

(No Model.)

P. PEREY.
Refining Apparatus for Spirits.

No. 236,251.

Patented Jan. 4, 1881.

Fig. 1.

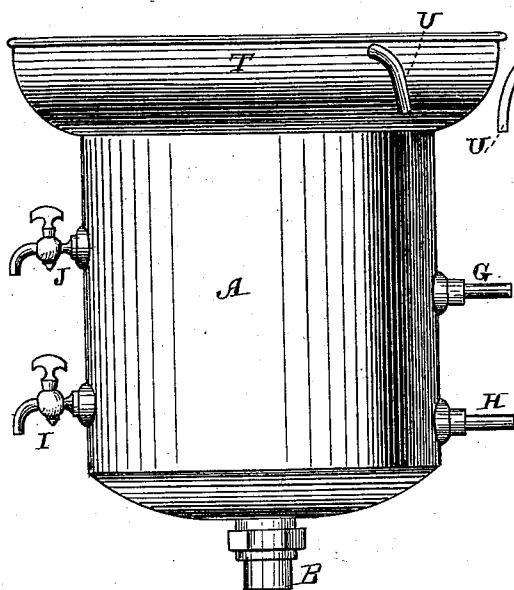


Fig. 2.

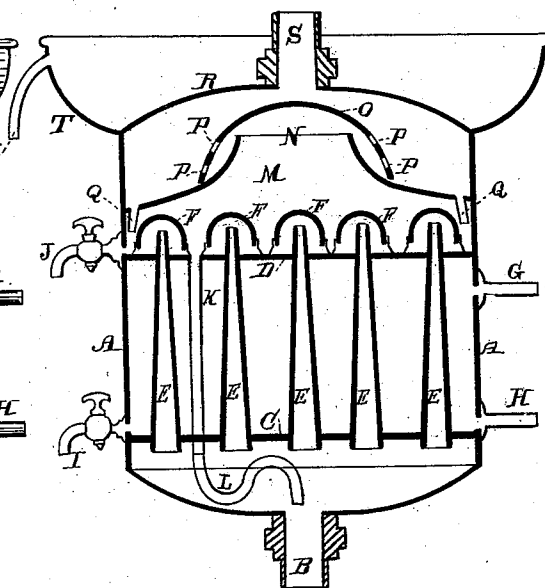
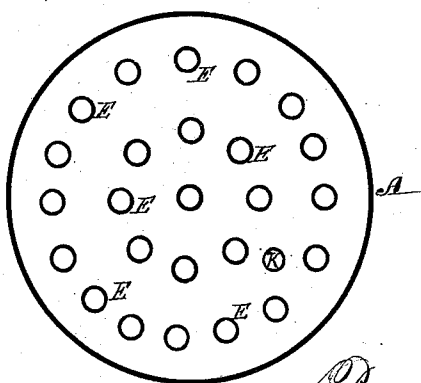


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

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REFINING APPARATUS FOR SPIRITS.

SPECIFICATION forming part of Letters Patent No. 236,251, dated January 4, 1881.

Application filed July 23, 1880. (No model.)

To all whom it may concern:

Be it known that I, PIERRE PEREY, of the city and county of San Francisco, and State of California, have invented an Improved Refining Apparatus; and I hereby declare the following to be a full, clear, and exact description thereof.

My invention relates to an improved refining apparatus which is especially designed for the preparation of alcohol or proof-spirits and for making brandy; and it consists of an exterior case or vessel which is adapted to receive the vapors from the still or kettle through a pipe in its bottom, whence they pass through a series of pipes which are surrounded with a body of water and are deprived of their fusel-oil by being discharged into inverted bells or caps at the tops of the pipes. From these caps the remaining vapor passes upward through a dome and out at the sides of another inverted bell-shaped top of larger diameter, whence the vapor of the alcohol or brandy escapes through a pipe at the top to be led to the condensing-worm. The water, fusel-oil, and heavier impurities which are condensed and thrown down may be returned to the still or kettle by suitable pipes, or may be drawn off at will.

Referring to the accompanying drawings for a more complete explanation of my invention, Figure 1 is a view, in elevation, of my apparatus. Fig. 2 is a vertical section. Fig. 3 is a horizontal section.

