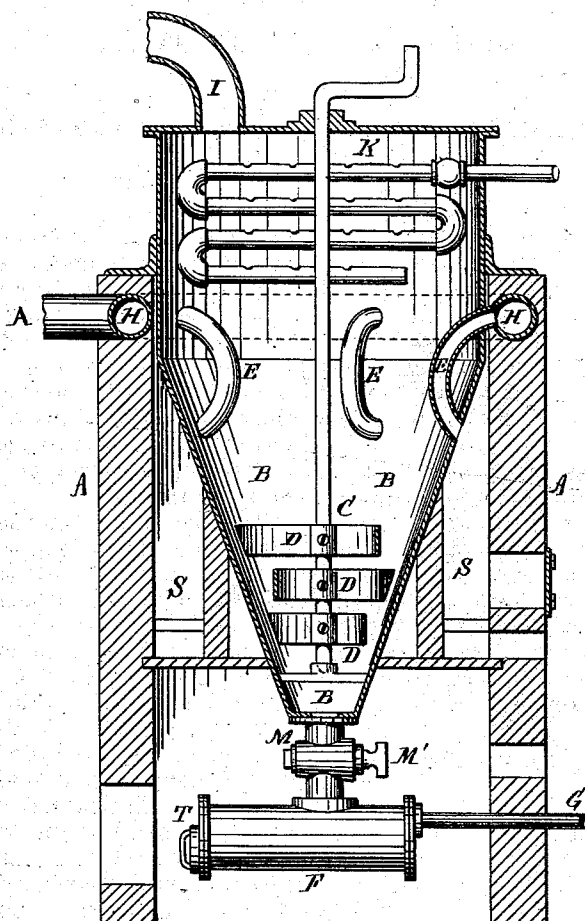


T. MCGOWAN & S. VAN SYCKEL.
Oil-Stills.

No. 156,229.

Patented Oct. 27, 1874.



Witnesses.

J. S. Coombs
A. H. Norrie.

Inventor.

T. McGowan & Van Syckel
James L. Norrie.
Atty.

UNITED STATES PATENT OFFICE.

THOMSON MCGOWAN, OF MEREDITH, AND SAMUEL VAN SYCKEL, OF
TITUSVILLE, PENNSYLVANIA.

IMPROVEMENT IN OIL-STILLS.

Specification forming part of Letters Patent No. **156,229**, dated October 27, 1874; application filed
July 29, 1874.

To all whom it may concern:

Be it known that we, THOMSON MCGOWAN, of Meredith, in the county of Venango and State of Pennsylvania, and SAMUEL VAN SYCKEL, of Titusville, in the county of Crawford and State of Pennsylvania, have invented certain Improvements in the Distillation of Hydrocarbon-Oils, of which the following is a specification:

Our invention relates to certain improvements in stills for distilling liquid hydrocarbons and other similar substances; and it consists of a still having an elongated conical bottom extending down below the fire, and connected with a receiver for collecting the tar and residuum formed during the process of distillation, as will be hereinafter described. The still is also provided with a stirrer or agitator, to facilitate the removal of the tar or residuum.

The drawing represents a sectional view of our improved still.

A represents the furnace in which the still is set, which may be of brick-work or other suitable material; and B represents the still. Said still is cylindrical in its upper part, and the lower part or bottom is in the form of a cone, extending downward through the bottom of the furnace, and connected to a receiver, F, by a short pipe, M, provided with a stop-cock, M'. The receiver is provided with a man-hole, T, and pipe G, for removing the collected tar, &c.

Instead of the receiver F, the bottom of the still may be extended downward, and the pipe M made to terminate in a pit below, into which the tar and residuum may be discharged from time to time, and removed by shovels or otherwise.

Within the lower part of the still is a stirrer, consisting of a series of blades, D D, arranged upon a revolving shaft, C, extending upward through the top of the still. S represents the fire-chamber of the furnace, annular in shape,

and surrounding the bottom of the still. Said chamber communicates with the flue H, leading to the chimney, by means of a series of pipes or flues, E, extending through the still, as shown. The oil or hydrocarbon is admitted to the still by means of a perforated coil, K, arranged in the upper or cylindrical part of the same, and the vapors are carried off to an ordinary condenser by means of the pipe or goose-neck I, extending from the upper part or top of the still.

The operation of our improved still is as follows: The still being properly filled and the fire started in the furnace, the hydrocarbon will be vaporized, as usual. The vapors, as they are generated, will pass over through the goose-neck to the condenser, and the heavier portions, such as tar and residuum, which will not vaporize, will settle to the bottom, and may be drawn off into the receiver from time to time, as may be desired.

By the improved still above described a continuous distillation may be kept up, as the hydrocarbon can be admitted through the coiled pipe, as desired. As there is no collection of residuum in the same, it will not be necessary to stop the process for its removal. It is evident that all deposit or collection of residuum or coke upon the bottom of the still will be thus avoided, and all danger of burning or injuring the still will be overcome.

What we claim is—

A still for distilling hydrocarbons, and other liquid similar substances, having an elongated bottom, extending through and below the fire in the furnace, and communicating with a receiver or pit, for collecting the tar and residuum, substantially as herein described.

THOMSON MCGOWAN.
SAMUEL VAN SYCKEL.

Witnesses:

HENRY E. WRIGLEY,
SAMUEL GRUMBINE.