

Hill & Thumm, Oil Still,

No. 101,364.

Patented Mar. 29, 1870.

Fig. 2.

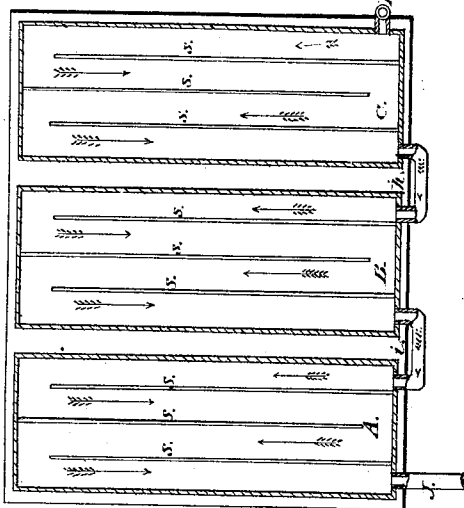
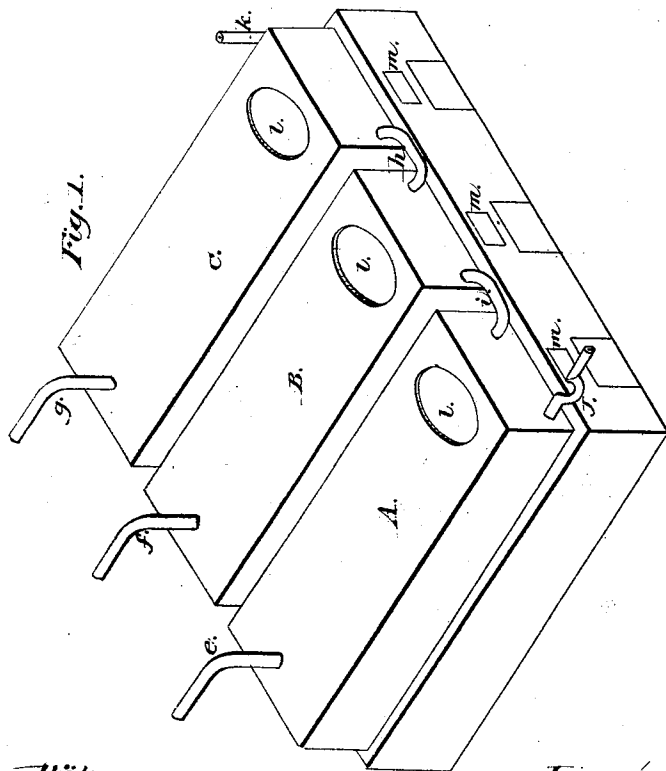


Fig. 1.



Witnesses:
Wm. J. Hutchinson
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Inventors:
S. A. Hill & Chas. F. Thumm
by their attorney L. Johnston

United States Patent Office.

SAMUEL A. HILL AND CHARLES F. THUMM, OF OIL CITY, ASSIGNORS TO THEMSELVES
AND OLIVER P. SCAIFE, OF PITTSBURG, PENNSYLVANIA.

Letters Patent No. 101,364, dated March 29, 1870; antedated January 18, 1870.

IMPROVEMENT IN STILLS FOR HYDROCARBONS.

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

To all whom it may concern:

Be it known that we, SAMUEL A. HILL and CHARLES F. THUMM, of Oil City, in the county of Venango and State of Pennsylvania, have invented a new and useful Improvement in Stills for Hydrocarbons; and we do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

The nature of our invention consists in connecting together a series of stills, and providing the bottoms of said stills with ways or channels so arranged that the hydrocarbon will flow in a zig-zag current and thin sheet over the bottom of each still for the purpose of a continuous distillation of hydrocarbons.

To enable others skilled in the art to make and use our invention, we will proceed to describe its construction and operation.

In the accompanying drawings which form part of our specification—

Figure 1 is a perspective view of our improvement in stills for hydrocarbon.

Figure 2 is a longitudinal and transverse section of the same cut through at line *y* of fig. 1.

In the drawings—

A B C represent the stills, which are provided with suitable furnaces *m*, and "goose-necks" *e f g*, each of which should be attached to a suitable condenser.

l represents "man-holes," which are used for cleaning out the stills.

h i are pipes which connect the stills together.

k represents the pipe used for conveying the hydrocarbon to the stills.

J is a pipe used for the purpose of drawing off the

tarry matter known as "residuum" or the "refuse of distillation."

S represents plates which are secured on their edge to the bottom of the still, and are used for forming the zig-zag ways or channels through which the hydrocarbon flows.

As the construction of our improvement in stills will be readily understood from the foregoing description and by reference to the accompanying drawings, we will therefore proceed to describe the operation of our invention.

The crude oil enters the still C through the pipe *k*, (fire being made in the furnaces *m*), as the oil flows over the bottom of the stills, (as indicated by the arrows,) the light portion of the oil is evolved in still C, and the unevolved portion flows through the pipe *h* into still B, where another portion is evolved, and the unevolved portion passes through pipe *i* into still A, where another portion is evolved, after which the residuum is drawn off at pipe *J*. By this arrangement of stills for hydrocarbons a uniform specific gravity and fire test may always be obtained for burning oils.

Having thus described the nature, construction, and operation of our improvement,

What we claim as of our invention is—

A series of stills connected together by pipes which connect with zig-zag ways or channels made in or on the bottom of each still, each still of the series being provided with a "goose-neck" and condenser, as herein described.

Witnesses:

JAMES J. JOHNSTON,
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SAMUEL A. HILL.
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