A is the exterior case or body of my refiner, having a convex bottom, as shown, and a connection or coupling, B, opening into the bottom, so that a pipe from the still or kettle may be connected with it. A diaphragm, C, extends across the chamber at some distance above its bottom, and a second one extends across it at D. These two diaphragms are perforated to receive numerous pipes, E, which are fitted vapor-tight and are made tapering, so that the upper end is much smaller than the lower end. The lower ends of these pipes extend through the bottom C a short distance, so that the rising vapor first strikes the diaphragm, and is then thrown back before entering the pipes, and the upper ends extend a short distance above the top D. Each of these

pipes has a convex bell-shaped cap, F, of considerable diameter supported just above it, and having the lower edge near the diaphragm D. The small ends of the pipes discharge close to the tops of these caps, and all the vapor which passes through the pipes is thus caused to change its direction and is thrown down upon the diaphragm D. An ingress-pipe, G, and an egress-pipe, H, serve to circulate water through the space between the diaphragms C and D, and this cools both of them, and also the pipes E. The cock I serves to draw off the water from between the diaphragms, when desired, after the supply-cocks are closed. The vapor, striking the lower diaphragm, C, is thus partially thrown back and condensed, and it is further condensed by passing up through the tapering pipes E. The condensed water and heavy impurities which thus fall into the chamber below the diaphragm C are allowed to pass into the still or kettle to be again worked over. The vapor which is thrown down upon the diaphragm D by the bell-shaped caps F is condensed by this action as well as by the coolness of the surface which it strikes, and at this point most of the fusel-oil is eliminated and remains upon the top of D.

By means of a cock, J, the accumulation of condensed liquid upon the diaphragm D may be drawn off, if desired, or it may be allowed to pass down through the pipe K and trap L into the lower chamber, to be returned to the still with the products of condensation in this lower chamber, if desired.

The vapor which still remains after the condensation and separation of the fusel-oil upon the surface D will rise into the inverted funnel M, from which it will escape through a large central opening at N. A convex dome or cap, O, is secured to the exterior of the funnel M, so as to cover the opening N, having sufficient space around it for the vapor to escape and be again turned downward over the top of the funnel and inside the dome O. A series of perforations or holes, P, are made around the lower edge of this dome, through which the vapor and condensed liquid will flow, the vapor rising, while the liquid will flow down to the periphery of M, where are openings Q and short pipes to lead it back upon

the top of the diaphragm D, from which it will pass down through the pipe K, as before described.

A convex top, R, is fitted to the chamber A, and a coupling, S, serves for a connection for the pipe which leads to the condensing-worm. A flaring rim, T, around the top forms a convenient receptacle in which water may be retained to cool the top of the apparatus, and a small pipe, U, discharges the surplus.

By means of this apparatus I am able to produce a very high grade of alcohol or spirits, and also of brandy, entirely free from fusel-oil.

The pipes G and H circulate water around the condensing-pipes E, and the supply of water may be regulated by cocks, so that the condensation will be more or less complete. When alcohol is to be made the amount of water circulated will be considerable; but in the manufacture of brandy the current of water will be cut off to a less amount and the temperature will be correspondingly higher.

The apparatus may be regulated as delicately as may be desired.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The vessel A, adapted to receive alcoholic vapors from the still below and to discharge them at the top, and provided with the partitions or diaphragms C D, the tapering connecting-tubes E, with their bell-shaped caps F, and the circulating pipes G H, whereby the passing vapors are condensed, substantially as herein described.

2. The vessel A, with its diaphragms C D, connecting-pipes E, and caps F, and the circulating-pipes G H, in combination with the inverted funnel or diaphragm M, with its opening N, and the perforated dome O, substantially as and for the purpose herein described.

3. The vessel A, with its diaphragms C D, tapering connecting-pipes E, and caps F, circulating-pipes G H, funnel M, and dome P, and the pipes Q, pipe K, and trap L, substantially as and for the purpose herein described.

In witness whereof I have hereunto set my hand.

PIERRE PEREY.

Witnesses:

S. H. NOURSE,
FRANK A. BROOKS.