O. TILTON.
Oil-Still.

No. 209,943. Patented Nov. 12, 1878.

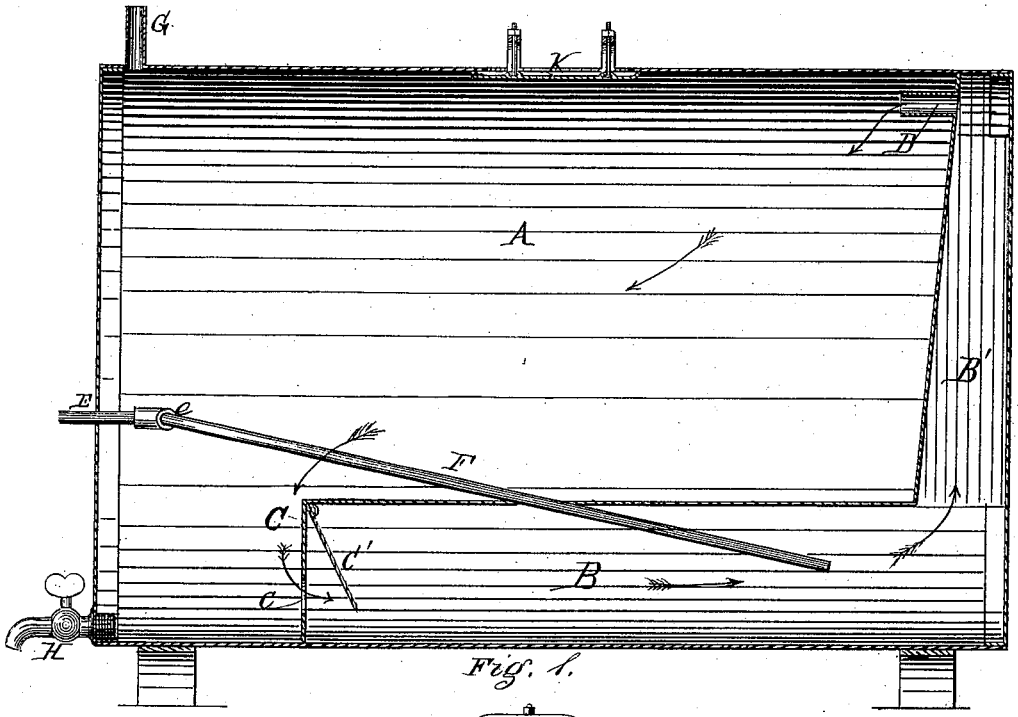

Fig. 1.

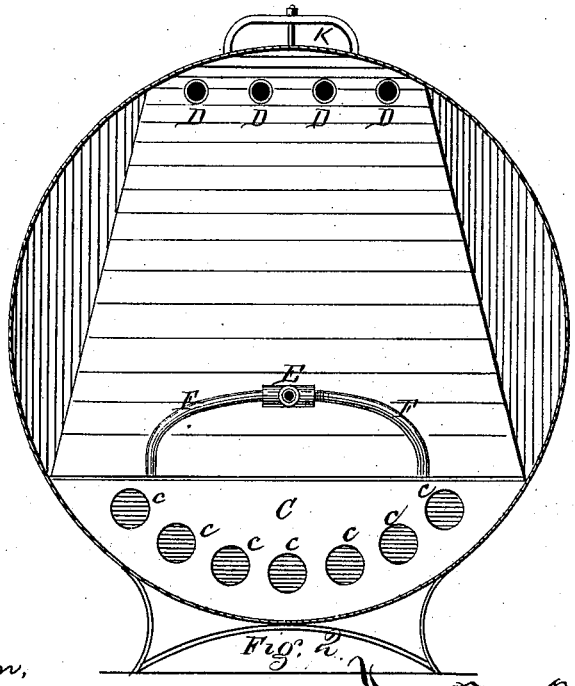

Fig. 2.

Witnesses
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UNITED STATES PATENT OFFICE.

OLE TILTON, OF PITTSBURG, PENNSYLVANIA.

IMPROVEMENT IN OIL-STILLS.

Specification forming part of Letters Patent No. **209,943**, dated November 12, 1878; application filed May 18, 1878.

To all whom it may concern:

Be it known that I, OLE TILTON, of the city of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Oil-Stills, which improvement is fully described in the following specification and accompanying drawing, in which—

Figure 1 is a longitudinal vertical section. Fig. 2 is a cross-section.

Similar letters of reference indicate like parts.

The invention relates to an improved still for stilling petroleum oil.

The object of the invention is to produce either an illuminating or lubricating oil, as may be desired, by reducing the gravity. This I accomplish by forcing steam into a still set in an arch, and provided with a sub-chamber, having openings at one end, closing by a valve, and an ascending tube at the other, the top of which is closed, the face of which, however, is perforated and provided with short tubes; a steam-pipe, which enters the still at the front, where it divides into two or more branches, which extend longitudinally of the still and enter the top of the sub-chamber, where they terminate just in front of the ascending tube of said chamber; an escape-pipe at the top and front of the still; an outlet-cock for drawing off the oil; and the setting the still in a suitable arch or furnace, for the purpose of applying heat externally when desired.

The invention is shown in detail in the drawing, to which reference being had, it will be seen that A represents the main chamber of the still; B, the sub-chamber, all of its walls, as well as those of the ascending tube B′, being continuous with those of the still. D D D D are a series of short tubes, which project from and are the outlets of tube B′. C is the front of the sub-chamber B, and is perforated by a number of openings, *c c c*, which are larger in size than the discharge-tubes D. C′ is a clapper-valve, suspended by its top inside of the front. When down, it closes against the inside of said front C, and prevents any return of fluid or steam through the inlet-openings *c c c c*.

E is the main steam-pipe, which enters the still through the front, at which point it is secured by a gasket. It then branches into two pipes, which pass longitudinally back and down through the top of the sub-chamber, and terminate in front of the mouth of the ascending tube B′, toward which said pipes (indicated by F F) open. G is a pipe by which the still is filled, and by which the exhaust-steam is allowed to escape when lubricating-oil is manufactured, and to which the condensing-pipe or worm is attached when the still is used in making illuminating-oil. H is an ordinary draw-off cock; K, the man-hole, through which the still is entered for repairs, &c.

The operation of the invention is as follows: The man-hole being secured, and it is desired to make lubricating-oil, a small amount of water is run into the still with the oil to be reduced. Steam at a pressure of from twenty to thirty pounds is then admitted through the pipe E and its branches F F, which is thereby discharged at the mouth of tube B′, forces the water and oil up the said tube, and discharges it into the main chamber A. At the same time the fluid in said main chamber is drawn into the sub-chamber B through the inlet-openings *c c c c*, and in turn forced up through tube B′, and out into the chamber A, and thus the entire body of oil is heated by coming in contact with the steam as it circulates through the still.

When it is desired to manufacture illuminating-oil no water is run into the still with the oil; but the steam is turned on, and the same action is produced as above described. At the same time heat is applied externally to the still by means of fire in the furnace, and the oil is caused, by the circulation produced by the action of the steam, to rapidly pass over and come in contact with the heated parts of the still.

I do not wish to be understood as confining myself exclusively to the use of steam, as in some cases heated air may be found best, which may be forced into said still and act the same as steam. This I claim as an equivalent means.

Having thus described my invention and

its operation, what I claim, and desire Letters Patent for, is—

1. In an oil-still, the sub-chamber B, provided with inlet-openings and discharge-tubes, substantially as and for the object set forth.

2. The combination, in an oil-still, of the chamber B, having the inlet-openings *c c c c*, and the steam or hot-air pipe E, provided with two or more discharge branches or tubes, whereby the oil is caused to circulate through the still, all constructed and operating substantially as and for the purpose set forth.

OLE TILTON.

Witnesses:
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